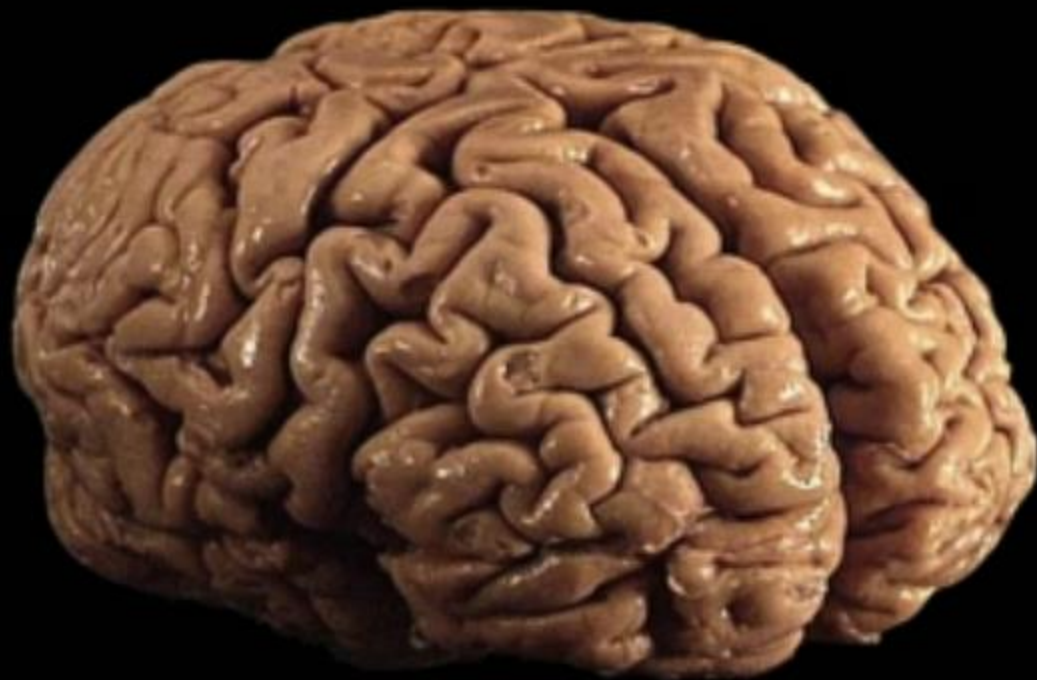
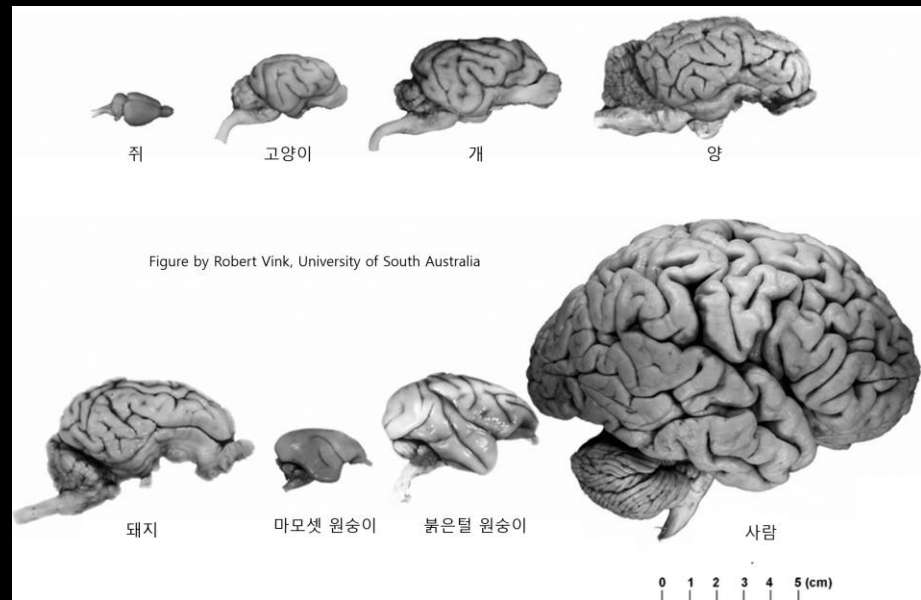
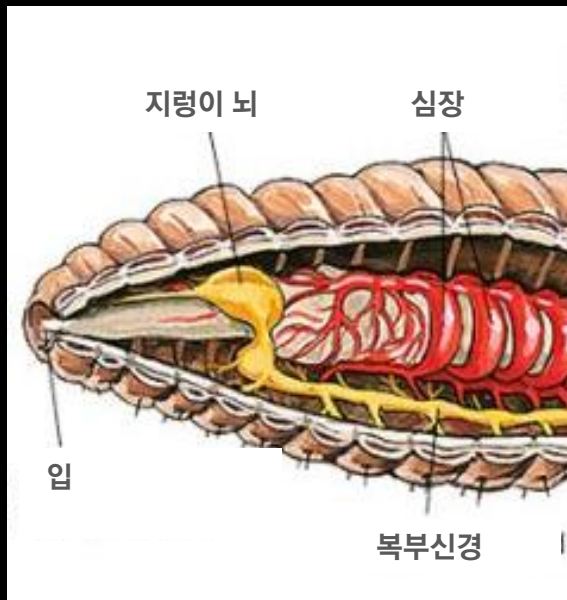


AI, 어떻게?





“

이 안에서 도대체  
무슨 일이 일어날까?

# 신경해부학자

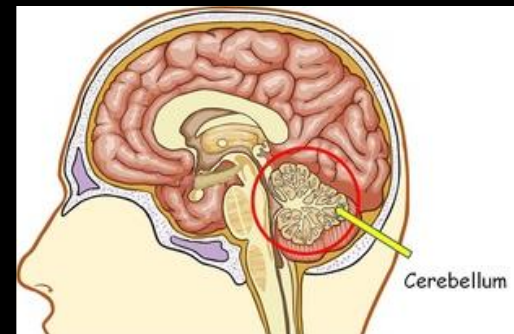
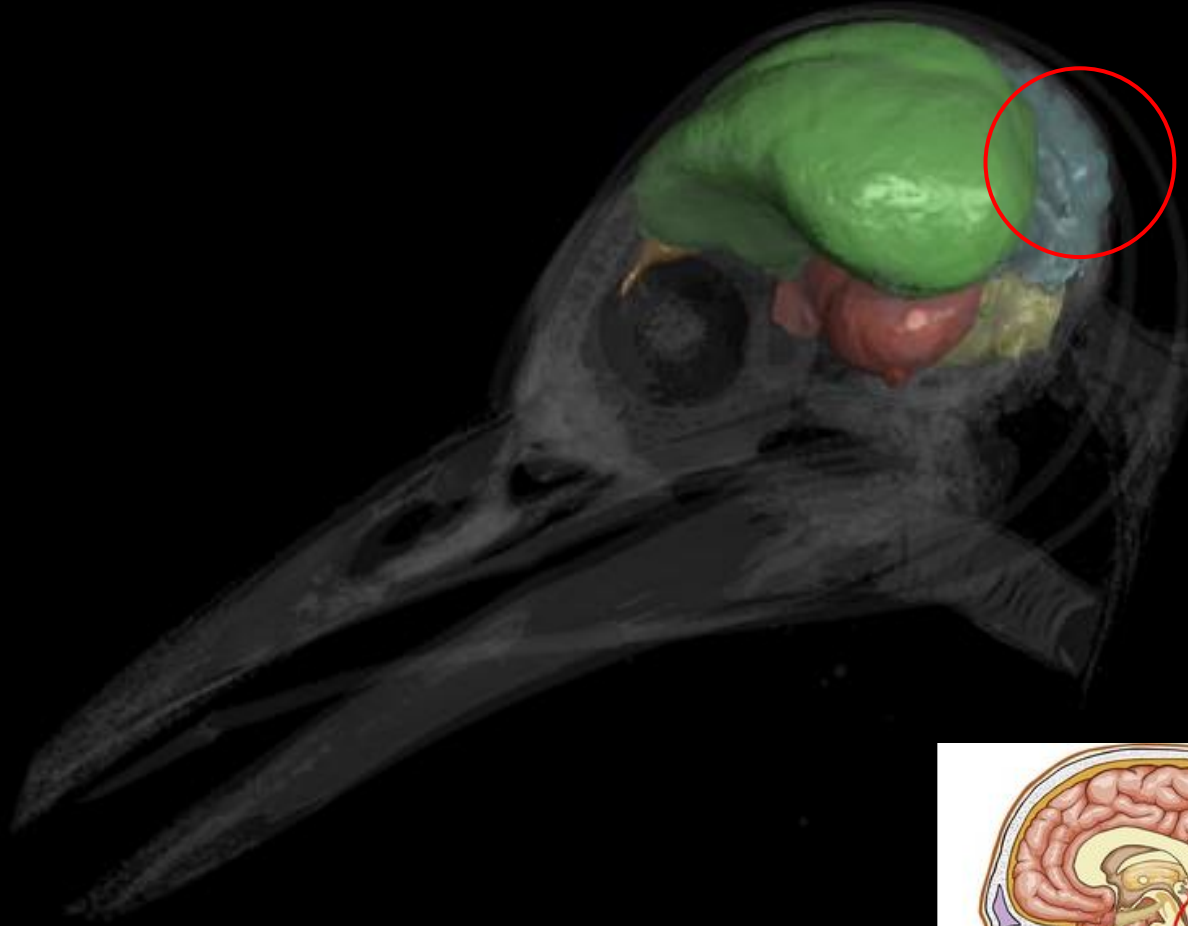
## Neuroanatomist



Santiago Ramón y Cajal, 1852-1934

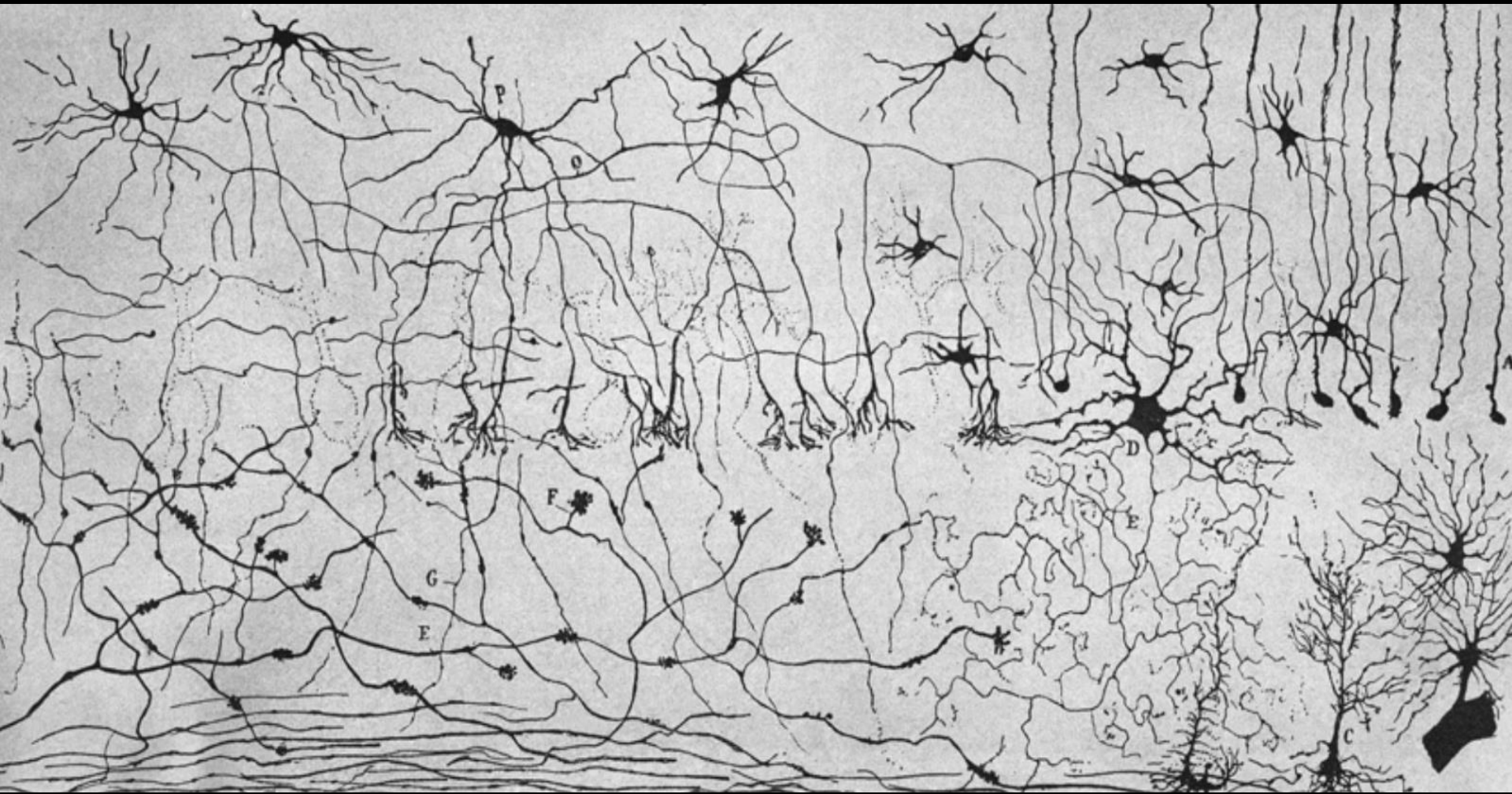
산티아고 라모 니 카할, 스페인

세레벨럼(소뇌) : 척추동물 두개골 뒤쪽에 있는  
뇌의 일부분, 근육 운동을 조절





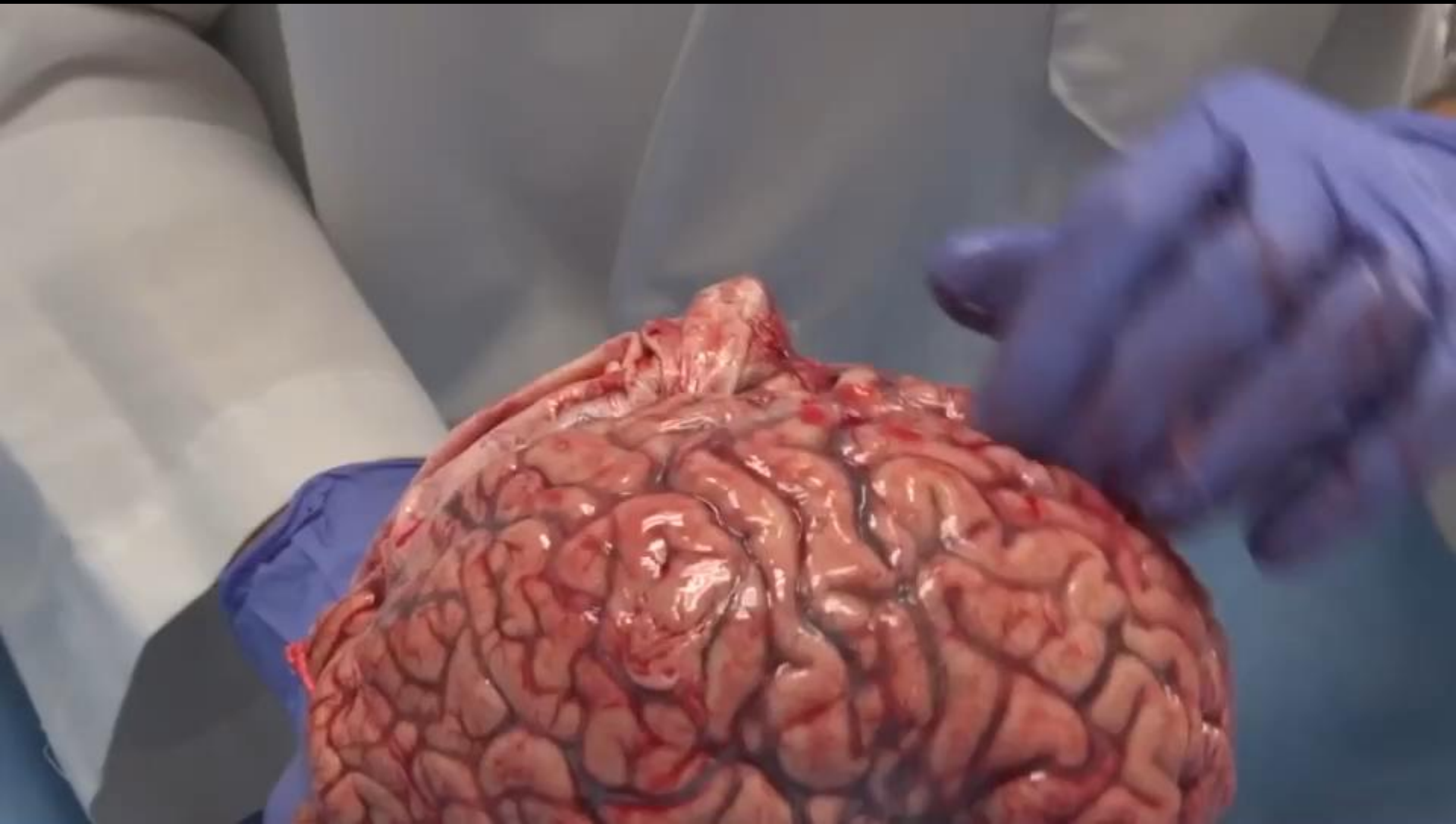
# 새 뇌에 있는 신경세포(뉴런)들



Ramón y Cajal's drawing of **the neurons in a bird's cerebellum** – a part of the brain.



# 사람의 뇌







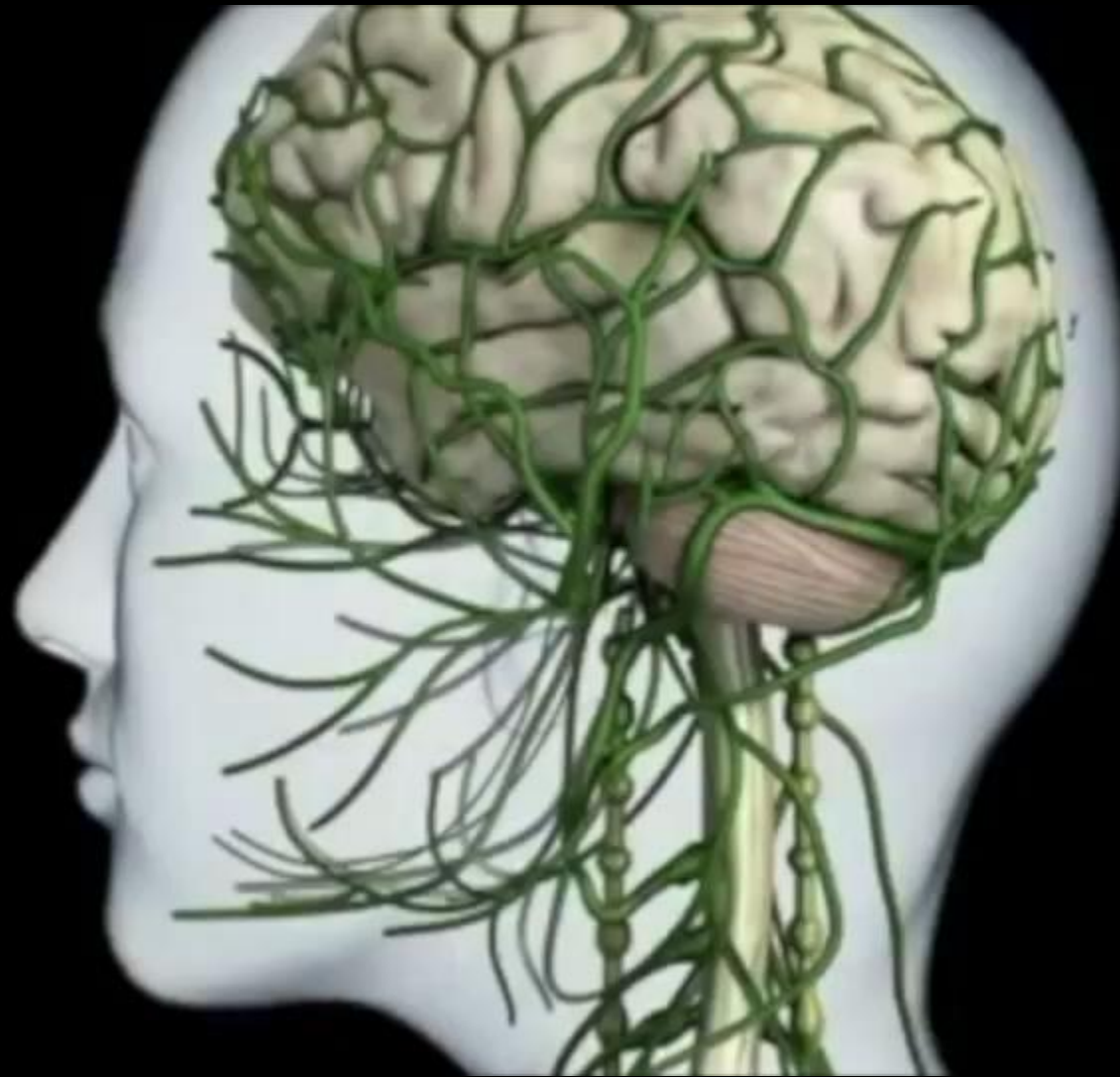
천억 개가 넘는 신경세포들

우주에 있는 별의 수  
보다 많은...



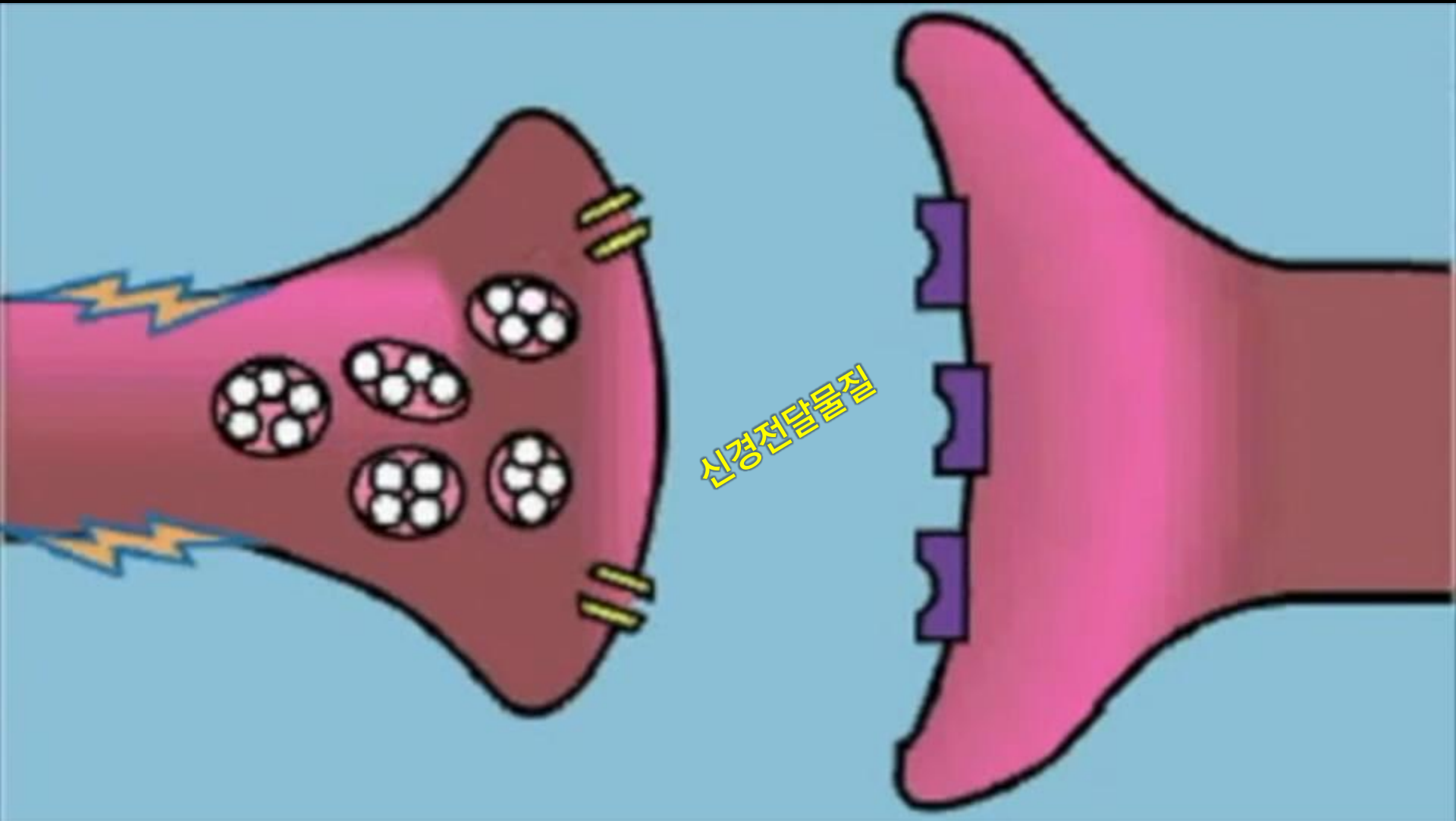
연결부분  
시냅스!!



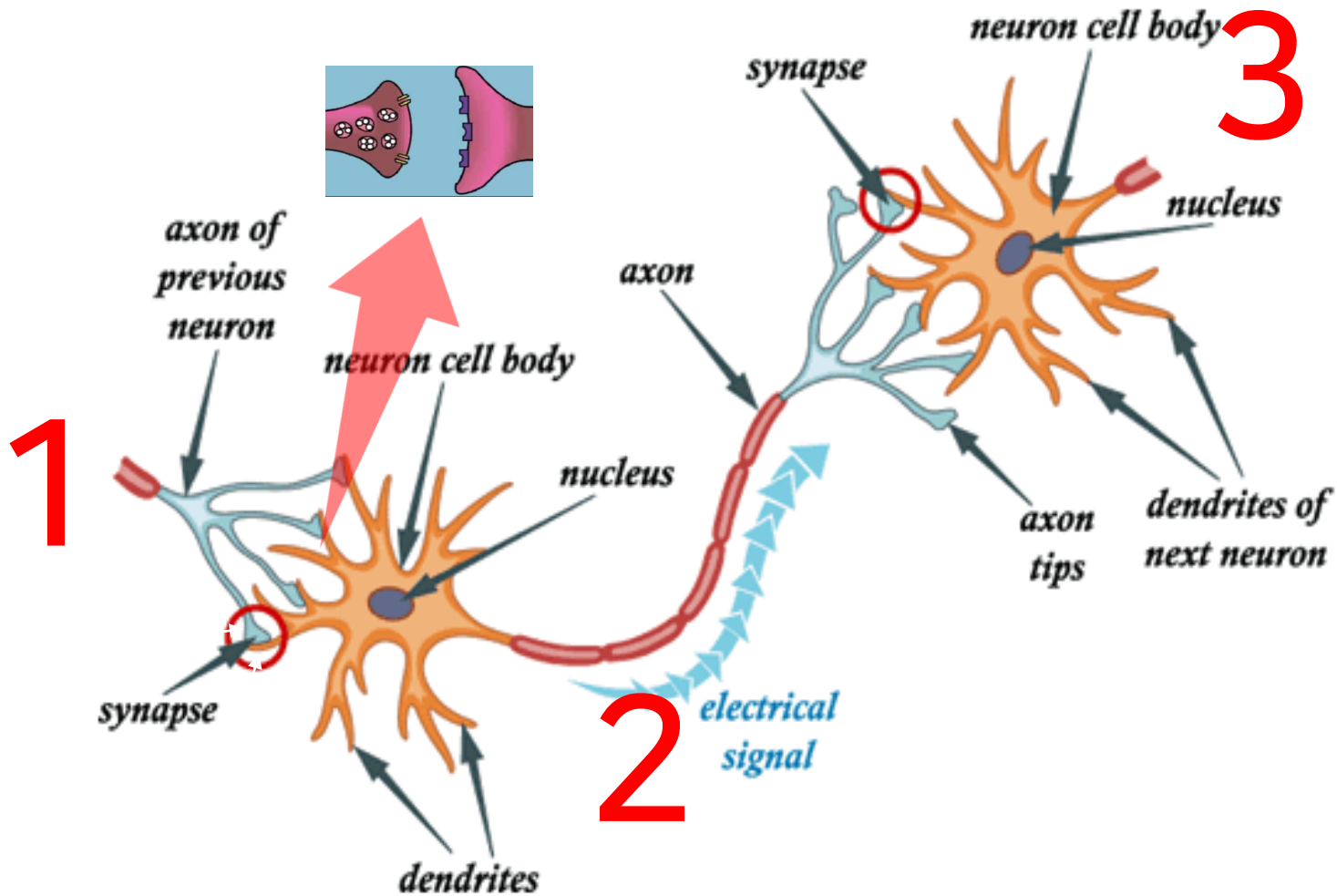




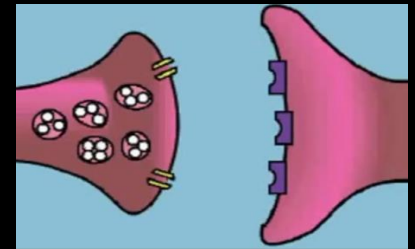
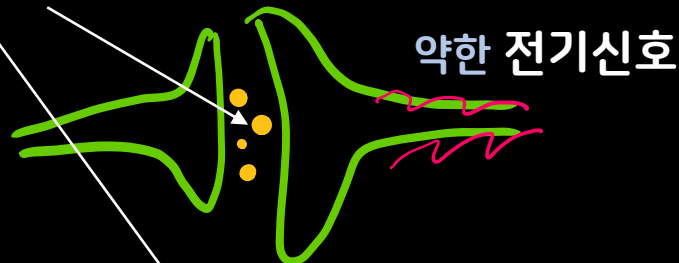
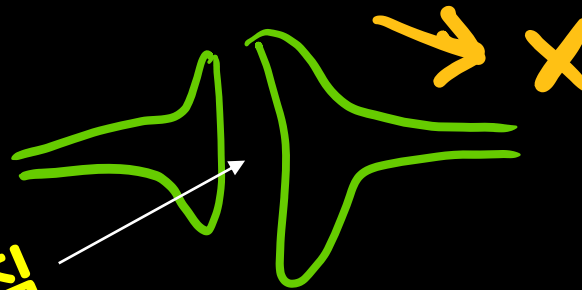
# 시냅스에서 일어나는 일



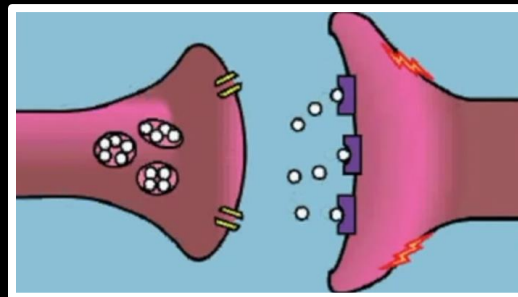
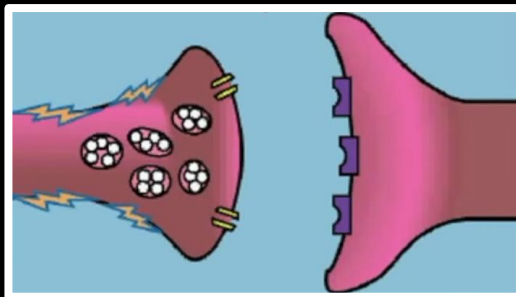
# 신경세포 연결



신경전달물질

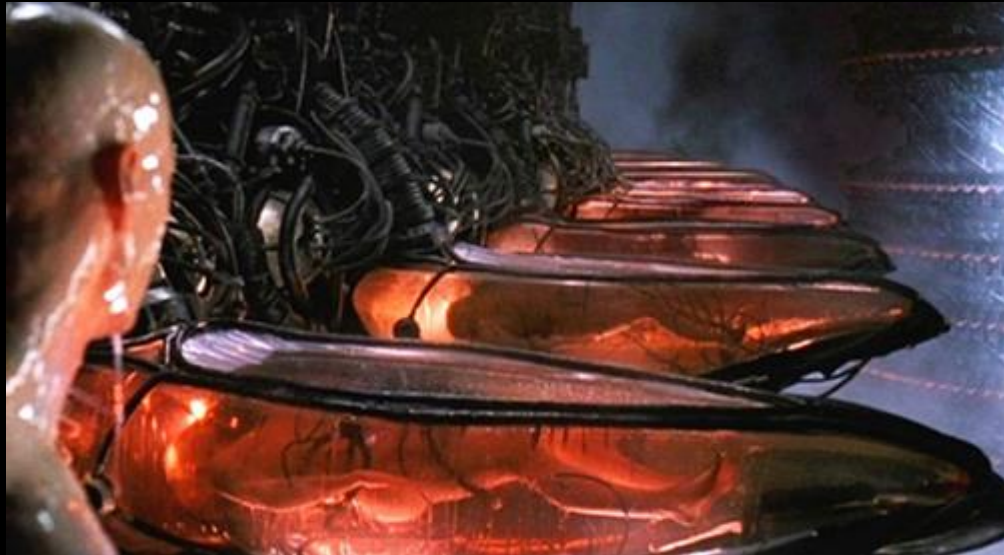


# 우리가 **살아가는** 동안...



우리의 행동, 기억,  
그리고 삶의 모든 것

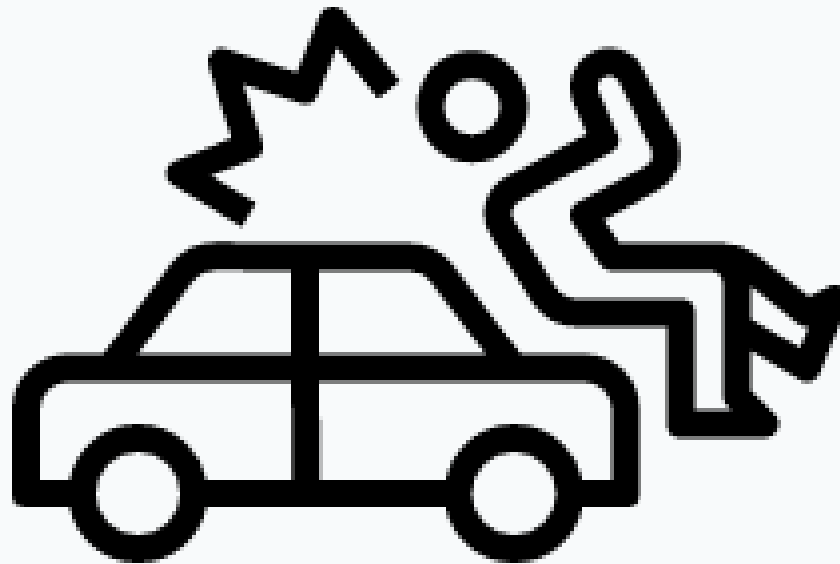
# 뇌 안의 수많은 전기신호



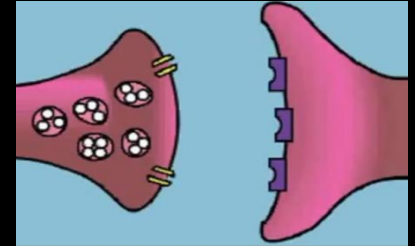
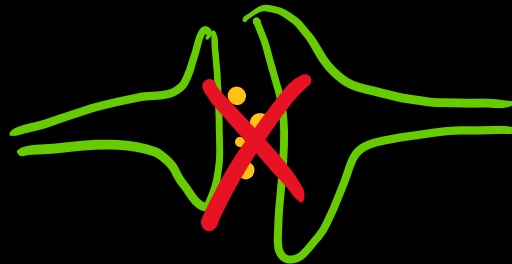
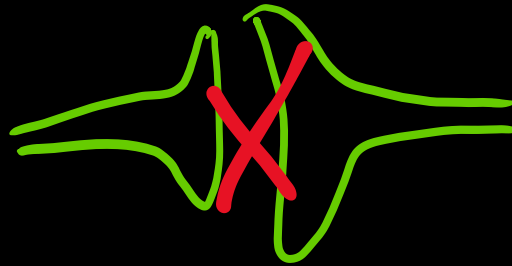


건도록 하는 전기신호들  
뛰도록 하는 전기신호들  
엄마 얼굴을 떠올리는 전기신호들

**신경전달 물질이  
어떻게 세팅되어 있느냐에 따라  
다르게 발생하는 전기신호들**



# 교통사고로 **뇌**가 다치면? 혹은 시냅스에 **문제**가 생기면?



**뇌** 안 전기신호  
흐름에 문제가 발생!

반신불수, 마비

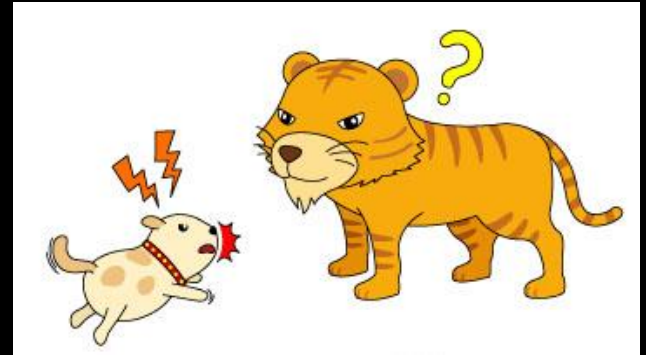
움직이지도 못하고  
기억도 못하는

치매(알츠하이머)





걷지도,  
말하지도,  
범 무서운 줄 모르고

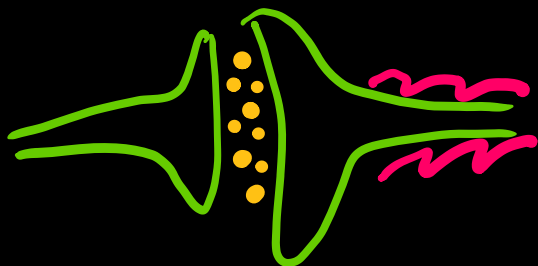
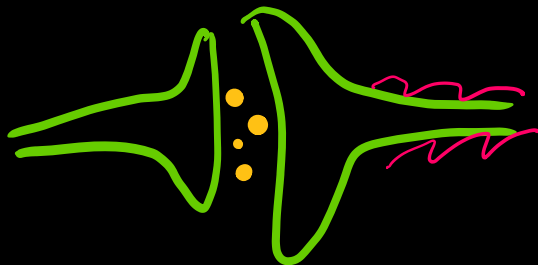
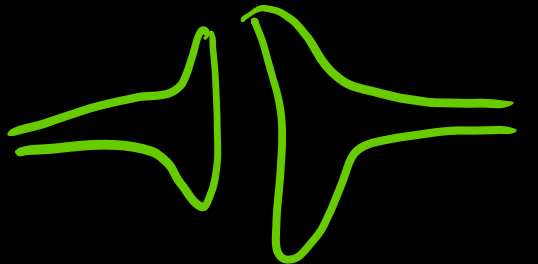
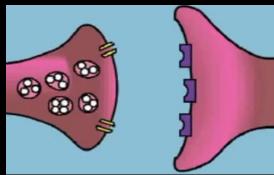


“

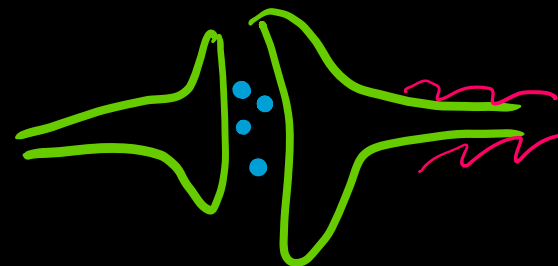
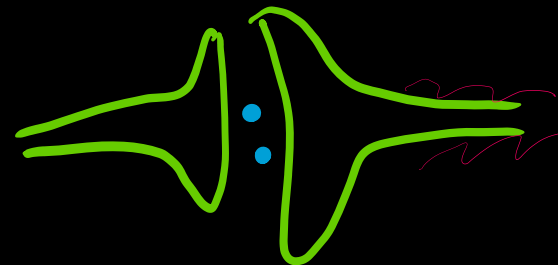
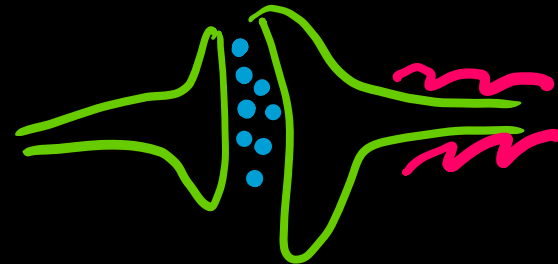
**뇌**의 시냅스가 제대로  
설정되어 있지 않아서

시냅스의 신경전달 물질의 양이 **제대로**  
설정되어 있지 않아서

경험할 때마다  
신경세포 시냅스 연결강도가  
자동으로 조정



아기일때 시냅스 모습

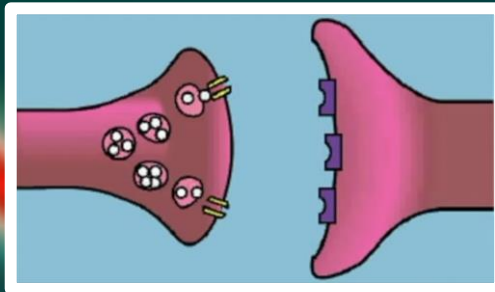


좀 더 자랐을 때 시냅스 모습



# 학습 (Learning)

조정





Error/Stress/Cost/**Loss function**







