



---

# Brain Transplants and Personal Identity

---





What is it to be a **person**?



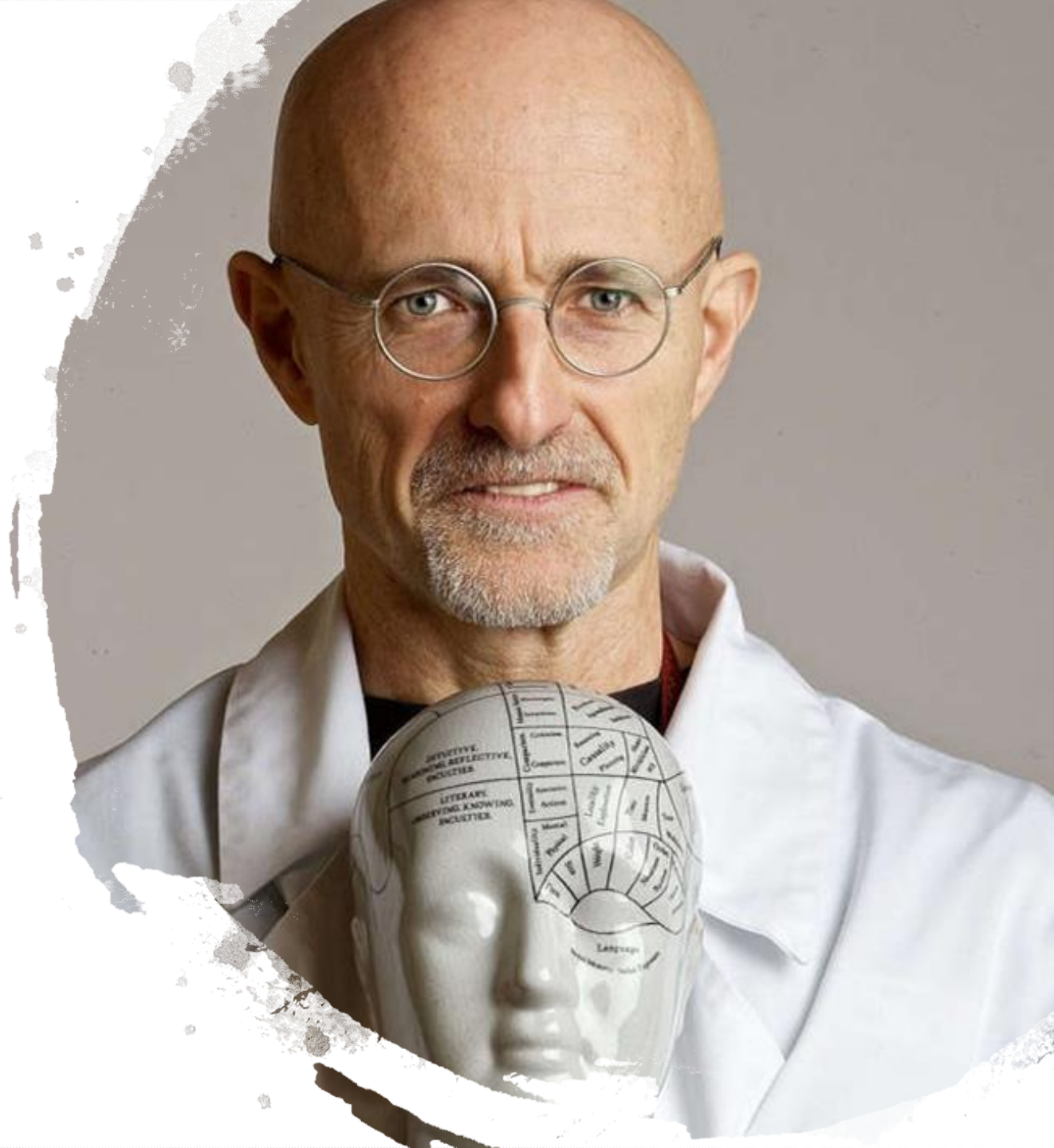
What is it for a person at one time ( $t_1$ ) to be **identical** to some person at a later time ( $t_2$ )?



# Case 1: Body transplant

- **Sergio Canavero (2017)**

# Attempt of head transplant on a patient suffering spinal muscular atrophy

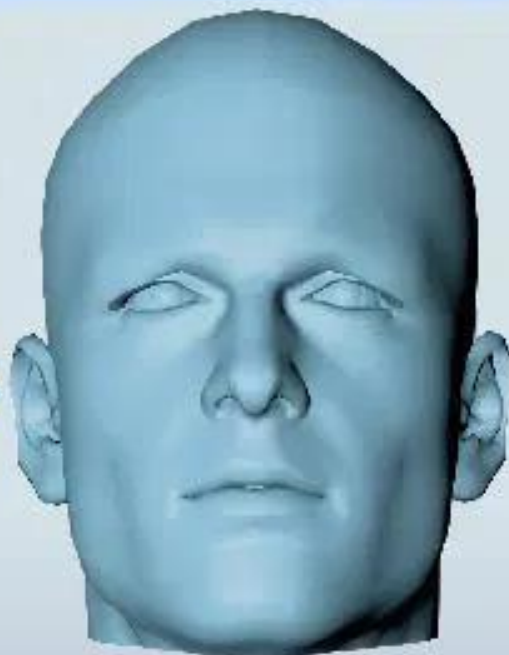




# HOW TO GET A HEAD



- 1 Head and body frozen to stop brain cells dying
- 2 Neck is cut and tubes connecting arteries and veins fitted



- 3 Spinal cord cut with extra sharp knife
- 4 Head is moved to the donor body and spinal cords fused with glue



- 5 Muscles, veins and organs are reattached and skin stitched together
- 6 Hope for the best



**WARNING: DON'T TRY THIS AT HOME**

# Some other (successful) cases



**Vladimir Demikhov (1950s):** Two-headed dogs (puppy head into adult dog). Survived between 2-29 days.

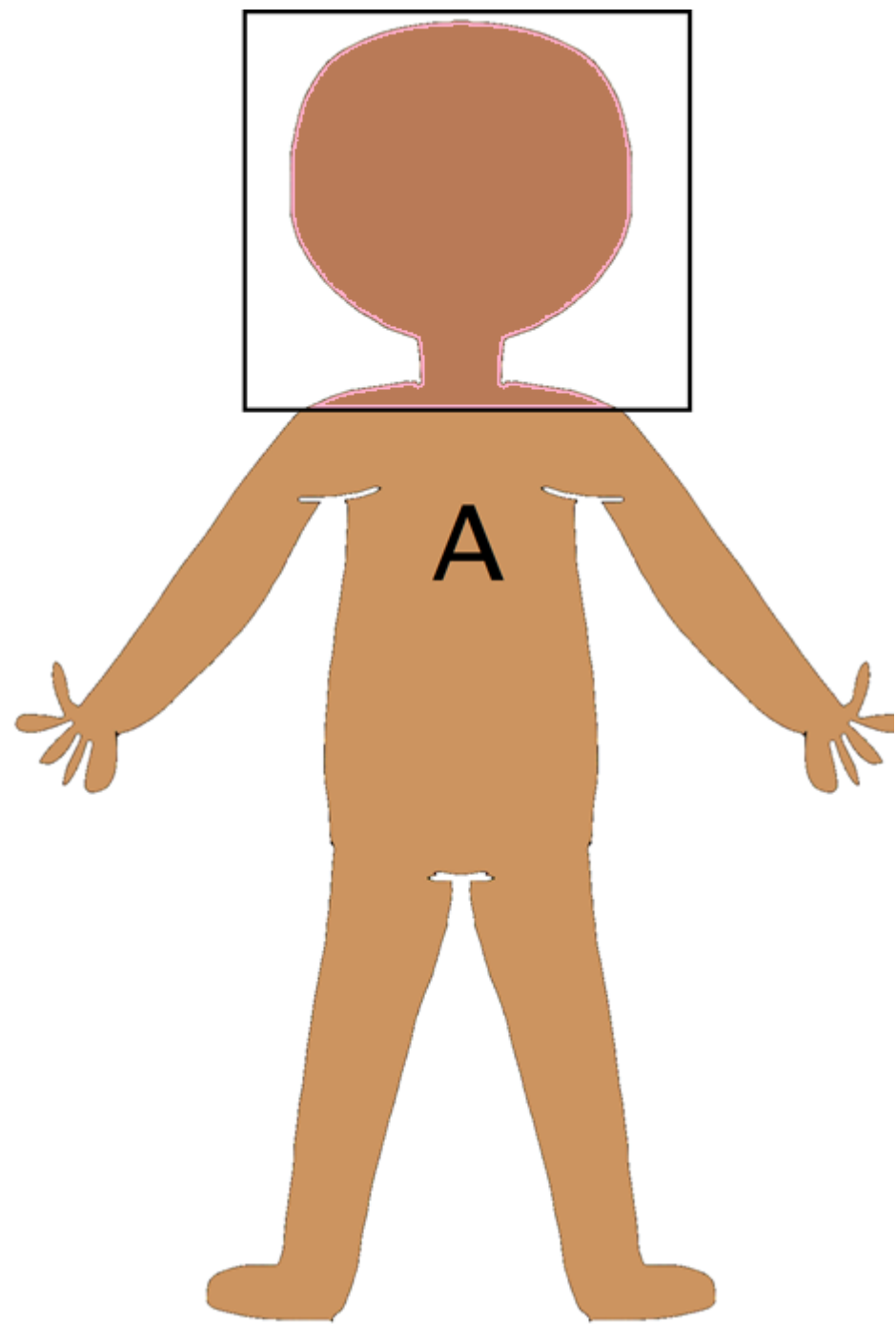
The new head biting the ear of the other.

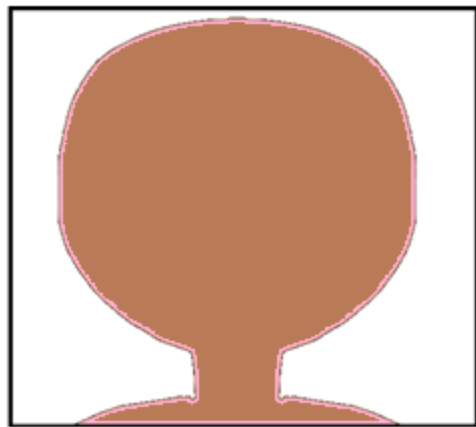
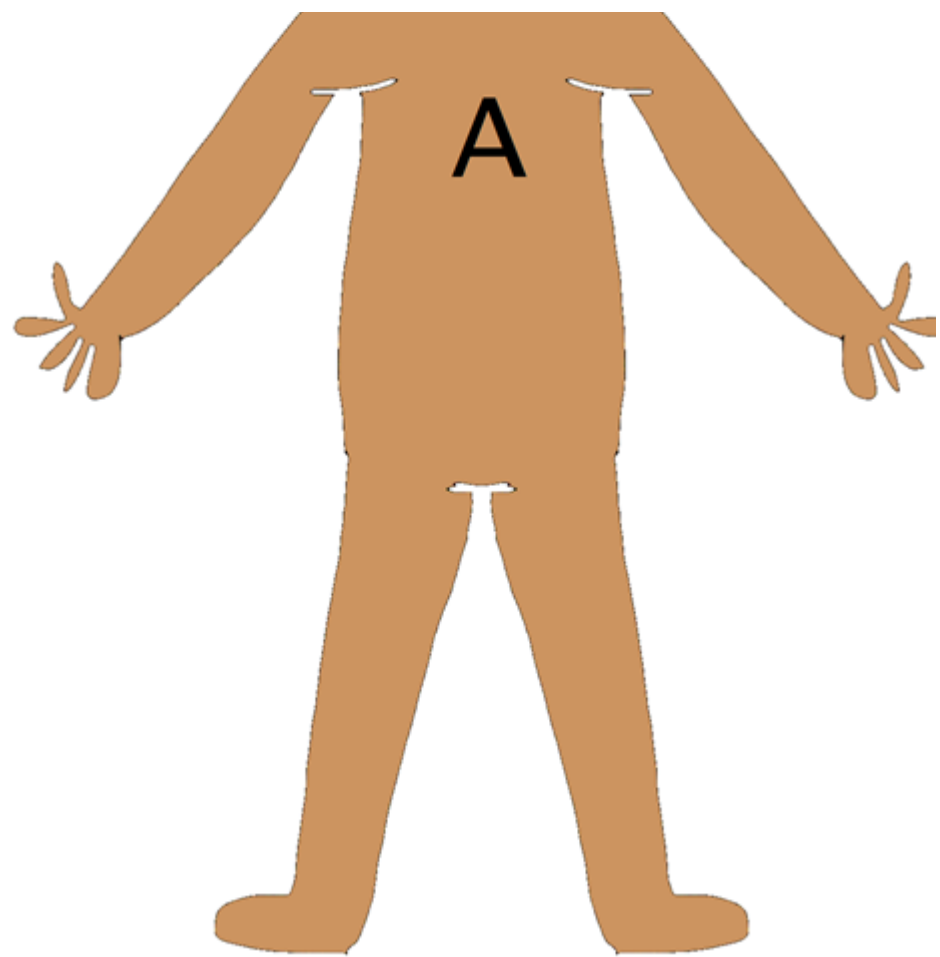


**Dr Robert White (1970).** Monkey head transplant. It was paralysed from the neck down but was able to hear, smell, taste and move its eyes. Survived 9 days.

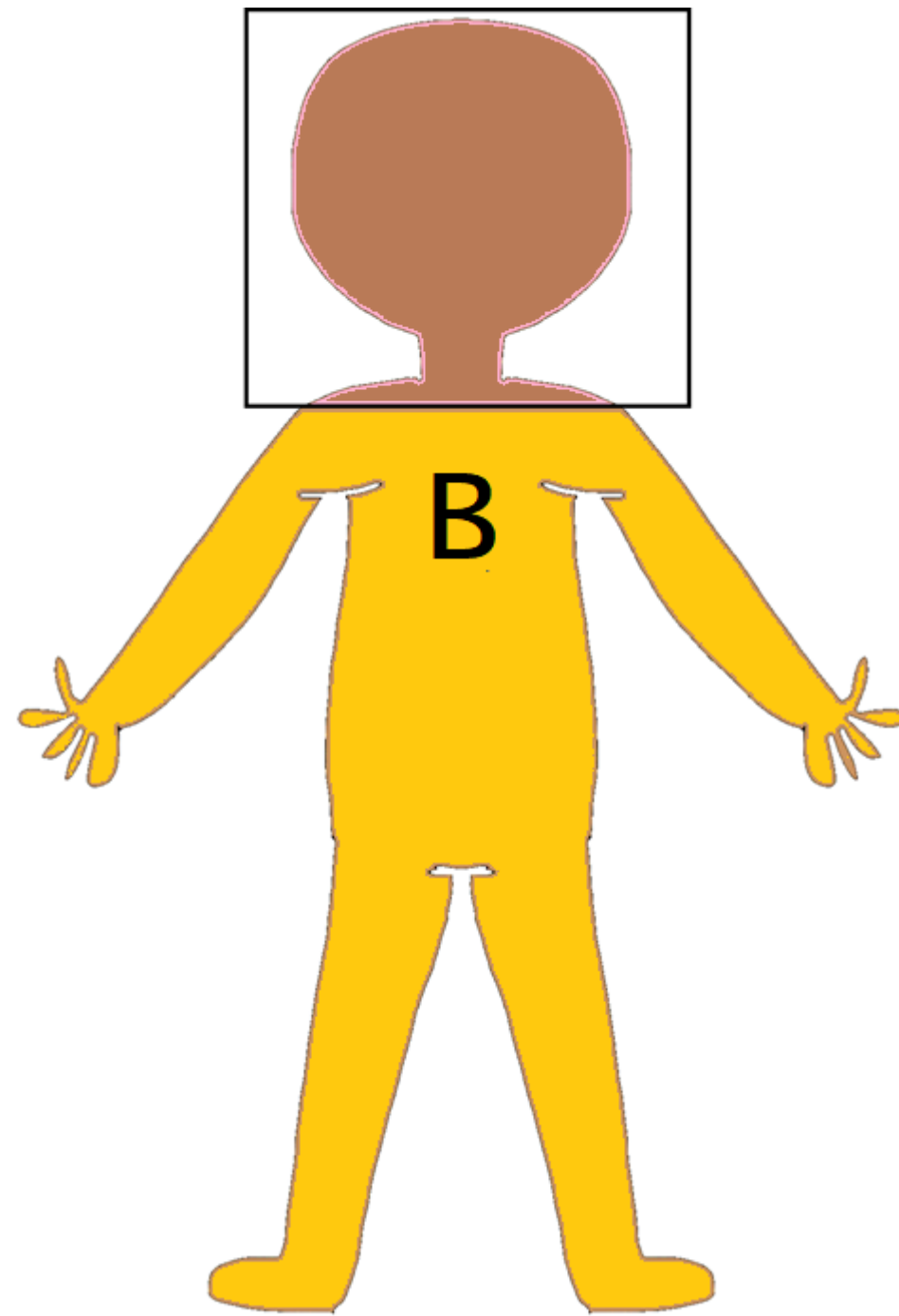
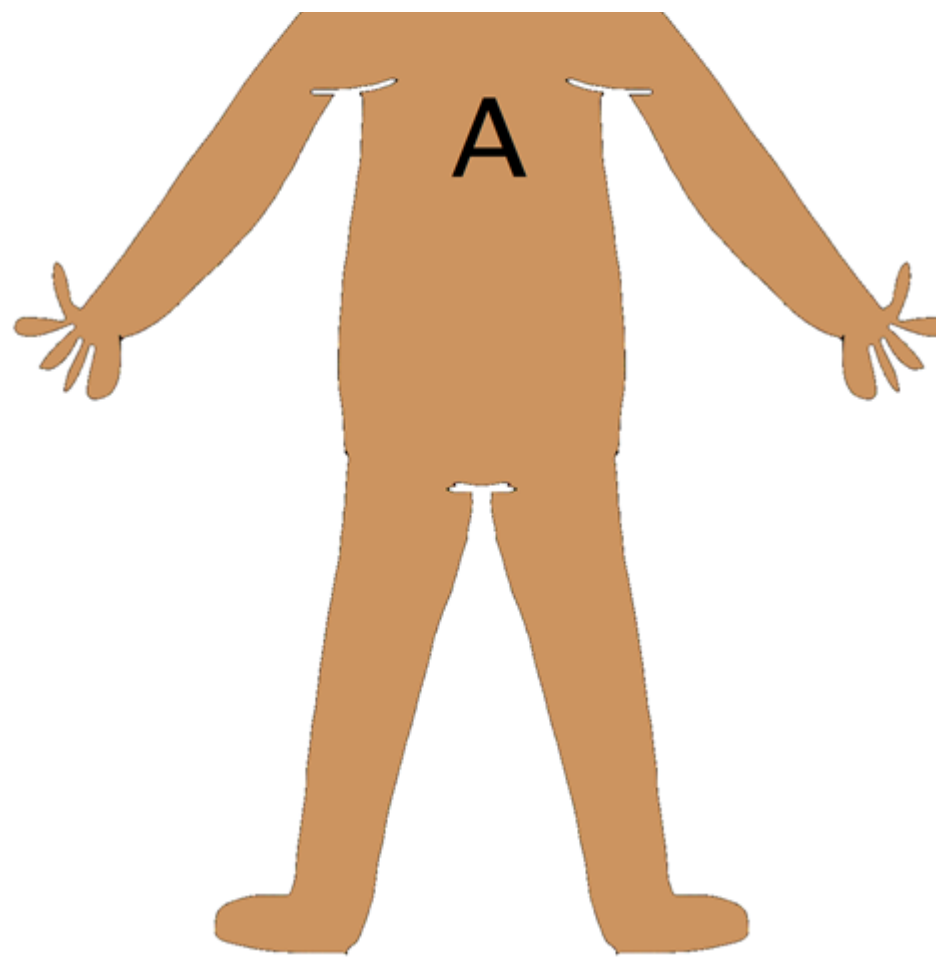


**Xiao-Ping Ren et al. (2014).** Mice head-swap. 3h alive.









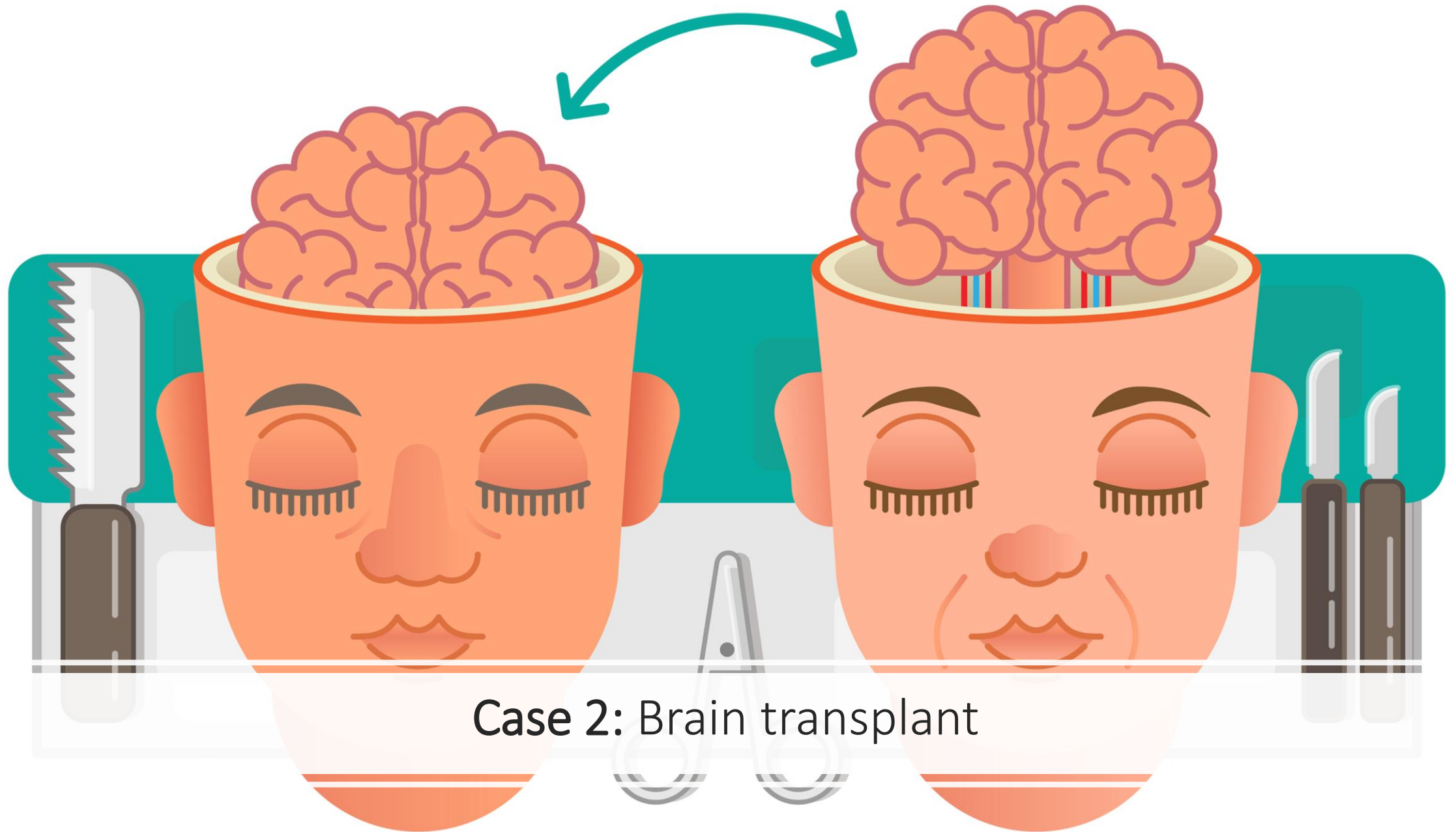


Let's consider that Canavero's surgery is performed successfully



Would we say that the person that wakes up after the body transplant is the **same person**?



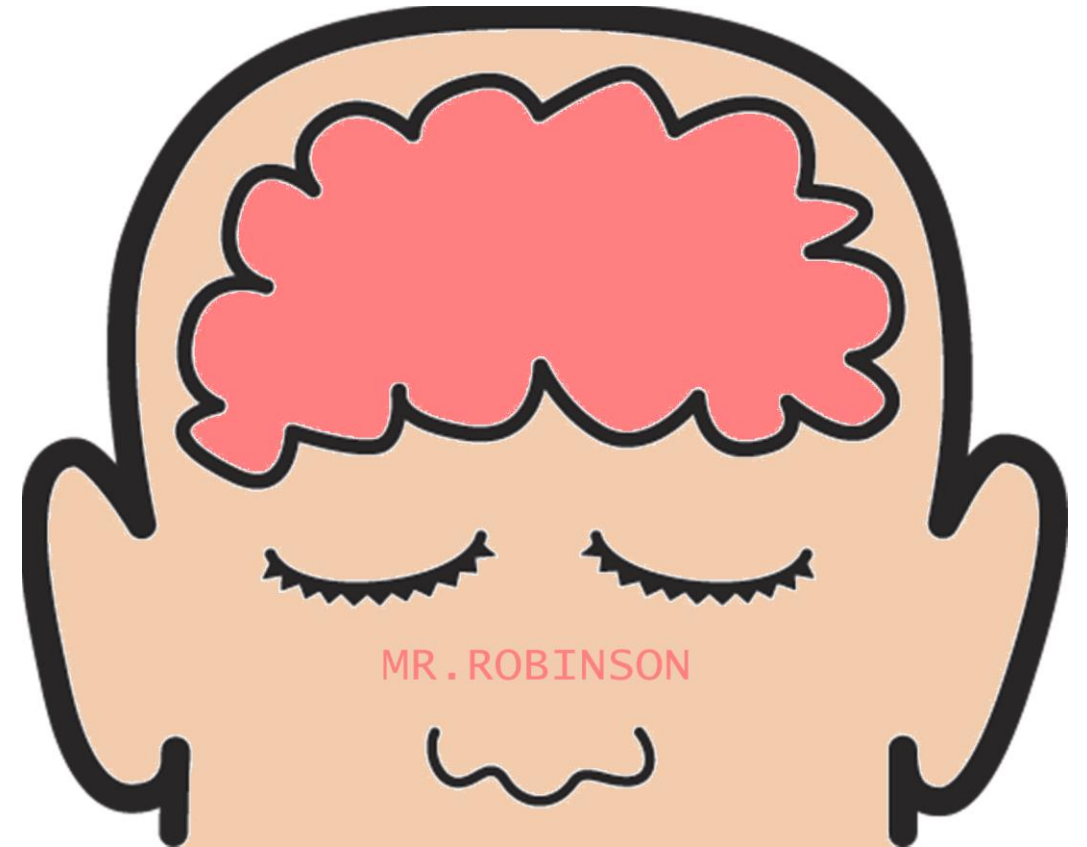
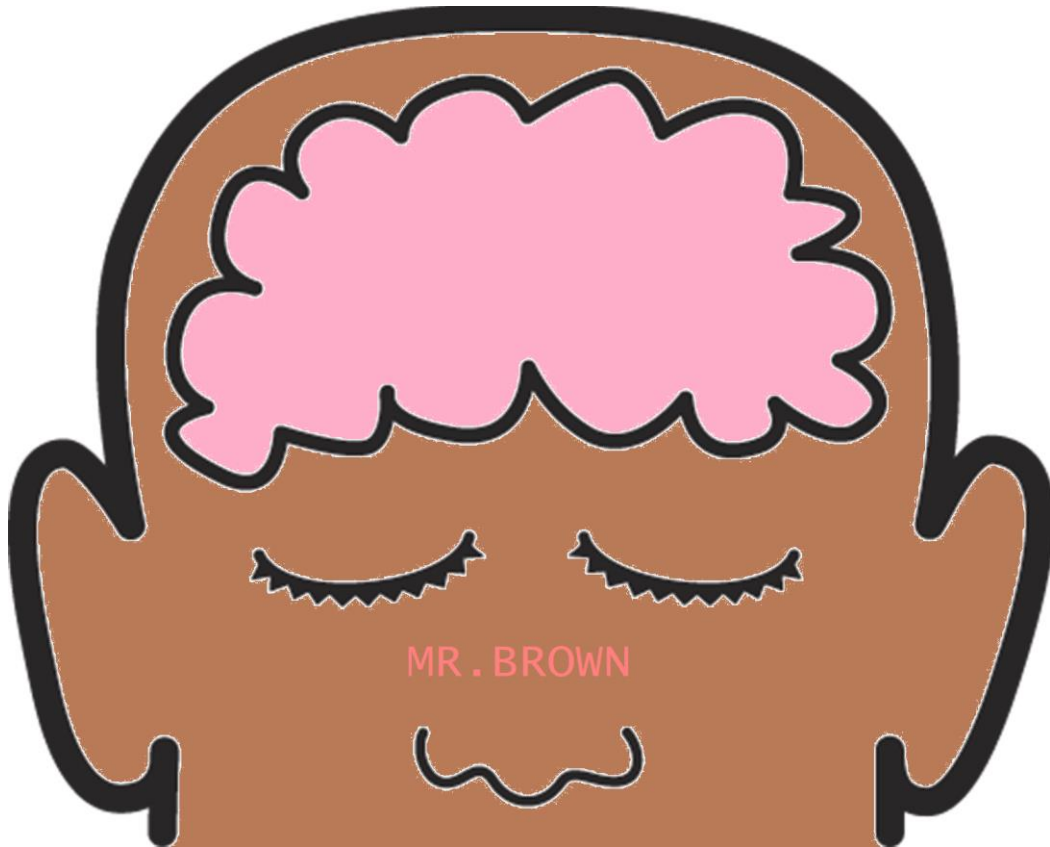


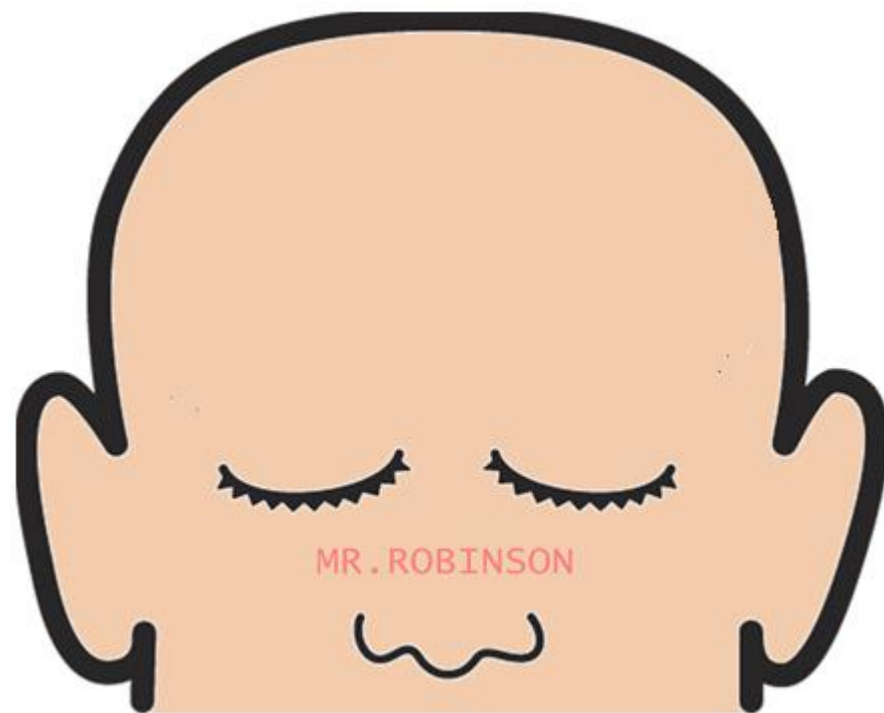
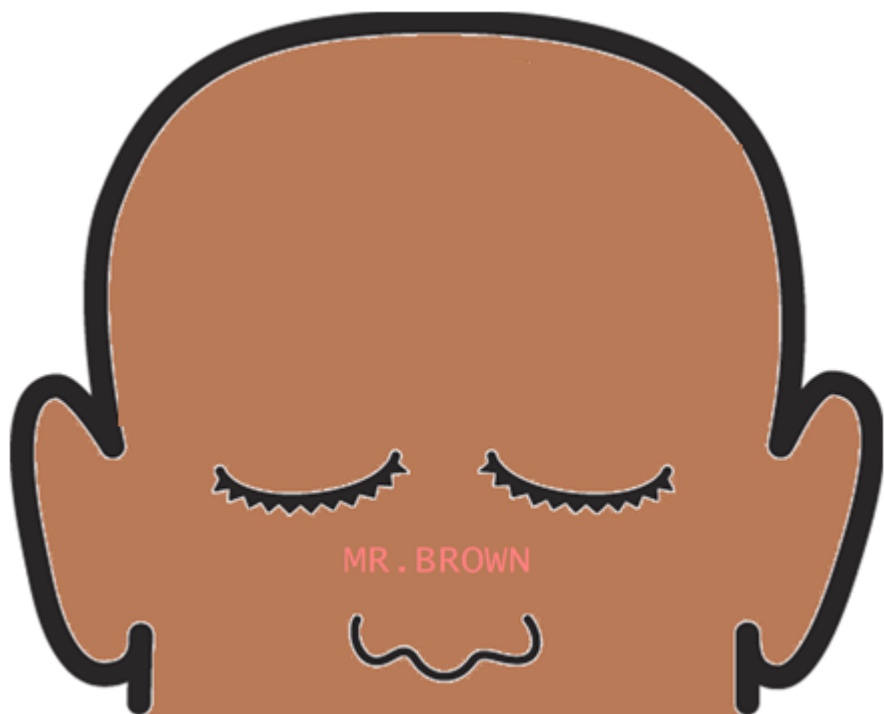
Case 2: Brain transplant

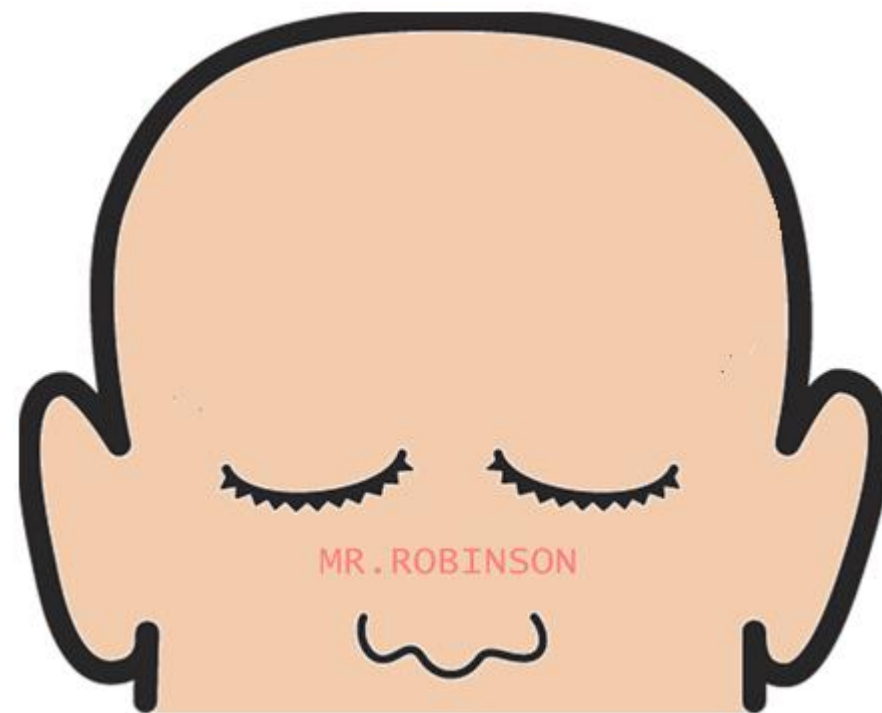
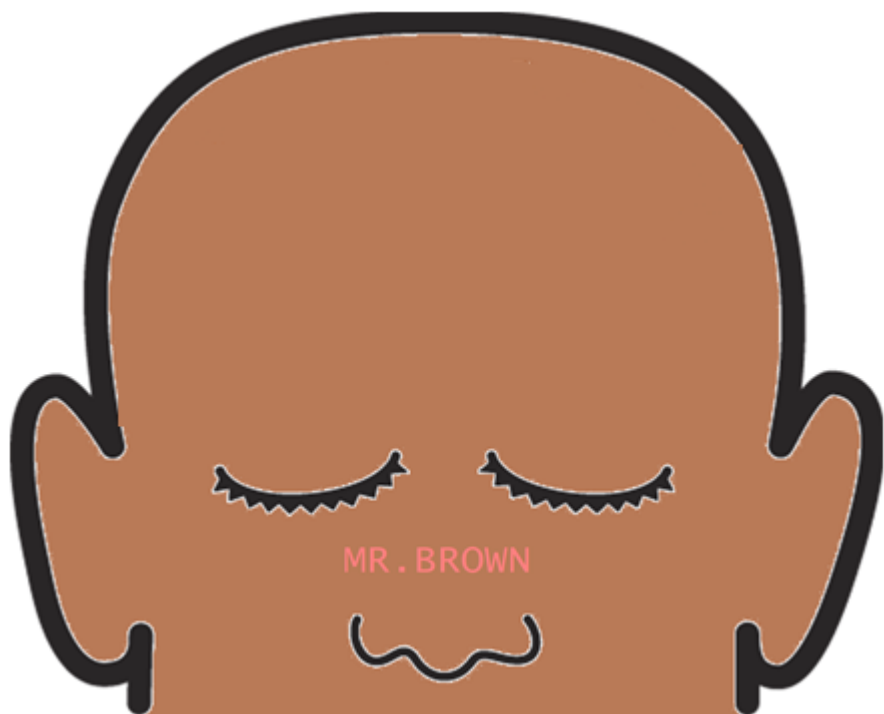


# Shoemaker's (1963) thought experiment

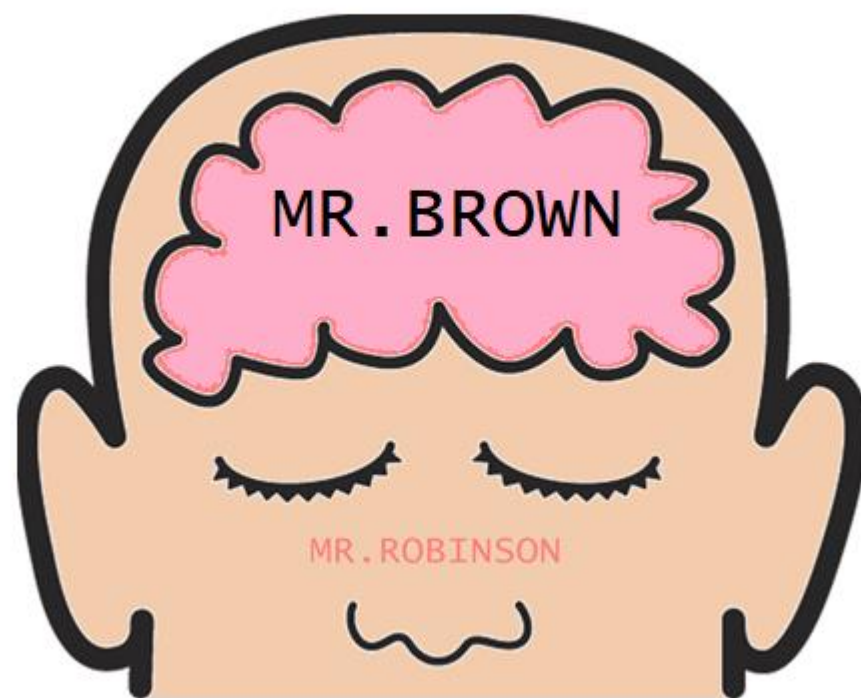
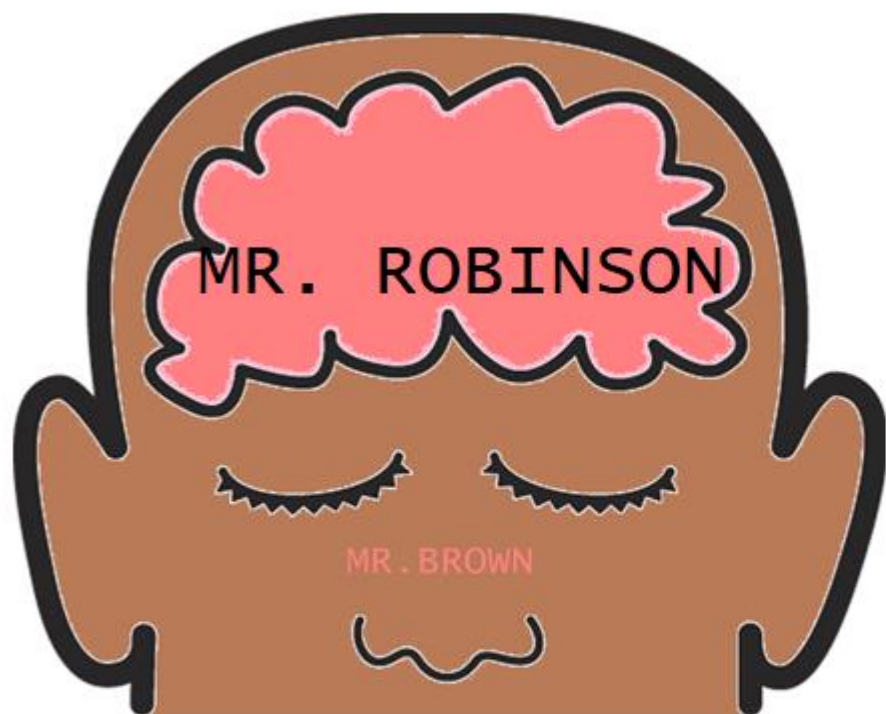
---



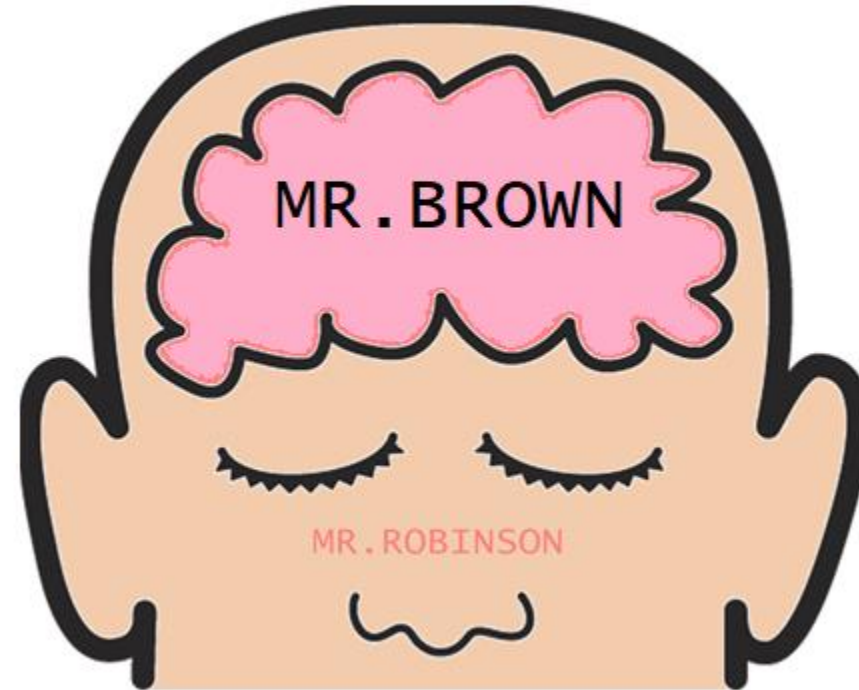




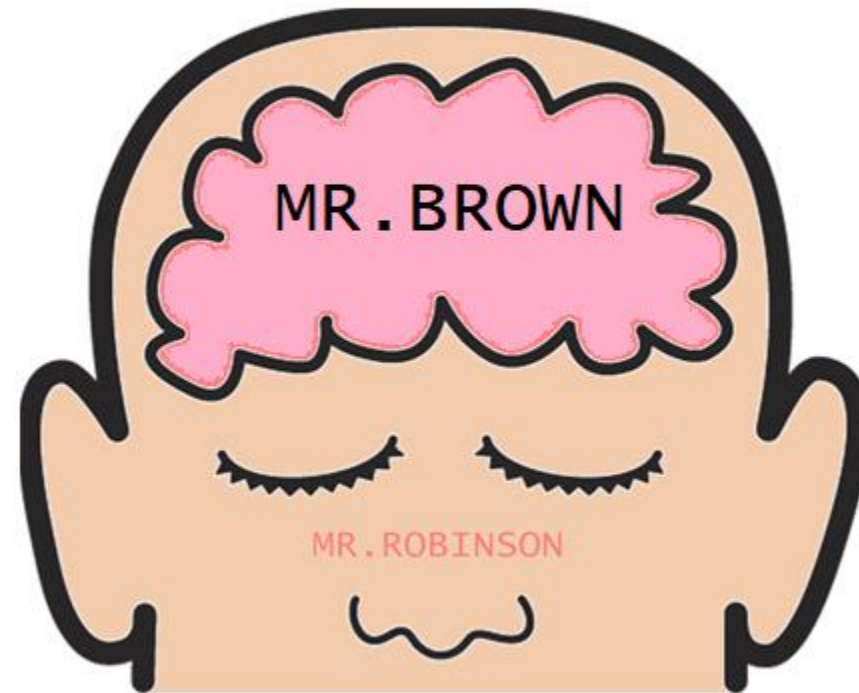




**MR . BROWNSON**



# MR . BROWNSON



- “What’s your name?”
- *Brown*”



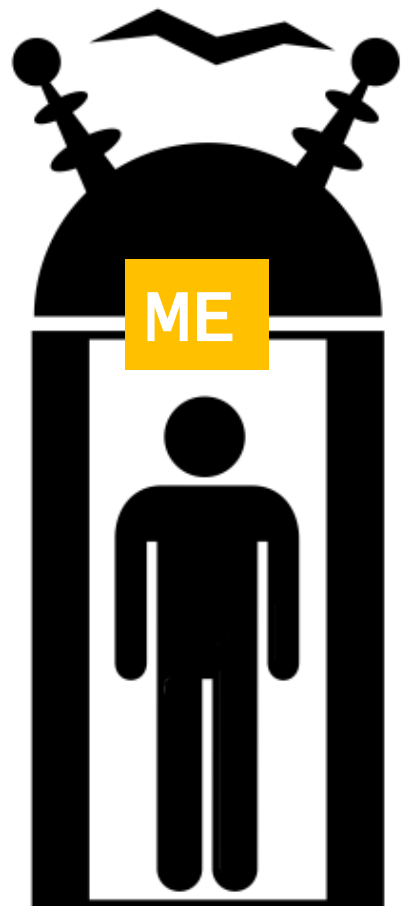
**Case 3:**  
Teleportation  
and body  
annihilation



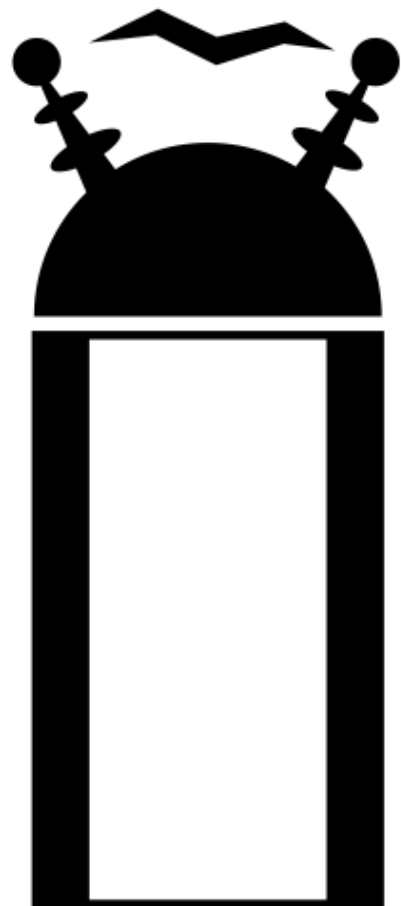
# Parfit's (1984) teleportation machine thought experiment

---

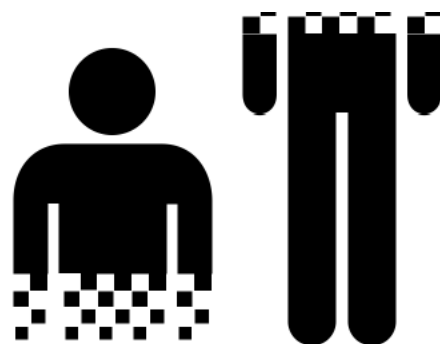


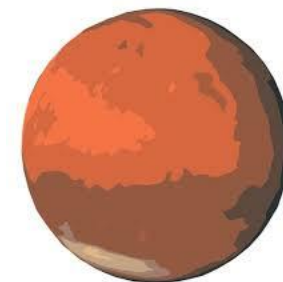
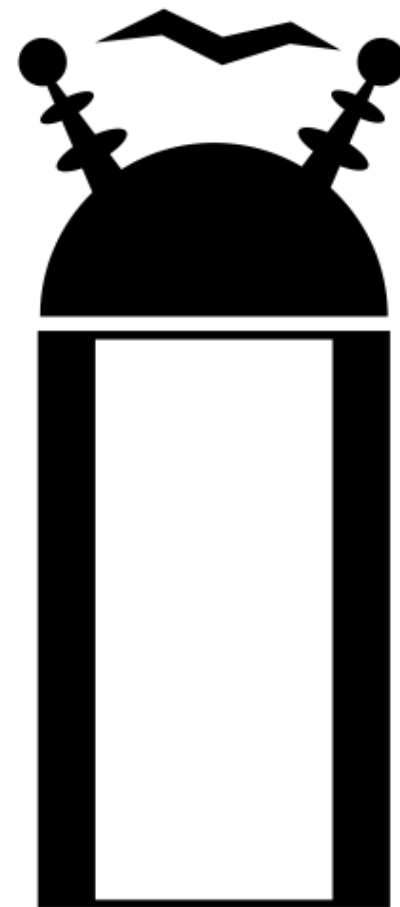
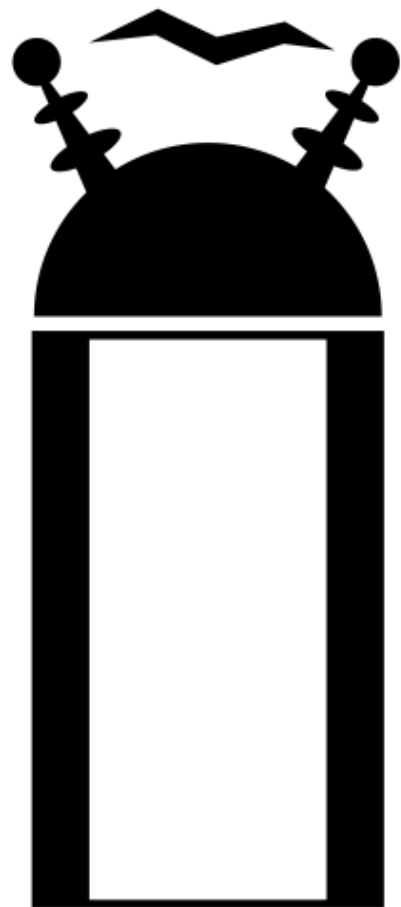


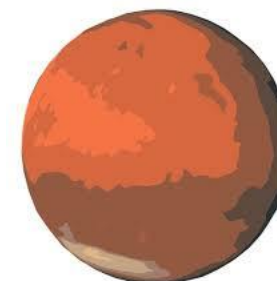
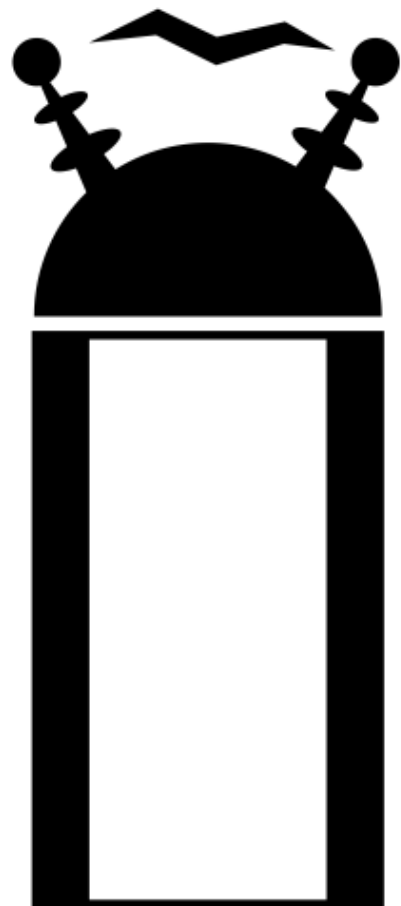




ME









Can we say that / have survived the teleportation machine?



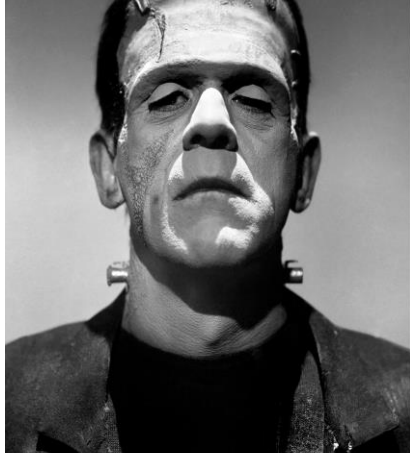
Is it *me* who awakes on Mars?



Is the replica *me*?

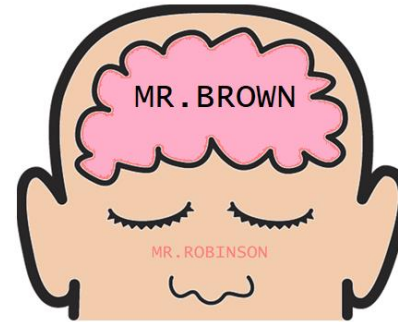
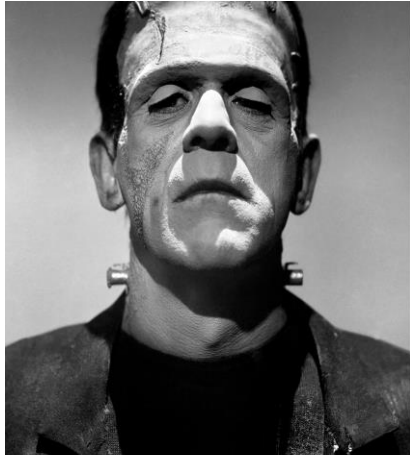






**CASE 1 –  
CANAVERO'S  
SURGERY**

**SAME HEAD,  
DIFFERENT BODY**

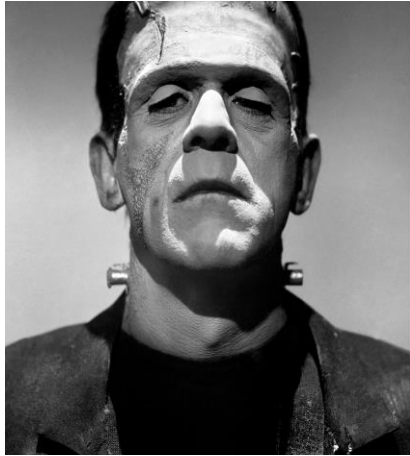


**CASE 1 –  
CANAVERO'S  
SURGERY**

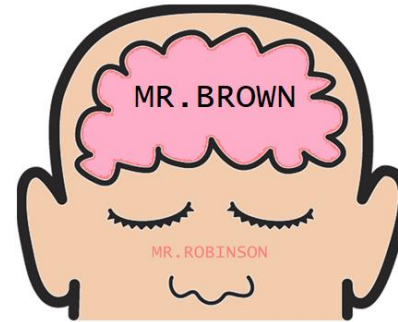
**SAME HEAD,  
DIFFERENT BODY**

**CASE 2 – SHOEMAKER'S  
BRAIN TRANSPLANT**

**SAME BRAIN, DIFFERENT  
HEAD AND BODY**



**CASE 1 –  
CANAVERO'S  
SURGERY**  
SAME HEAD,  
DIFFERENT BODY



**CASE 2 – SHOEMAKER'S  
BRAIN TRANSPLANT**  
SAME BRAIN, DIFFERENT  
HEAD AND BODY



**CASE 3 – PARFIT'S  
TELEPORTATION**  
ALL, INCLUDING  
BRAIN AND BODY,  
ARE REPLICATED



So what makes me *ME*?



My head, my brain, my body?



# Personal Identity

- **Physical criteria:**

person A at time  $t_1$  is identical to person B at  $t_2$  if and only if A and B have **the same body** or **the same brain**



Case 4: Bionic brain



I don't have the same brain (I have bionic brain instead), but I have the same mental processes (thoughts, memories, personality...)

Am I still me?



# Personal Identity

- Psychological criteria:

person A at time  $t_1$  is identical to person B at  $t_2$  if and only if A and B are **mentally continuous**.

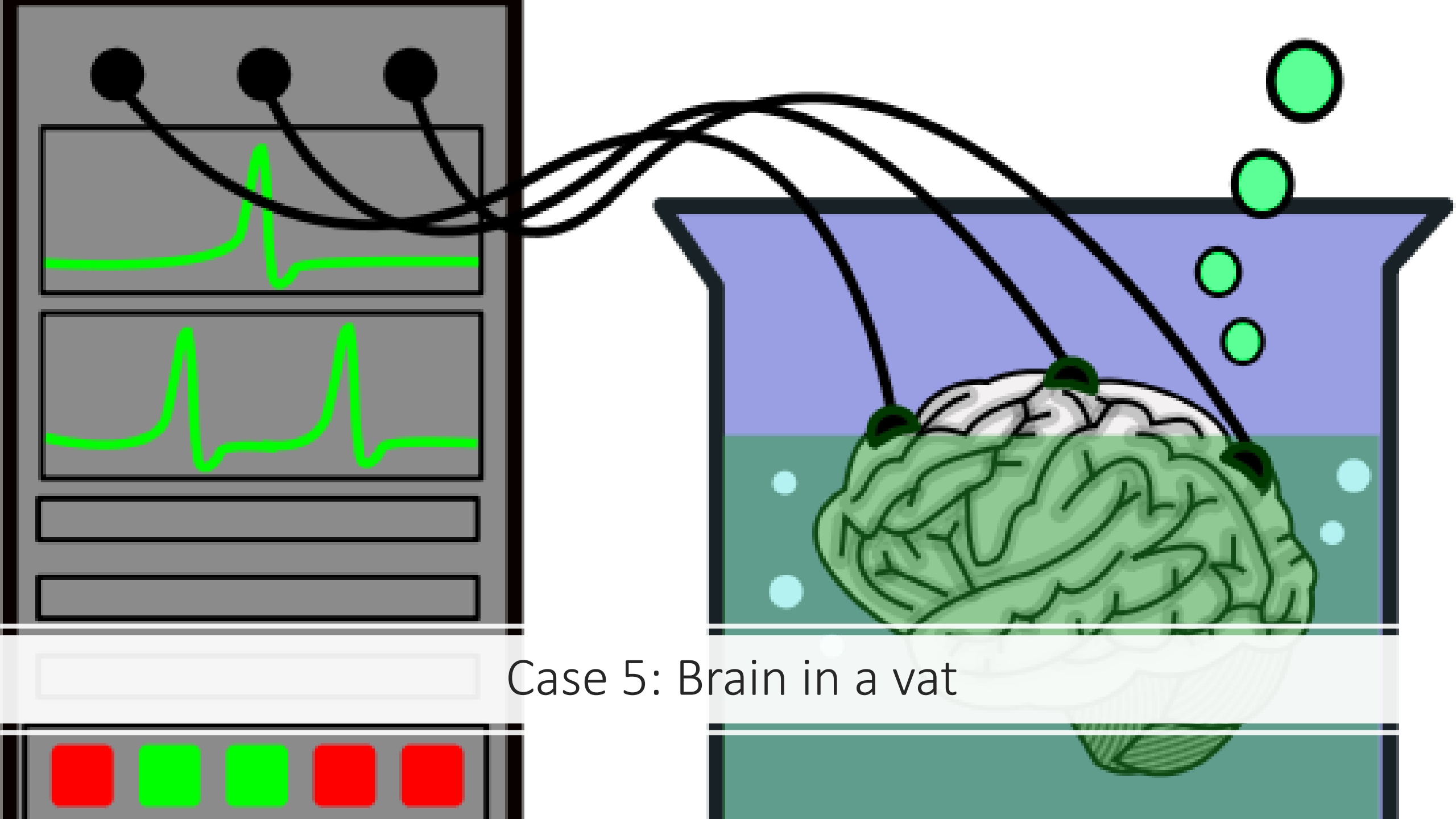


# Personal Identity

- **John Locke (1689)**

Person B at  $t_2$  **needs to be aware** of having been person A at  $t_1$ .

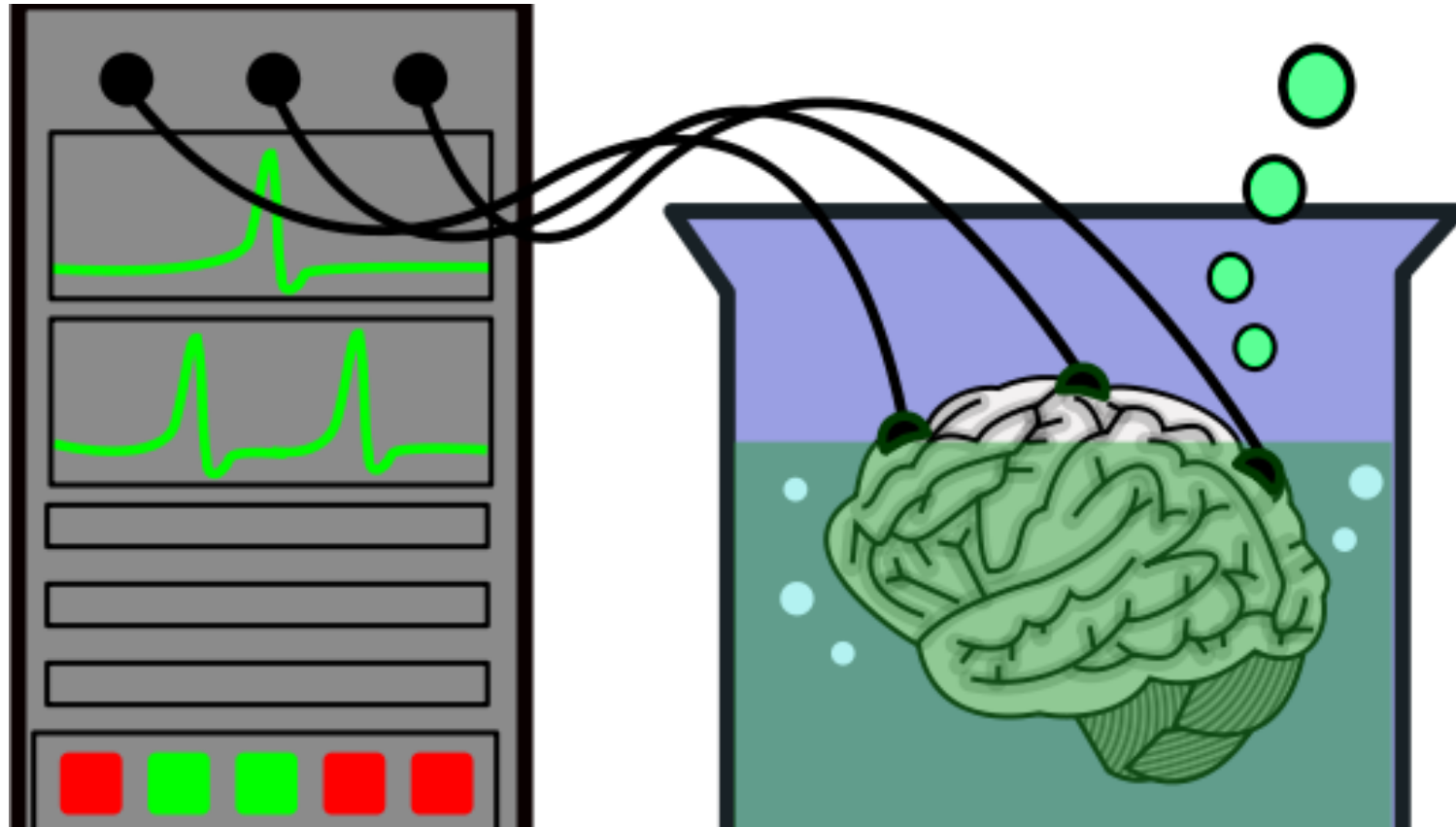
Even if I have changed my body (being this a replica of my old one or a new body where my brain has been transplanted), I haven't lost my experiences, and **my mental processes are still the same**

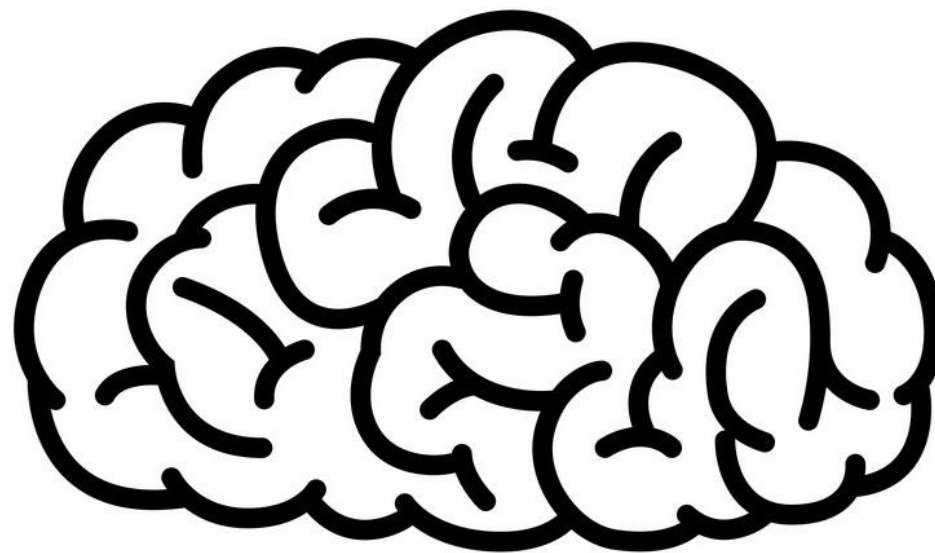
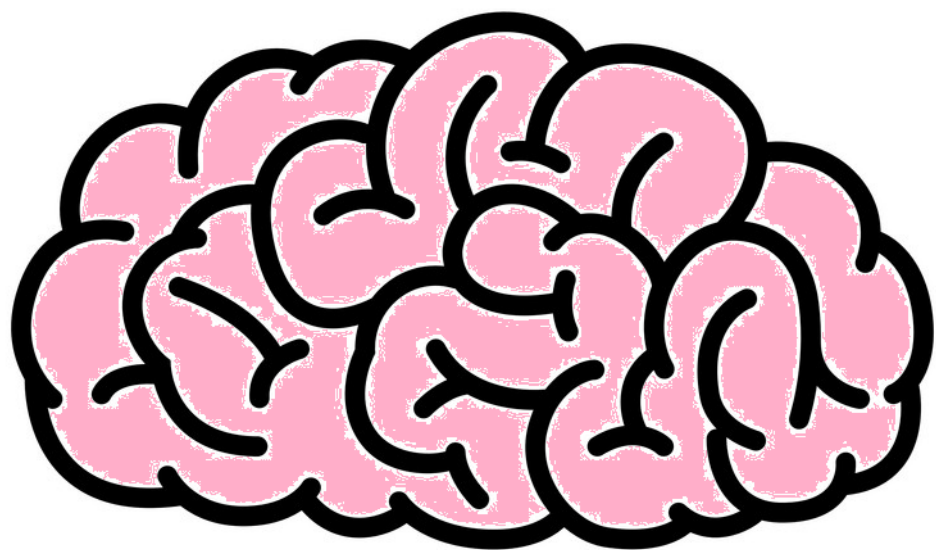


Case 5: Brain in a vat

# Bernard Williams (1970) brain-state transfer device

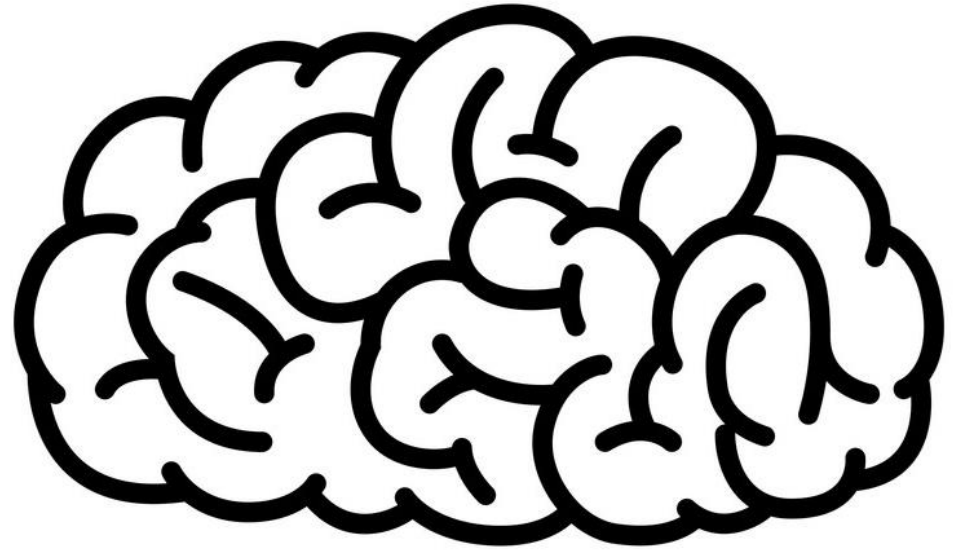
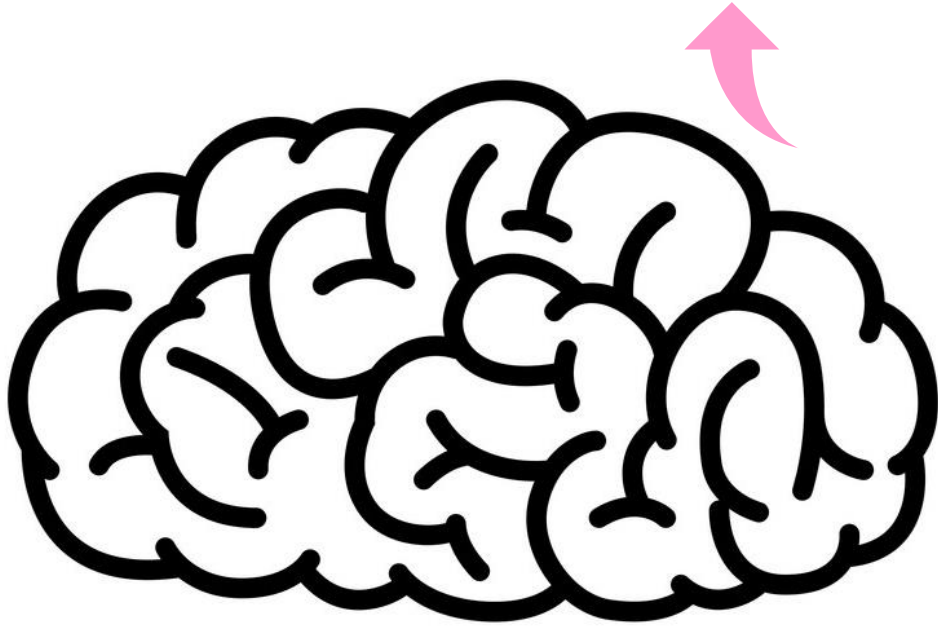
---

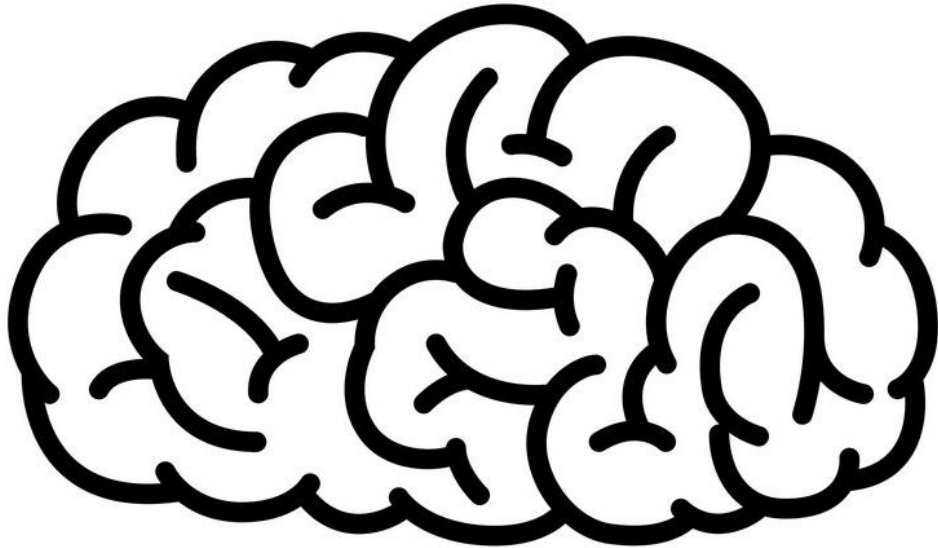




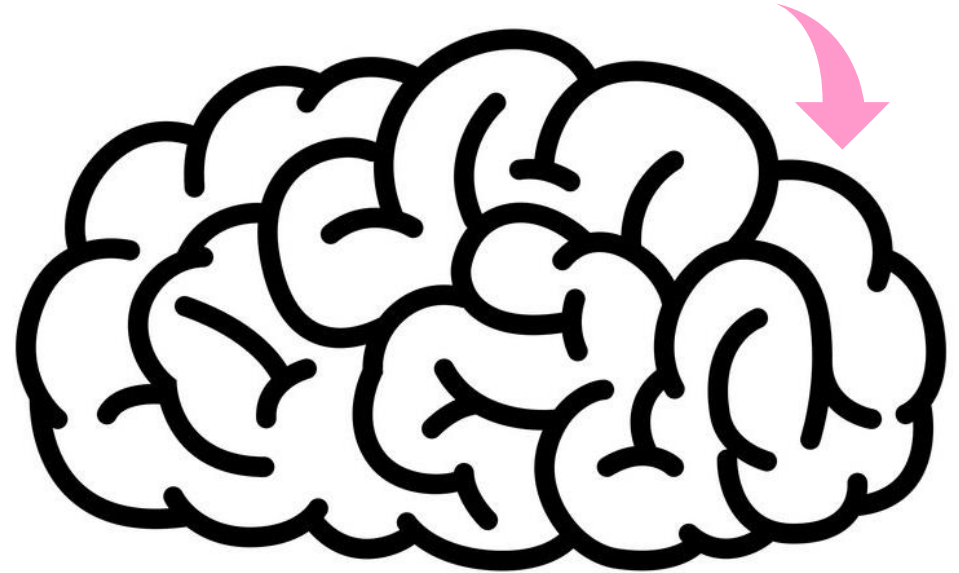


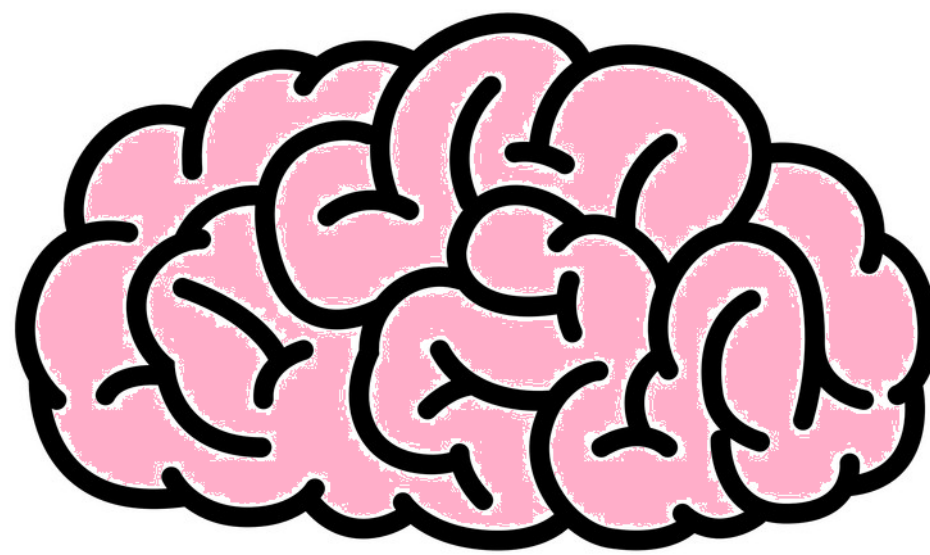
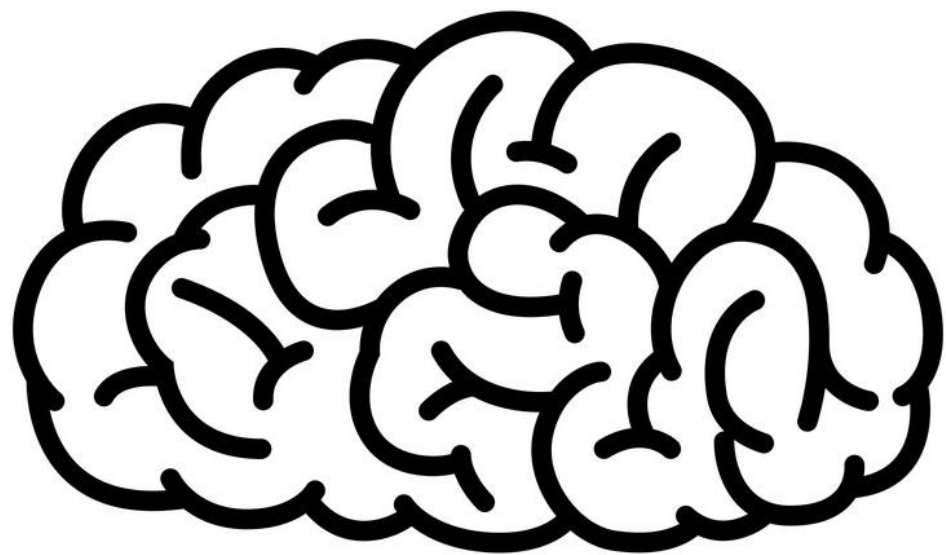
ADRIANA'S SELF





ADRIANA'S SELF







Can we say that *all the information* about me will be implanted in the new brain?



Can the receiver of the new brain become *me*?

