How fitness helps you become a better developer

Content warnings

- Mental health

- Obesity

Magnus Nordlander

- Symfony developer since 2007

- Runs a small consultancy in Stockholm, Sweden, focussing on Symfony

SymfonyCon Paris

December 2015

SymfonyCon
Berlin

December 2016

Symfony Live
San Francisco

October 2017
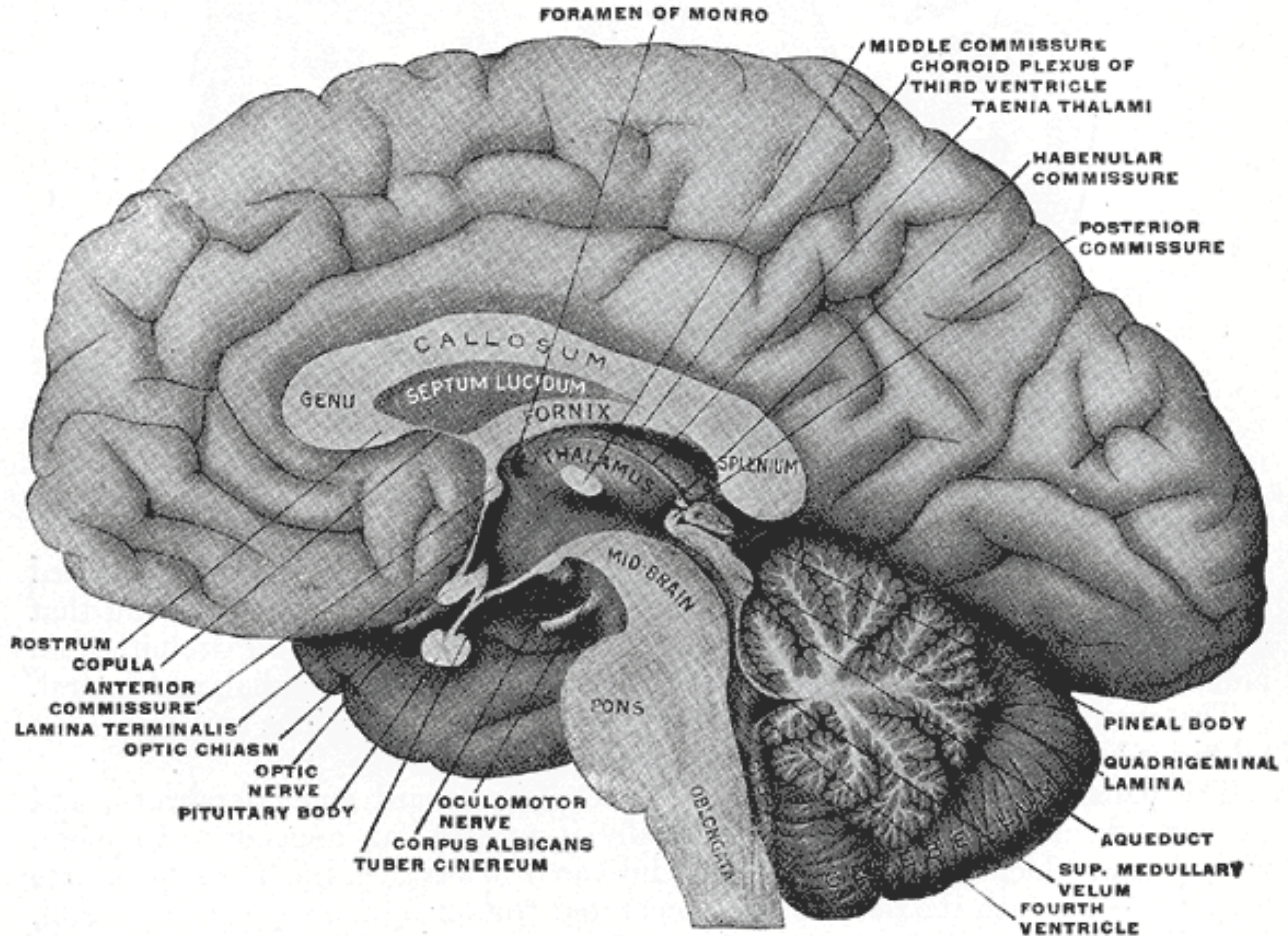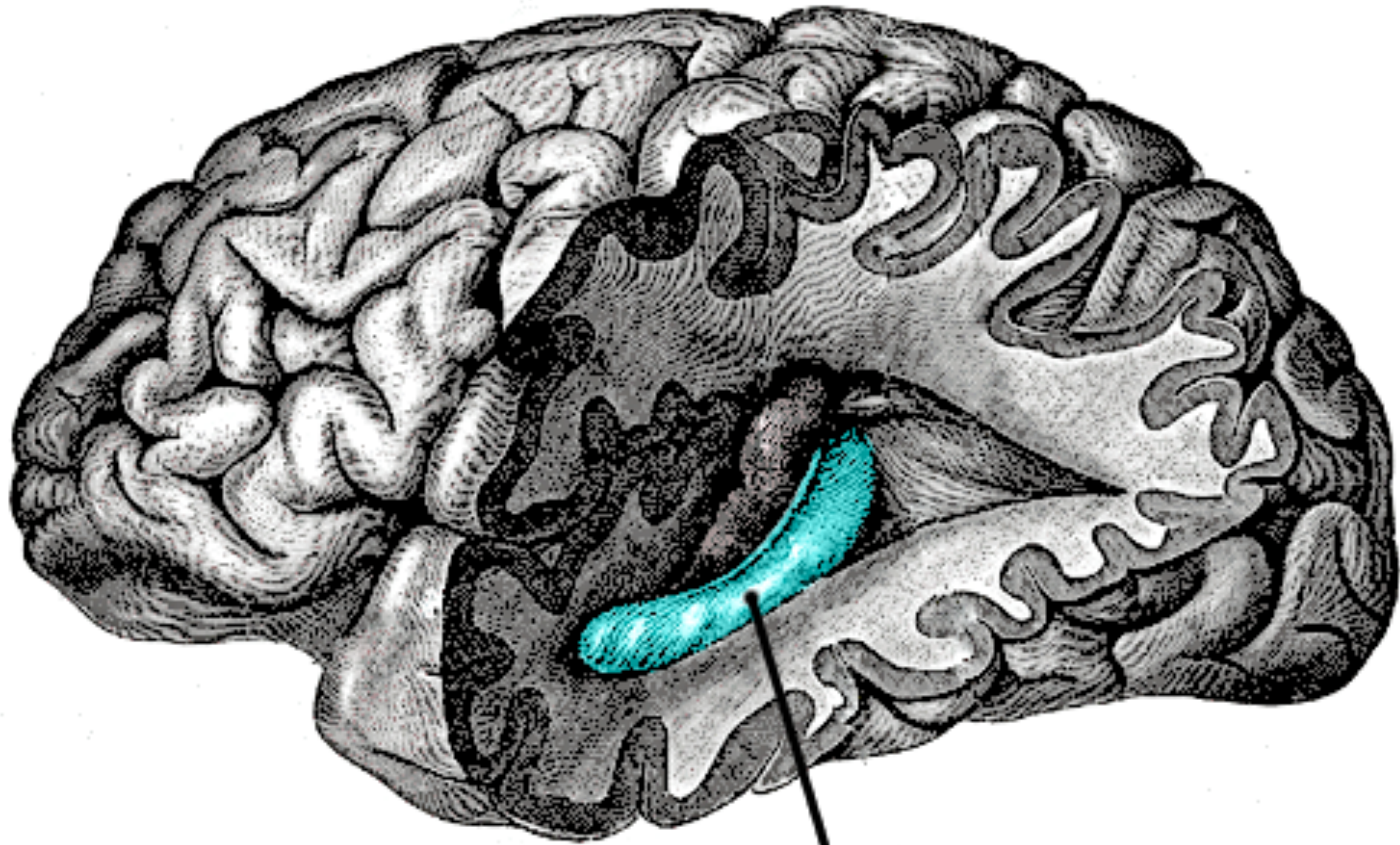
Clearly something happened…

Caveats

- I am not a physician

- I am not a nutritionist

- I am not a neuroscientist

- I am not a personal trainer

Let's talk about the brain!

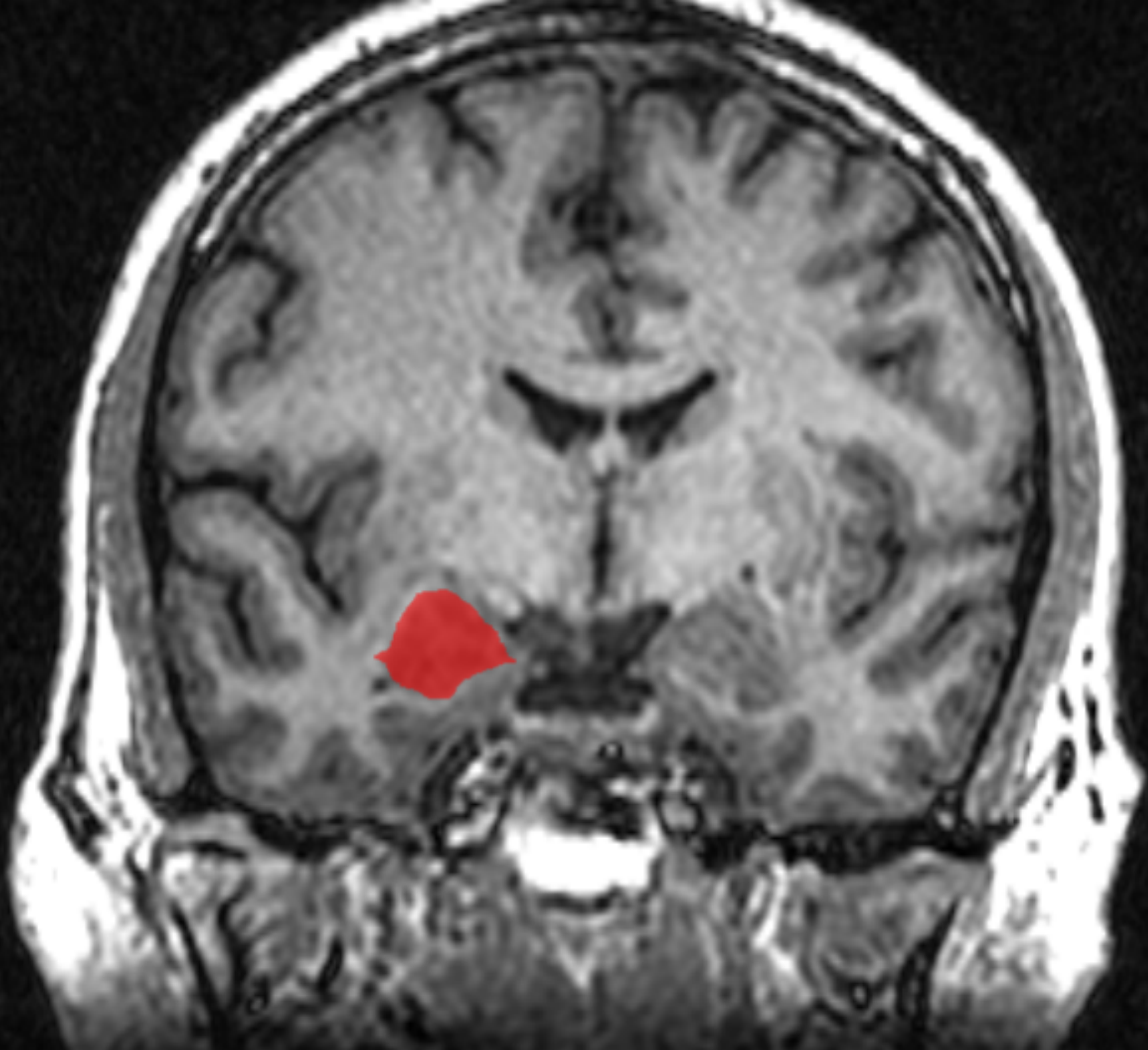# Some interesting parts

- Hippocampus

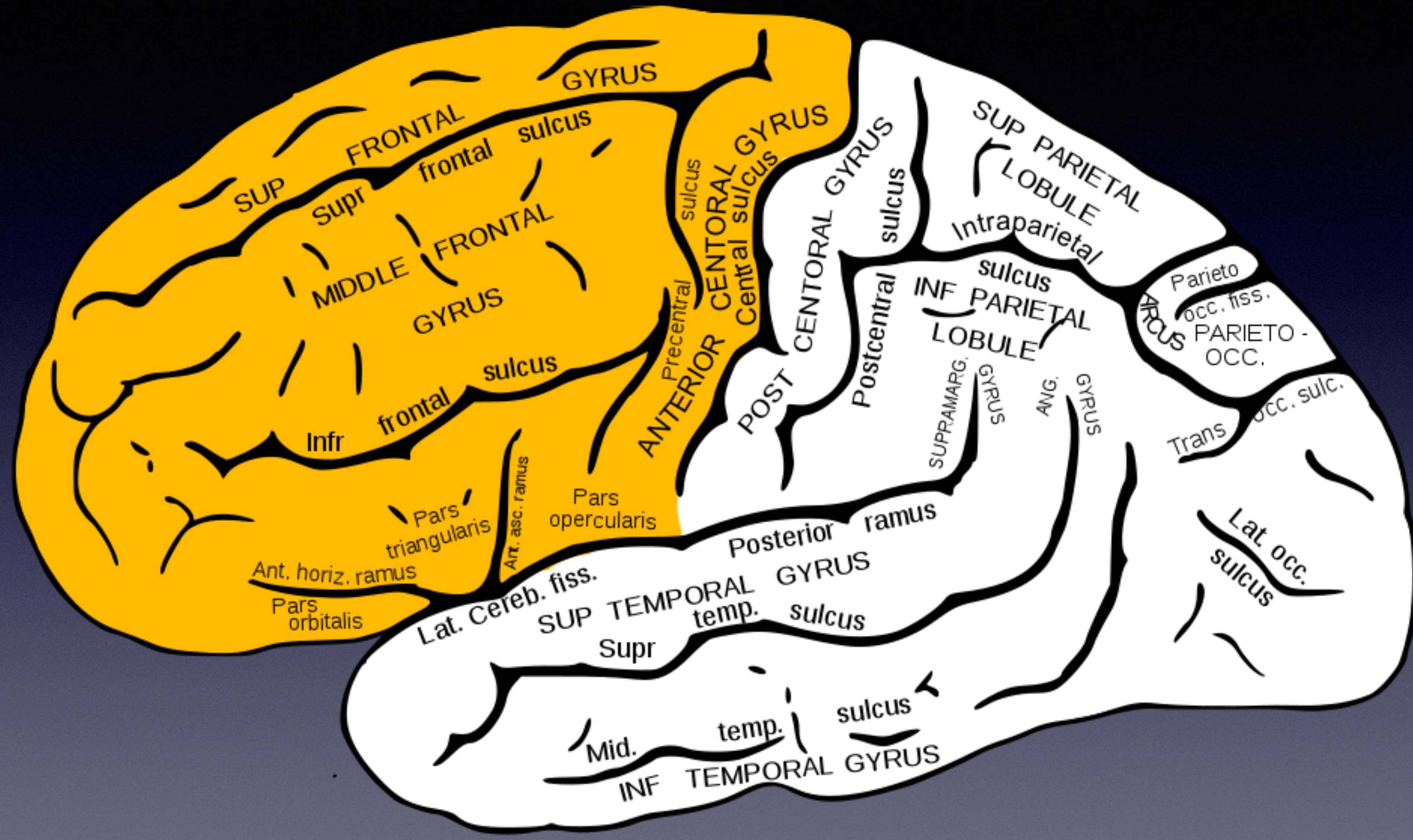- Amygdala

- Frontal lobe

Hippocampus

Hippocampus

- Important for memories

- Also important for emotional regulation and spatial orientation

Amygdala

- Plays a role in memory processing, decision-making and emotional responses

    - E.g. fear, anxiety, aggression

- One of the most primitive parts of the brain

- Responsible for "fight or flight" response

The frontal lobe

- Higher functions

  - Logical and abstract thinking

  - Executive functions

- Motor control

- Can also balance the amygdala, modifying the emotions derived from it.

Some interesting substances

- Serotonin

- Dopamine

- GABA

- BDNF

- Endorphins

- Cortisol

HPA axis

- Hypothalamus

- Pituitary

- Adrenal gland

Stress

- Elevates cortisol levels

- Inhibits the hippocampus and frontal lobe

- Elevated cortisol levels are toxic to the hippocampus

Stress

- Exercise stimulates the frontal cortex and connects it to the amygdala

- Increases resilience against stress

- Causes your brain to be better at lowering cortisol levels

Anxiety

- Activated through the HPA axis

- Exercise teaches you that increased heart rate, blood pressure etc is not necessarily bad

  - Neurons that fire together wire together

Mood

- Exercise increases serotonin and dopamine

  - Not just acute increases

- Acts in a similar way as mood stabilizers

Memory

- Exercise stimulates BDNF production

- Increases the size of the hippocampus

Focus

- Exercise increases dopamine

- Tunes your brain for focussing

Creativity

- Exercise correlates with creativity

- Dopamine is a key substance

SymfonyCon
AMSTERDAM 2019
NOVEMBER 21-23

Which physical activity?

Cardio

- Anything that gets your heart rate up

  - Running / Walking

  - Biking / Cardio machines

  - High intensity interval training

- Drives most of the changes in your brain

Cardio

- At least 2 times a week, preferably 3-4

- At least 20 minutes per time, preferably 30-40

- Keep at it

Resistance training

- Important for building muscle and shaping your physique

- Less important for your brain

- You should still do it

Resistance training

- Progressive overload

- At least twice a week

- Learn how to use free weights

What about …

Medication

- Medication works

- Medication works even better when combined with physical activity

- Uses similar pathways in the brain

Mindfulness

- Mindfulness also works

- Neurons that wire together fire together

- Not as effective as exercise, but do mindfulness meditation too

- Ask me about mindfulness after the talk

What about diet?

Diet

- Poor diet also increases cortisol levels

- Excessive food intake (in relation to activity) causes obesity

A side note on obesity

- Epidemic

  - Globally, 16% of adults in 2016 were obese

  - Prevalence tripled between 1975 and 2016

A side note on obesity

- Cardiovascular disease

- Diabetes type 2 / Metabolic syndrome

- Osteoarthritis

- Chronic inflammation

- Certain cancers

A side note on obesity

- Adipose tissue is an endocrine organ

- Obesity correlates with increased cortisol levels

- Obesity causes sleep disturbance (e.g. sleep apnea)

A side note on obesity

- Obesity stresses the body

- Social stigma also plays a role

- Obesity and depression are reciprocally linked

Energy balance

- Eating food provides the body with nutritional energy

- The body uses energy

- If you take in more energy than is used, it is stored

- If you use more energy than you've taken in, that energy comes from storage

Energy balance

- The body can store energy in…

  - Blood glucose

  - Liver glycogen

  - Muscle glycogen

  - Adipose tissue (body fat)

- It can also use energy to build e.g. muscle

Energy balance

- To maintain weight, eat as much as you use

- To gain weight, eat more than you use

- To lose weight, eat less than you use

Energy balance

- Log and weigh

- Calculate using a formula

- Measure?

Macronutrients

- Fats

- Carbohydrates

- Proteins

Macronutrients

- Most people eat 50% carbs, 30% fats, 20% protein

- If you want to build muscle or maintain muscle while losing weight, you should eat more protein than that

Macronutrients

- There are a bunch of exclusion diets

  - For weight loss, what matters is calories in / calories out

  - Find a way of eating that you can sustain indefinitely

Micronutrients

- Calories and macros are not everything

- Vitamins

- Minerals

What to eat

- Common sense

  - Cook your own food

  - Eat your vegetables

  - Reduce the "known" unhealthy foods

What to eat

- If you're still having problems, log your food intake

- There are apps that make this easier

  - MyFitnessPal, Lifesum etc.

What to eat

What's important isn't what you do once a month or a few times a year, it's what you do every day

My story

Caveats

- You are not me

  - Not everyone needs to lose weight

  - Not everyone is 2 meters tall

- I didn't exactly do everything right

My story

- Always pretty big, but didn't become obese until my twenties

- I was never very active

- Stress from school and reduced social control from moving out caused me to eat more

My story

- I wasn't happy, especially not with my body

- I had a lot of anxieties about my body and my health

  - Thinking or doing anything about it would make it feel more real

- I never had a single rock bottom moment, but I had several pivotal moments

My story

- In the summer of 2017 I joined Mensa

  - Lots of new friends, and I became more social

  - Becoming more social made me a happier person

My story

- In December 2017, I read an article about insulin and diabetes

  - Probably not correct

  - My take on it was that eating less carbs might prevent me from getting diabetes

  - "This is something I can do"

My story

- I changed my diet

- I started losing inches off the waist

- I began realizing that I actually could lose weight

My story

- By spring of 2018, I started exercising more

  - Going for walks

  - Closing the rings on my Apple Watch

  - Bought a scale that I couldn't use

My story

- By summer 2018, I set a calorie goal and started sticking to that

- In August 2018 I was under 180 kg and was able to use my scale

My story

- In September 2018 I got a gym membership

  - Initially mostly cardio, but pretty soon I also started lifting

- Increased my calorie goal

My story

- In April 2019 I hit my goal weight of 115 kg

- Switched over to maintenance

  - Not as smooth as it could have been

The Mind Flayer Is Back and He's Coming for Billy Hargrove

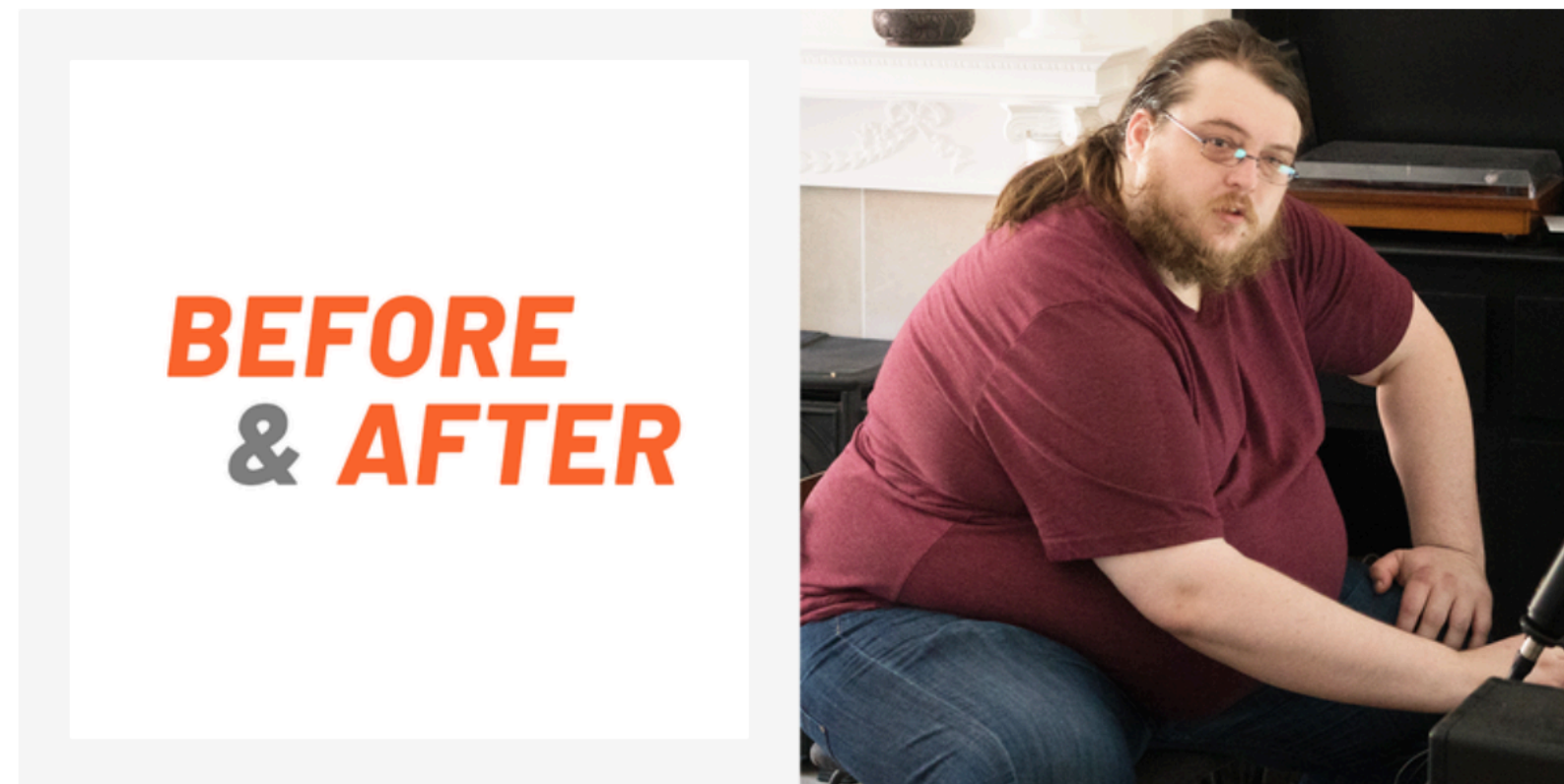The final 'Stranger Things' trailer is here.

BY TEMI ADEBOWALE

Three Major Changes Helped This Guy Lose 155 Pounds and Get Jacked

"I feel fantastic, I sleep better, and I have more energy."

BY MIKE DARLING

BEFORE & AFTER

Jason Momoa Wants to Team Up With a 'Game of Thrones' Co-Star in a 'Twins' Remake
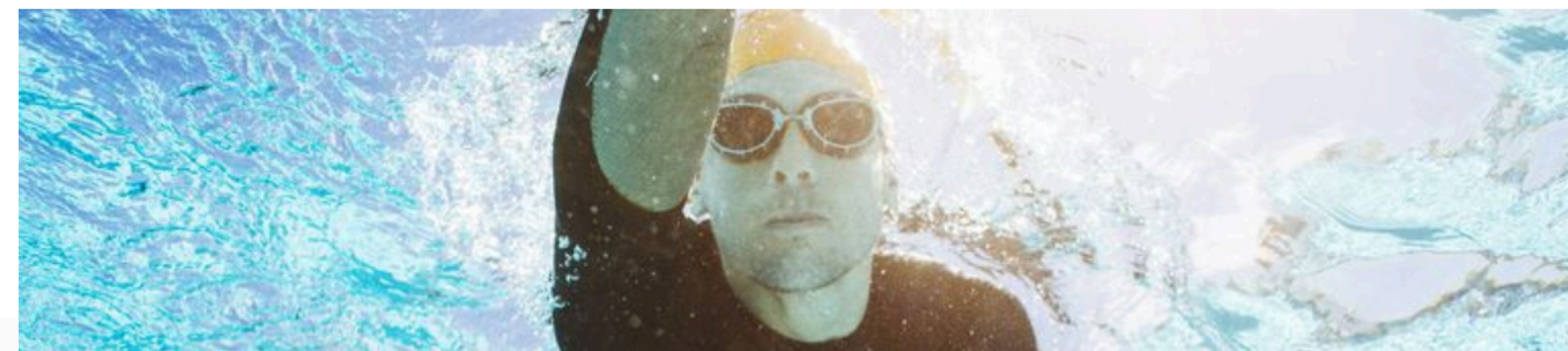
He sounds all-in on working with this major star.

BY EVAN ROMANO

The Best Swimming Goggles to Hit the Pool

These swimming goggles are built to take on everything from

My story

- Went from around 190-200 kg to 110 kg

- Eat a lot better

- Work out every day

My story

- I sleep better

- I have normal blood pressure

- My resting heart rate is around 50 bpm

- I'm also happier, less stressed

My story

I'm not special

Lessons learned

- Focus on sustainability, both for exercise and diet

- Don't go all in – scale up over time

- Find activity that you like

  - For me it was lifting and running

- Routine is super powerful

Lessons learned

- It's not a race

- Plan for maintenance

- I'm a volume eater, I need to go for foods with low calorie density

  - Don't drink your calories

- Weigh yourself, but only look at moving averages

So what happened with Sound of Symfony?

Questions?

- Talk to me at the conference

- Contact me at twitter.com/drrotmos or the Symfony Slack (magnusnordlander)

Thank you!