Transcript

Exploring how we can master ourselves by looking at how experts say it is possible with your host Suswati Basu.

Intro music

Welcome to season 2 episode 58 of How To Be...with me Suswati as your timid presenter, guiding you through life's tricky topics and skills by reading through the best books out there.

Sometimes when we think about our minds, we forget about the bodies that help us to stay alive. To achieve lasting health, we need to understand the importance of the body, mind and soul and how they work together to build our overall wellbeing. A healthy body keeps you well and active. A healthy mind keeps you focused and engaged. A healthy soul keeps you fulfilled and content. Together we form what is essentially human.

So why is it important to understand how your body works?

Here is Integrative Health and Wellness Specialist Tanya Jolliffe who is also the Founder of LIT Wellness Solutions on why knowing how our physical being works is important.

TANYA JOLLIFFE: It's very important to understand how your physical body works, especially when you are eating and trying to determine if you're full, but also if there's an ache or a pain that you don't really understand. And mindful awareness is a really great way to go about doing that. For instance, really stopping to think, am I full? What does full feel like? Um, am I pushing beyond full and my stomach almost aches? Or is this an acre, a pain that I'm feeling from walking? And do I need to do something about it? Um, am I just taking aspirin or Tylenol or something to mask that pain? Or is there really an injury that I need to investigate further? Mindfulness is a huge key and a huge benefit to understanding our physical body and then understanding when actions are needed to be taken. And so you can start practicing mindfulness and body cues and body awareness at any time. And that's a great first step. And learning more about your body and what's happening, of course, is really important. But just doing a, um, body check and a body scan, um, kind of how am I feeling today? How am I feeling while I'm eating? Is my stomach upset after I eat? I walked, and how do I feel after I do that? Those body checks and those body scans provide great information and mindful awareness about how, um, do I feel in my body? And that's a great first step for information

(Back to the host)

On to our first book by Dr Jack Lewis, who has a PhD in neurobiology from the University College of London. He has inspired a wide variety of audiences for Deloitte, ITV, Microsoft, Siemens and Warner Bros, as well as science festivals, schools and universities. He has also helped to make the pearls of wisdom fished out of the neuroscience literature more accessible and personally relevant for global audiences of millions via TV programmes on the BBC, ITV,

Ch4, Ch5, Sky, Discovery, and most recently two series of Secrets of the Brain on Insight TV. The second edition of Sort Your Brain Out, which is co-authored by motivational speaker Adrian Webster finally hit the shops in September 2021. With that being said, Dr Lewis was kind enough to speak to me. Here is a snippet of our interview. Find the full interview on www.howtobe247.com or on the YouTube channel.

DR JACK LEWIS: It really boils down to the fact that throughout my neuroscience education, I did an undergrad at Nottingham, got a first class degree in neuroscience in 2001, went on to do a PH. D. Got that from UCL in 2005, then went on to Germany to do postdoctoral research. Over that sort of just over a decade, I kept stumbling across really interesting information in the neuroscience literature, like quite hardcore, dense literature not aimed for broadcast to the general public. And I was sort of finding I could apply these little brain hacks to my own life. But there didn't seem to be anyone out there who was sort of repackaging it in plain English so that everyone could avail themselves of this sort of brilliant insight into how we can all get more out of our brains. So meeting Adrian was one of the key things. I did a series on Sky One and a guy saw me on that who organizes events for big companies, and he contacted me through my website, www.drjack.co.uk, and he said, hey, how about doing some motivational speaking? And I was like, all right, I've, uh, always fancied it. He's like, yeah, I'm going to fly you out to Tenerife, uh, with a couple of other motivational speakers, one of whom was Adrian. Um, and I want you to do your stuff, tell everyone about the brain up, um, on stage. And I was like, Cool, I'll give it a go. It was a real baptism of fire. But what I realized when I was in the audience watching Adrian speak was that, uh, he's an amazing storyteller. Like, he's an amazing character. Uh, he has people laughing 1 minute and has tears in their eyes. Shortly after with my material and his storytelling ability. If we join forces, um, this could be something really special. And so the first edition of Sort Your Brain Out is what resulted from that. I think it boils down to the oft repeated phrase, uh, by neuroscientists like myself and psychologists and all sorts of science. The brain is the most complex thing in the known universe, so that quite understandably leaves people with the sort of presumption that, well, I'm never going to understand it, am I? If the brainiest people out there think it's the hardest thing, uh, to sort of understand and will never fully grasp it, then what hope have I got in understanding? And I think that's really unhelpful. It's cool to be impressed by how complex your own brain is, but it's very unhelpful to leave people with the impression that you can't teach an old dog new tricks because you absolutely can. Our brains are designed to sort of adapt to our environment. And if our environment changes, then our brains will change also. But we have a certain degree of free will. We can choose to put ourselves in certain real and virtual environments. And if we put ourselves in fertile environments with lots of stimulation in them that challenge us, that stretch us, then we can change our own brains accordingly. So a lot of what's in sort your brain up is sort of simple tips that people can, uh, put into practice on a daily basis until it becomes habit. And then if you're practicing these things on a daily basis, then there's a good chance they'll change your brain. Now, the important thing to remember is whatever we do regularly, intensively, over long periods of time will change our brain. But it's not always for the better. Um, and quite often, people miss that point. So if you don't find out what you can do to get your brain working better than other forces out there, namely technology firms, social media, the Infinite Scroll, they will hack your brain and change it in order to induce habits and behaviors that suit

them, help them to profit, but don't necessarily suit and help the individual. So I don't think, uh, it's an option anymore to not be interested in how your own brain works. I think that everyone has a duty to themselves, to arm themselves with the knowledge of what they can do, to put themselves in the right environment, to expose themselves to the right influences, and then also equally and oppositely, to sort of limit their exposure to certain things and in some cases, block them out entirely. I'm not saying it's not like a list of instructions as to what you must do. It's the information making it available to everyone so that people can stop and think, mullet over with friends and family and just think for themselves what's right for me. If you want to play video games for, uh, five, 6 hours a day, and then your brain becomes specialized and adapted to that, well, that's your decision. But you need to understand what the consequences of doing that are in terms of changing your brain in ways that don't suit you very well to the real world.

(Back to the host)

By giving people a clearer understanding of how their own brains work and by changing the common but false perception that “you can't teach an old dog new tricks,” the main objective of the book is to harness the revelation that we can fundamentally change the very fabric of our brains, all the way through adulthood.

The authors say your brain is constantly upgrading the circuits inside your head that are often used and downgrading the neglected ones, every single day. Whether these changes lead to benefits or drawbacks is entirely under your control. It all boils down to spending more time in places – both real and virtual – that gradually enhance your cognitive powers and emotional well-being and less time in those that degrade it.

According to Webster and Dr Lewis, as the ultimate supercomputer, your brain is currently light years ahead of anything that humans have so far managed to create. It works relentlessly, nonstop, around the clock, continuously reshaping to adapt our skills and behaviours to suit an almost infinite variety of different real and potential future circumstances, receiving and delivering data, analysing information, performing billions of complex, multifunctional tasks in parallel and monitoring millions of functions, all at a breathtaking speed. Its capabilities really are quite staggering.

Did you know for example there are more connections between brain wires in your head – 150 trillion synapses – than there are stars in our galaxy or that during early pregnancy 250,000 new neurons are created in the foetal brain every sixty seconds!

What really makes the human brain so very special is NEUROPLASTICITY – its ability to physically alter its pathways, as you learn new skills and, perhaps even more importantly, its ability to adapt to unexpected changes, under widely varying circumstances, in new and creative ways.

It doesn't come with a guarantee or any warranties, but if you look after your brain, it should remain fully functional and in good working order throughout your entire lifetime.

They say there are five ways to optimise your brain.

1. Start every day by rehydrating your brain. Believe it or not your brain is 80% water. If you are dehydrated, the speed with which the electrical messages are sent zipping around the 100,000 miles of brain wires is compromised. Every time you exhale, you lose some water vapour in your breath. So drink a whole glass of water as soon as you wake up in the morning to quickly replace all the water you lost over the course of the night. And remember to keep topping up throughout the day – for your brain's sake.

2. Regular exercise is vital for brain health. In the short term, the moment you start to do any form of even moderately demanding exercise, your body automatically responds by releasing a torrent of hormones and brain chemicals to make you feel good. It even increases the rate at which new brain cells are created in the hippocampus. Hence do a minimum of 20–30 mins of moderately intensive exercise every day (or 40–60 mins every other day).

3. Get a grip on cortisol to manage your stress levels. The key point here is that a little bit of stress in the short term is a good thing but chronic stress is most definitely bad. Cortisol suppresses the immune system. Chronic stress describes a situation where cortisol levels remain high for many weeks or months, meaning that the body and brain never get the chance to repair properly, nor fight diseases. So manage stress by proactively setting aside time to do breathing techniques, clinically proven to reduce cortisol levels.

4. Get out into nature, go soak up some rays

Two or more hours of recreation time outdoors each week makes a measurable difference. In fact, the more time we find to relax in parks, on the coast or in the countryside, the happier we become – an effect that peaks at five hours per week. This is partly due to the calming effect that fresh air and being in nature has on brains, but also thanks to getting more exposure to UV light from the sun. When UV light strikes the skin it makes vitamin D, which is vital for bone health but also produces serotonin in the brain. This regulates mood and sleep.

In many parts of the world, as the days get shorter there's not enough ultraviolet-B (UVB) light available from the sun to activate production of vitamin D. To keep your serotonin levels topped up year-round

5. Caffeine is great for brains (but morning only is best). Coffee drinkers enjoy a neuroprotective effect in the long run. It seems to slow down the neurodegenerative processes that are responsible for neurological conditions like dementia and Parkinson's disease, by 5–10 years according to the book! However, It takes six whole hours to reduce the caffeine levels in your bloodstream by half.

Because sleep is vital for brain health – that's when all the repair and maintenance work, memory consolidation and toxin elimination happens – it's extremely important to get all your

coffee drinking done in the morning or it may end up having a negative impact on your brain health overall.

Apart from this, finding ways to keep your brain active is important. By doing brain training that improves your working memory – as far as your IQ is concerned – the only way is up. If you want to make progress in developing new skills, you'll first need to learn to learn again. Do a little bit every day and you'll soon feel comfortable being out of your comfort zone, just like you did as a child.

Next, Dr Lewis says brains cannot multitask. And in terms of technology, make sure you're the one calling the shots or else your brain will adapt in ways that serve you badly; don't lose your focus. Unintended distractions add up. What's the sum total of yours so far today? How many Eureka moments did you miss due to avoidable disturbances to your train of thought? Put your phone on silent!

Your brain is always coming up with solutions to problems and providing a constant stream of ideas. But the question is are you giving it the time and space to think? This is where the authors recommend dunking for 10 to 20 minutes at a time to let the juices flow. Your chances of resolving a problem will be greatly enhanced as a result and your brain generally needs novelty, spontaneity and fun. So step out of your box once in a while. When your brain is sinking into sleep mode, that's when it's at its most creative. Aiming for eight hours sleep a night.

Perception is everything. Your brain is constantly looking for patterns and often finds them in perceptual information even when they aren't really there. Context can fundamentally change the way we perceive the world; fear in particular can play tricks on the imagination. So try to scrutinise your perceptions more carefully and you might start to see the cracks.

In terms of decision making, the authors say trust your instincts in circumstances where you have extensive experience of similar decisions, carefully ensuring you delay the final decision until you're not in an overexcited state of mind. Distrust your “gut feelings” in circumstances where you have little experience or when a certain choice gives you a small quick win over a larger long-term reward. Make important decisions at the beginning, not the end of the day. Buy time – but don't postpone forever. Research, consider, discuss with those more experienced than you, mull it over, then go for it!

Gut bacteria and fibre is essential for good brain health, they say. Make sure you're giving your brain the right fuel. Fill up with slow-release carbs each morning and when “topping up” between meals. Burn some fat by giving your gut a break from all food and sugary drinks for 12 or more hours per day.

The latest smart drugsike performance enhancement drugs may be great for people with prescribed needs, but for those just looking to up their performance, they might not be the intelligent choice in the long run.

Social connections aren't just nice to have; feeling like you are an accepted member of a group is good for your physical and mental health. Oxytocin released during positive social interactions – like a hug or a reassuring chat – makes us feel happier and more secure. Apparently the maximum amount of people the brain can keep track of is 150 people.

Nurturing a positive mental attitude improves how the brain and immune systems function; it's also proven to reduce stress. Don't waste time and energy worrying about things that are not under your control. Meditation reportedly changes the fabric of your brain, improving your ability to focus your attention, gain perspective and better regulate your mood – it's not just for hippies!

If you want to keep your brain maintained in full working order, it's vital that you look after the pump that keeps it pumped with everything it needs – your heart. Try and exercise and try more mind stretching activities to build up a cognitive reserve like playing chess or a musical instrument.

Pixar absolutely nails it with the smash hit 2015 film Inside Out. It zooms into a child's brain and lets us see her memories form, change, and evaporate over time as she matures. It beautifully connects memories, our childhood, and how they are altered over time. They actually consulted a team of neuroscientists for the movie to make sure they correctly depicted certain memories and emotions.

INSIDE OUT: "Crying helps me slow down and obsess over the weight of life's problems"

(Back to the host)

The final book is from bestselling author Bill Bryson with The Body: A Guide for Occupants, which looks at what happens inside our body. Here he is Bryson speaking to The New Scientist.

BILL BRYSON: There were several things. One, the most personal was that I discovered quite by chance that I was probably born with just one kidney. I have only one kidney, and that made me realize I have no idea how I was put together, I have no idea what goes on inside me. And at first I was alarmed to discover I have only one kidney. But then I went to see a kidney specialist and he said, no, it's not that big a deal. It's better to have two if you can. But about one person in 100 is born with just one, and it's just proof that your body does look after you.

(Back to the host)

Bryson asks when was the last time you thought about your body and how it works? We rarely stop to consider just how mysterious our bodies actually are, but we should. They're mysterious even to the doctors and scientists that devote their lives to studying them. The human body is spectacularly complex and profoundly strange, and it should fill us with wonder.

He asks if you had to build a body from scratch, how would you go about it? Well, in 2013 the UK's Royal Society of Chemistry took on the bizarre task of estimating the specific cost of

building actor Benedict Cumberbatch. According to their calculations, you'd need 59 different elements, although only six in any serious quantity – carbon, oxygen, hydrogen, nitrogen, calcium, and phosphorous. Those elements would cost you £96,546.79 - labour and taxes not included.

But that's only one estimate. An episode of the science program Nova, broadcast by US network PBS in 2012, pegged the cost of building a human at a mere $168. In fact, we can't even say with certainty where life begins.

Our body isn't a machine! Inside the nucleus of each cell is a meter of DNA. Made up of chromosomes and genes, DNA contains the information needed to make you. It's amazing to think that your DNA is the product of generation after generation of transmission: the information encoded in your genes links you directly to your ancestors of some three billion years ago. All it needs is food and water to run.

And we're not alone. Each of us contains trillions of microbes, which we need to survive. There are around 40,000 different species, 900 of which live in your nostrils alone.

Microbes are especially important when it comes to digestion: they give us 10 percent of our calories by breaking down food. Bacteria in our gut and intestines produce ten thousand digestive enzymes, whereas we alone produce only 20. Our microbiota, as the sum of all our microbes is known, do so much for us that they're practically like another organ.

Our microbiota is made up of more than just bacteria, though; we also contain viruses. According to Dana Willner of San Diego State University, the average person has 174 of them, and 90 percent of these are probably unknown. That's a scary thought, but of the hundreds of thousands of viruses that exist, thankfully only 263 of them are known to cause disease in humans.

Although over a million microbes have been identified, only 1,415 of them are known to cause us harm. Not a bad ratio – although those disease-causing microbes are still responsible for a third of all human deaths.

However, antibiotics are far too widely prescribed. An average person in the West receives antibiotics between five and 20 times before they reach adulthood. In the US, they're even going to farm animals in alarming quantities. This is all contributing towards antibiotic resistance – a mounting threat, and a reminder that we are all at the mercy of microbes.

Your head contains one of the most extraordinary things anywhere: your brain. It's 75-80 percent water and permanently sealed away. Our brains work hard. The myth that we only use 10 percent of our brain's full capacity at any given moment isn't true: we use the whole thing. In fact, it takes up 20 percent of all our energy – for a newborn baby, that number is 65 percent – yet it is highly efficient, needing only as many calories per day as you'd get from a blueberry muffin.

The brain is divided into three main sections: the cerebrum, which is the part split into two hemispheres, and the home of everything from sensory processing to emotions and personality; the cerebellum, at the back of the head, which contains more than half of neurons in the brain and is responsible for balance and movement; and the brainstem, which connects the brain to the spine and the rest of the body. The brainstem regulates fundamental functions like breathing and sleeping. Then there are all sorts of smaller parts, such as the hypothalamus, a peanut-sized area that controls most of our chemical workings and regulates things like sexual function, hunger and thirst, even possibly how fast we age.

Our understanding of the heart and blood has improved, but still has far to go. In our lifetimes, our hearts will get through 3.5 billion beats. Given that it weighs less than a pound, it's remarkable that it manages to do this. Your blood has to travel as much as four feet or so, down to your feet and back up again, going against the pull of gravity. The powerful thrusts of the heart dispense about 260 liters of blood every hour.

Blood itself performs a variety of tasks: it carries oxygen to the cells, transports chemicals around, removes waste, kills pathogens, and helps regulate our temperature. It's complicated, multifaceted stuff – which is why a blood test can tell doctors so much.

The four main constituents of blood are plasma, red and white blood cells, and platelets. Plasma, the most plentiful component, is 90 percent water and contains various chemicals. Red blood cells are the ones that deliver oxygen around the body. White blood cells are vital in fighting infections. For a long time, platelets were a mystery, but we now know that they help blood to clot, and recent research has shown they also help in other areas, such as regenerating tissue.

Hormones deliver chemical messages around the body and are manufactured within the body. Since 1958, the number of known hormones has risen from about 20 to at least 80. Nothing better illustrates the importance of hormones than diabetes. Diabetics are unable to produce enough insulin, the hormone that regulates the amount of sugar that's present in our blood.

When scientists eventually managed to produce insulin themselves, the effects were miraculous: diabetics were almost immediately restored to full health. Michael Bliss, the author of the book The Discovery of Insulin, has called it as close to resurrection as medicine has ever come.

How many bones do you have? Approximately 206, but it actually varies: one in eight people has a thirteenth pair of ribs, for instance. Plus there are the sesamoid bones, which are like sesame-seeds, mostly very small and are found in our hands, feet, and elsewhere. They're not included in that calculation.

Bones offer us protection, make blood cells and store chemicals. In the early 2000s it was discovered that they even make a hormone, osteocalcin. Incidentally, this may explain why

regular exercise, which strengthens bones, also helps to reduce the risk of getting Alzheimer's disease.

For much of our evolutionary history, we were hunter-gatherers, meaning that getting food used up a lot of energy. That's why we evolved to be so good at moving around. It's something to remember as we slouch back onto the couch: we are designed for movement. That said, rest has always been important; for one thing, you can't digest food when you're exercising. So, you shouldn't feel too bad as you turn on the TV.

You are what you eat. Cooking softens our food, and is the reason we've evolved smaller teeth and a comparatively weak jaw. It also kills off toxins, makes stuff taste better, and frees up time that we'd otherwise spend chewing. Plus, it lets us extract more energy from food.

Eating isn't just about getting energy, though. We also need to take in vitamins and minerals. Vitamins are found in living things like plants or animals, and minerals in inorganic things like soil and water. In essence, they're chemicals that we need but can't make ourselves.

One of the few certainties in dietary science is that we eat too much sugar. An average American takes in 22 teaspoons of added sugar a day, while the World Health Organization's recommended upper limit is five. Where does all this food go once we eat it? It spends a few hours bathing in hydrochloric acid in the stomach, which is why we don't constantly get ill from the food we eat – the acid kills off potentially harmful microbes. Then, the food progresses down to the intestines – first the small and then the large one. All of the nutrients are absorbed there, and bacteria break down the fibre.

And I have to talk about it. Food that can't be used comes out as feces. An average person produces 14,000 pounds over the course of a lifetime. Feces are mainly made up of dead bacteria, undigested fibre, and bits of dead cells from the intestines and blood. That's all that's left. The body is remarkably good at putting what we eat to use.

Sleep seems to do a lot of things for the body: it's a sort of reset for memories, hormones, the immune system, and a lot more.

Several processes inside us help us know when it's time to go to sleep. As recently as 1999, it was discovered that there's a third type of photoreceptor cell in our eyes along with the rods and cones we've long known about that enable us to see. This third type – photosensitive retinal ganglion cells – detects brightness, telling you when it's day and when it's night. These cells mean that even some blind people can detect whether a light is on or off.

We're also now discovering that our body is full of internal, circadian clocks – chemical mechanisms that respond to the time of day – which reside in organs from the pancreas to the kidneys. Different circadian cycles have their own schedules: one such cycle, for example, prescribes that our reflexes are best in the middle of the afternoon.

Did you know that hair grows faster in summer thanks to the tiny pineal gland in the middle of our brains which tracks the seasons. Circadian cycles are also the reason why babies need more sleep than those who are older.

Menstruation and the menopause were simply not studied for centuries. Female anatomy has been under-researched as well. Far more is known about the male anatomy. There's still a lot to learn about pregnancy and childbirth, too. The placenta, for instance, is sometimes called our least understood organ, but it's a hugely active part of development, filtering out toxins, distributing hormones, and killing anything that might do the fetus harm. Most problems in pregnancy result from issues with the placenta rather than the fetus.

Perhaps our greatest fear today is cancer, caused by cells that start to divide uncontrollably. In effect, cancer is the body attacking itself. Causes are varied, although the risk increases with age and with certain behaviors like smoking, excessive alcohol consumption, and excessive eating. Treatment is improving all the time, yet there's still a long way to go.

Overall, since the turn of the 20th century, medicine has made astounding progress. As Harvard physiologist Lawrence Henderson has noted, at some point between 1900 and 1912, a patient's chances of getting something useful out of a visit to the doctor suddenly jumped above 50 percent for the first time. It's just gotten better from there.

So to sum up:

Dr Jack Lewis and Webster says Sort Your Brain Out that you owe it to yourself to squeeze every last drop of ability from the astonishing organ between your ears. They offer some "brain optimisation tips" that will help your brain to fire on all cylinders: first, drink a glass of water on waking each morning - your brain can't function efficiently if it's dehydrated; second, take regular moderate exercise to keep your brain on its tiptoes. Third, avoid chronic stress by proactively setting aside 'gom' (Tibetan for meditation) time each day; fourth, get some mood-regulating UV light on your skin; and, fifth, drink a cup of coffee while you're doing it - the right level of caffeine has a positive effect on your grey matter. Anyone for a skinny latte?

Bryson says in The Body that science can tell us incredible things about the human body, but one of the most incredible is how many mysteries still remain. There's so much more to learn about how the body works and how we should treat it, but it's also worthwhile to simply remember just how amazing it is that we exist at all.

I myself am fascinated with the body, especially as I have a rare degenerative genetic neurological condition, my brain does all sorts of bizarre things regularly! What about you, do you think about the wonder that is your body? Please join in on the conversation by following @howtobe247 on Instagram, Twitter, and Facebook, and subscribe on the podcast, which can be found via www.howtobe247.com.

Please do leave a review if you found this helpful! Thank you to Scott Leiper, creator at Imaginocity and the Learning Lab for your lovely comments called it "a beautiful gem in an ocean of self-help podcasts.".

I'll leave you with meditation coach Corina Pall and personal coach and life strategist Nicolina Werther. See you in two week's time!

CORINA PALL: The best way to understand your body and your mind is to practice meditation. When you spend time connected with the silence and the stillness that's within, you get to hear your inner voice, thinking patterns, limiting beliefs. You also become aware of your values, your likes and dislikes. Bringing your awareness to your body helps you to notice any sensations, feelings in the body. If you have a negative thought, you experience an emotion in your mind, which translates to a feeling in your body. Once you become aware that you are in charge of your thoughts and that any negative thought can have a detrimental effect on your body, then you are in a position to shift your awareness and focus your attention on an uplifting thought. The more you practice meditation, the more in tune you'll be with your body and your intuition, and you feel guided to trust your inner knowing.

NICOLINA WERTHER: There are so many parts about the body that I find absolutely fascinating, especially the whole body mind connection and how our body, uh, and parts of it and systems in it influence how we feel and what kind of emotions we are experiencing. But the bit that stood out most for me over the last couple of years is the whole idea of neuroplasticity and how it's now been proven or it's been proven for a while. But now also the public is starting to realize that our brains are capable of constantly changing and evolving and making new cells and new connections and different connections. And basically we, um, can change our behavior. We can keep learning until we die, until into old age. I think that's fascinating. It's such great news because it kind of proves what's, at least in the coaching world, we kind of always advocated that setting intentions and make small steps towards it. We now know that our brain is totally on our side and I think that's amazing.