

# Reverse EEG Case Presentations

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# Disclosures:

**Author: EEG Textbook**  
***Practical Approach to Electroencephalography***

**No other disclosures**

# **Reverse EEG Case Presentations**

**Michael Bresnan Course  
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**Mark H Libenson, MD**

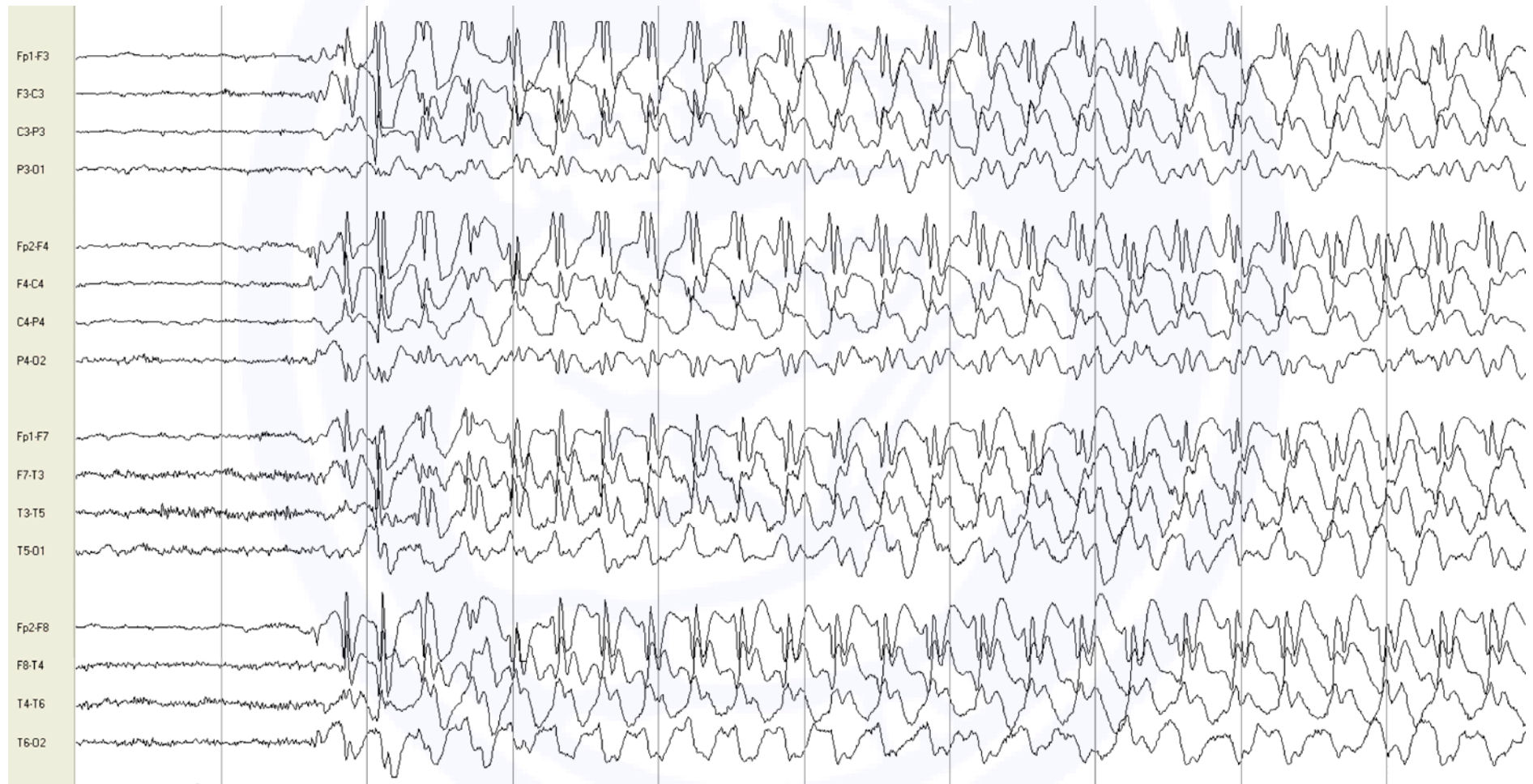
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Boston Children's Hospital  
Harvard Medical School**





# Generalized Spike-Wave

## and its friends



## **“classic” 3 Hz generalized spike-wave**

- Symmetrical onset
- well-demarcated onset and termination
- frontal maxima, typically at F3 and F4 (superior frontal electrodes)
- not all GSW is a seizure: ‘ictal’ vs. ‘interictal’

# Massachusetts Folklore









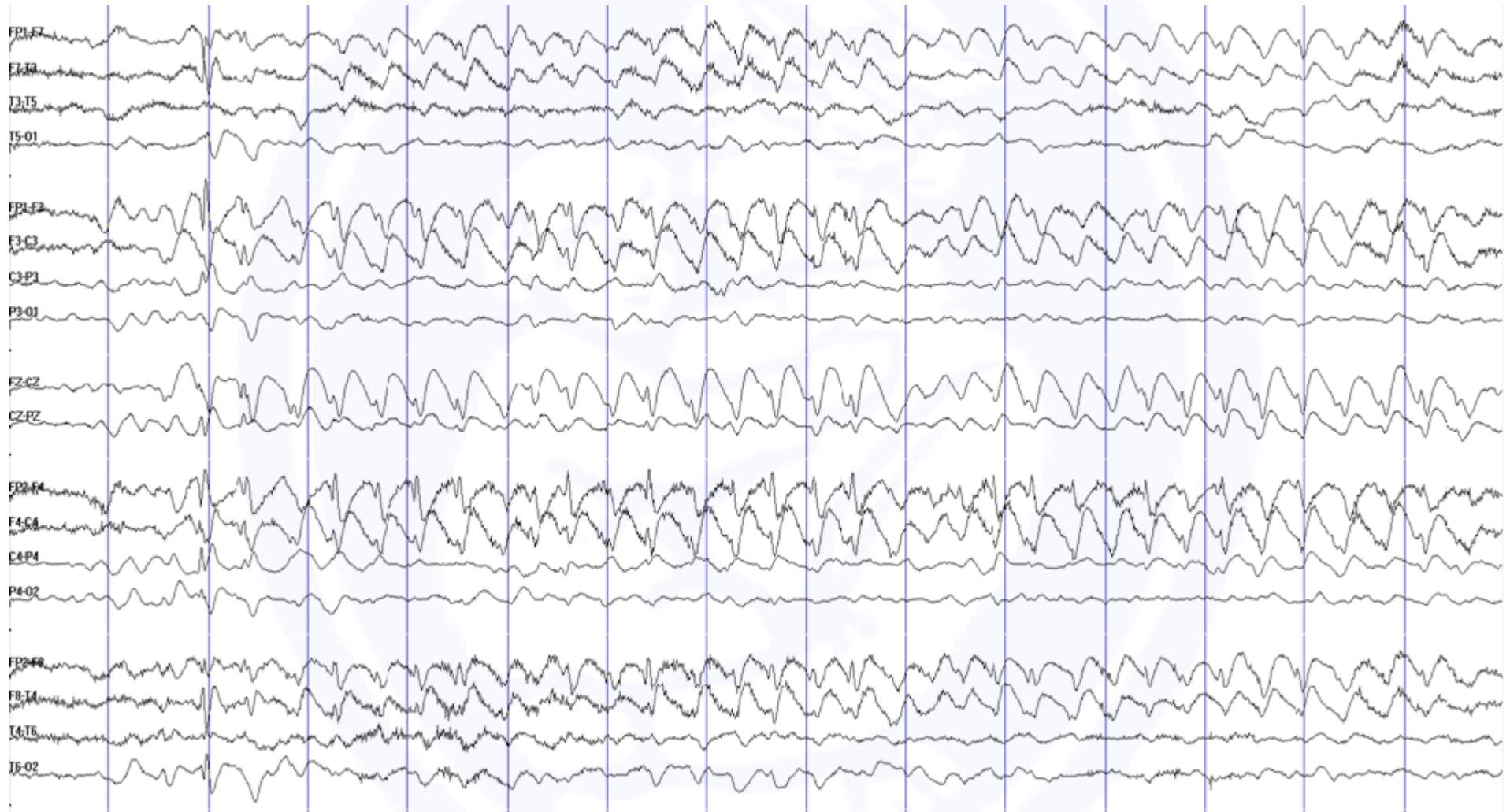


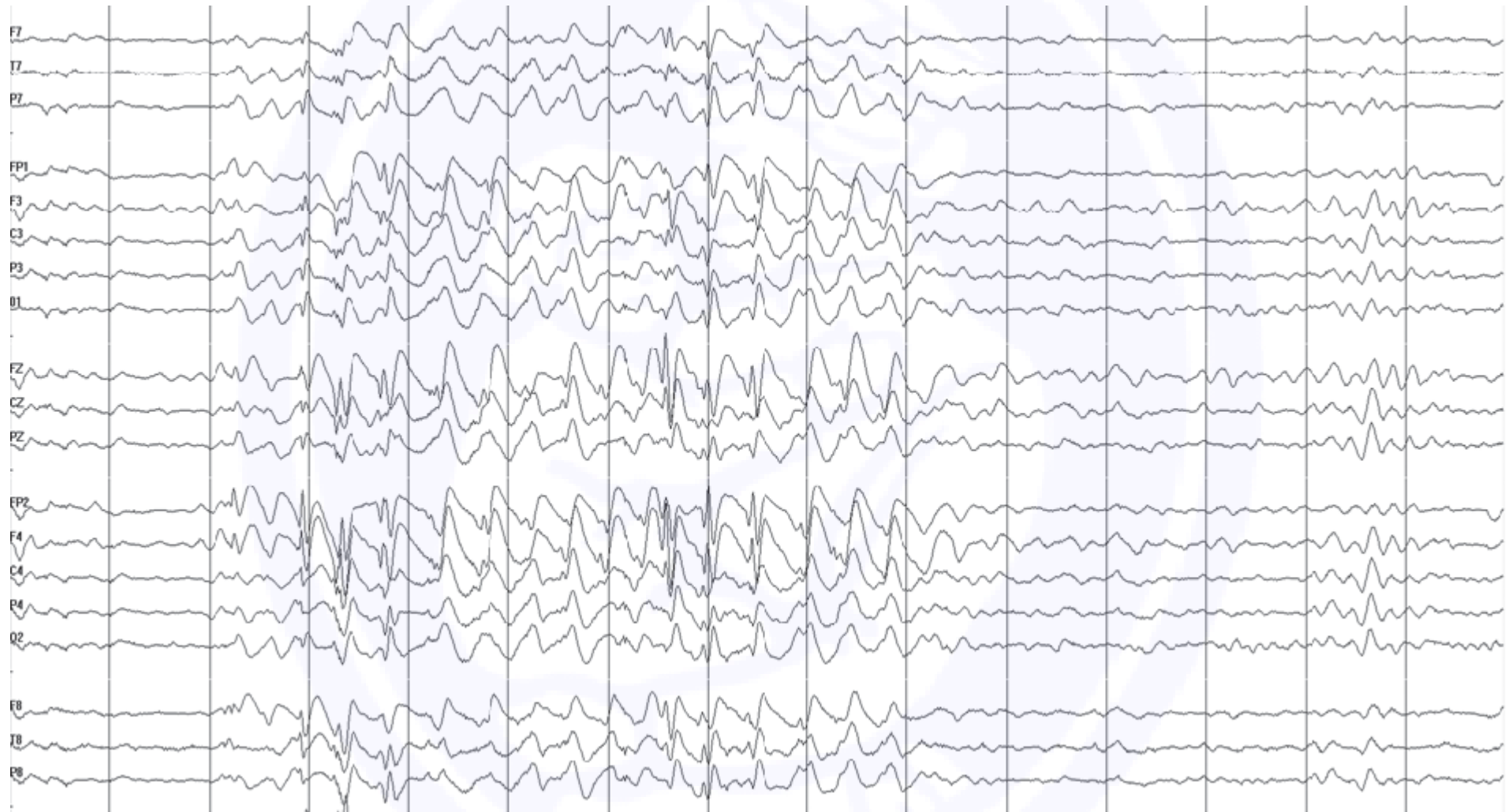
# “3 Hz generalized spike-wave”

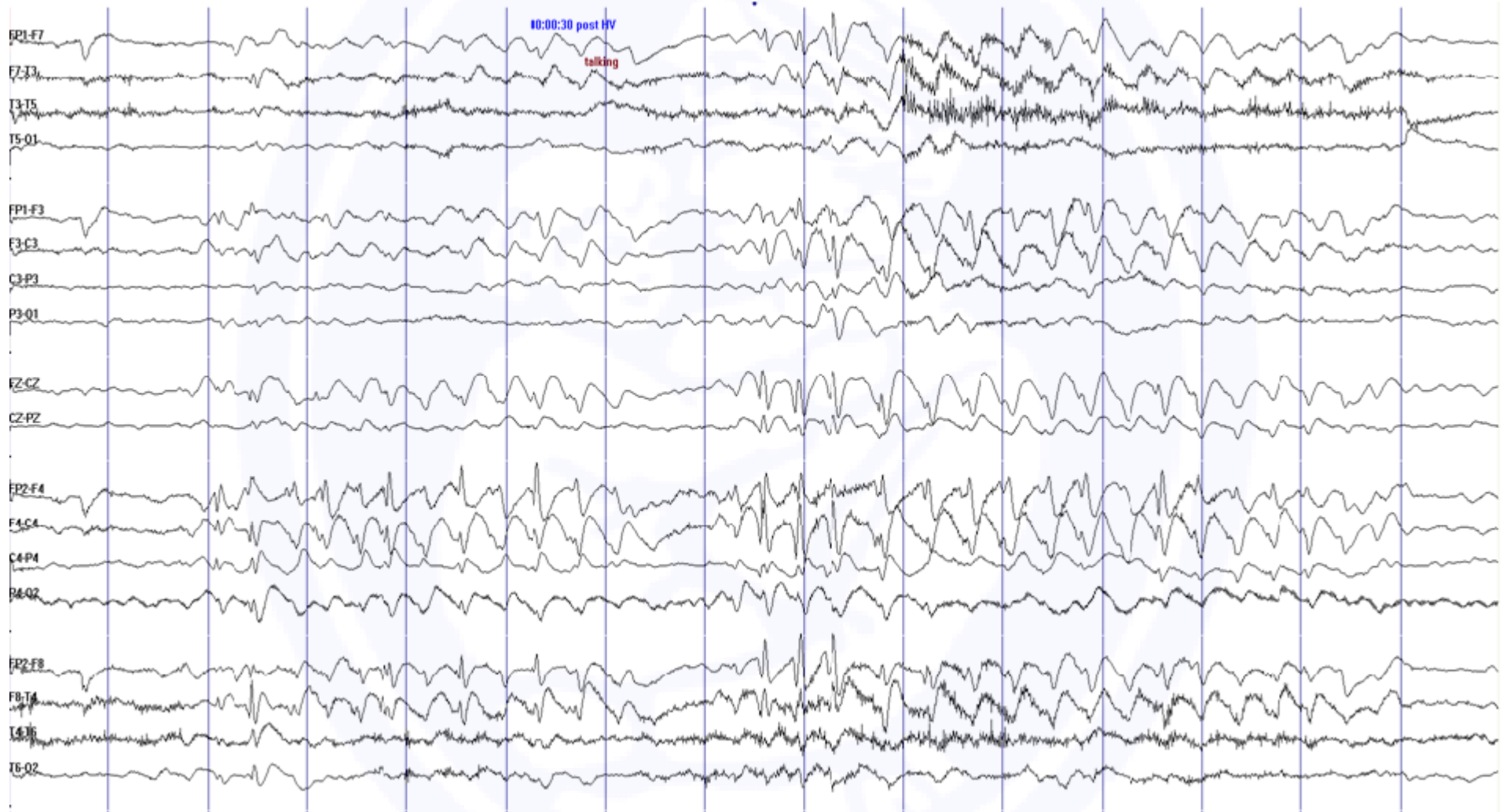




## Another patient...



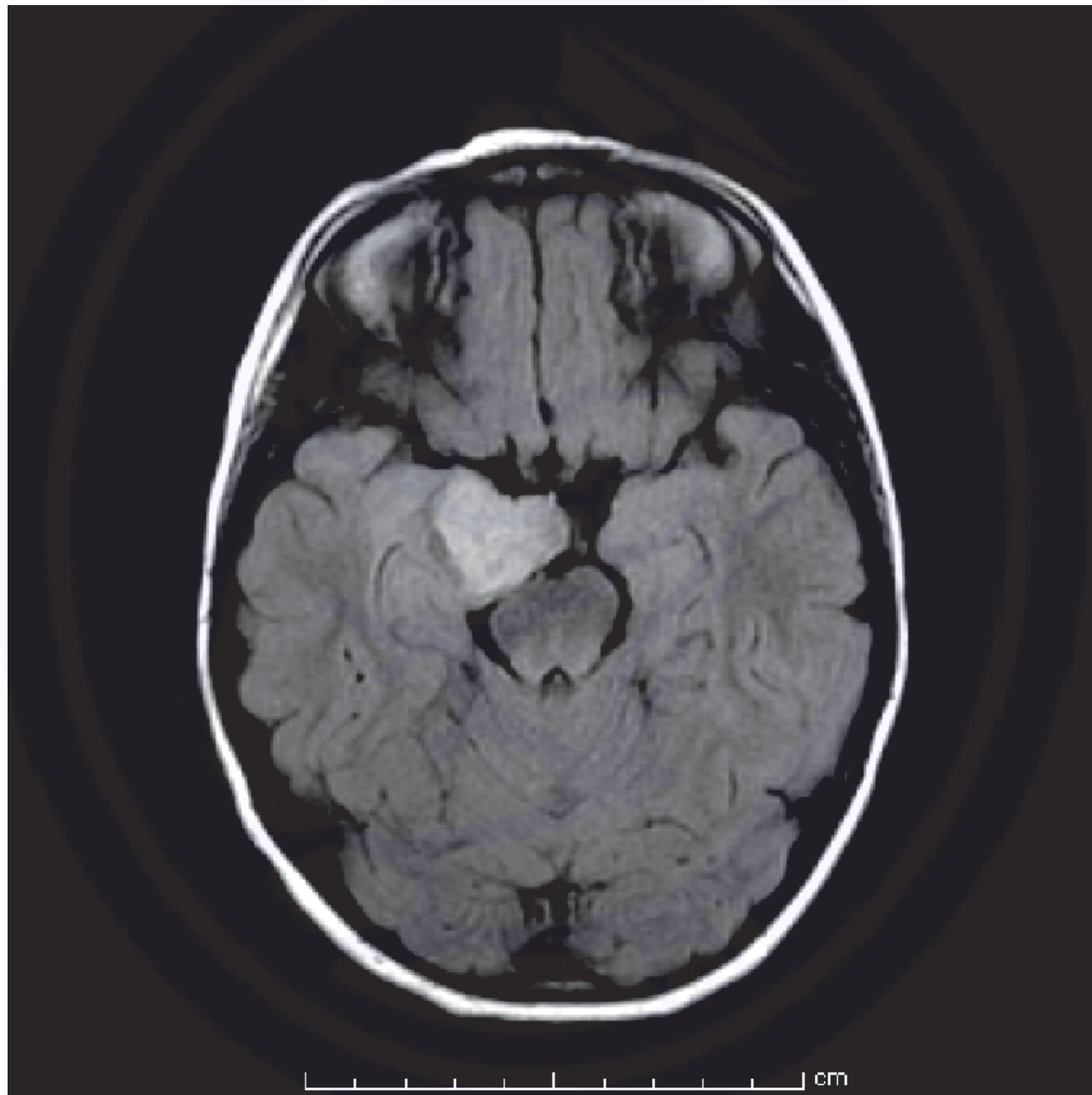




**A Two diagnostic procedures ~~was~~ were performed...**

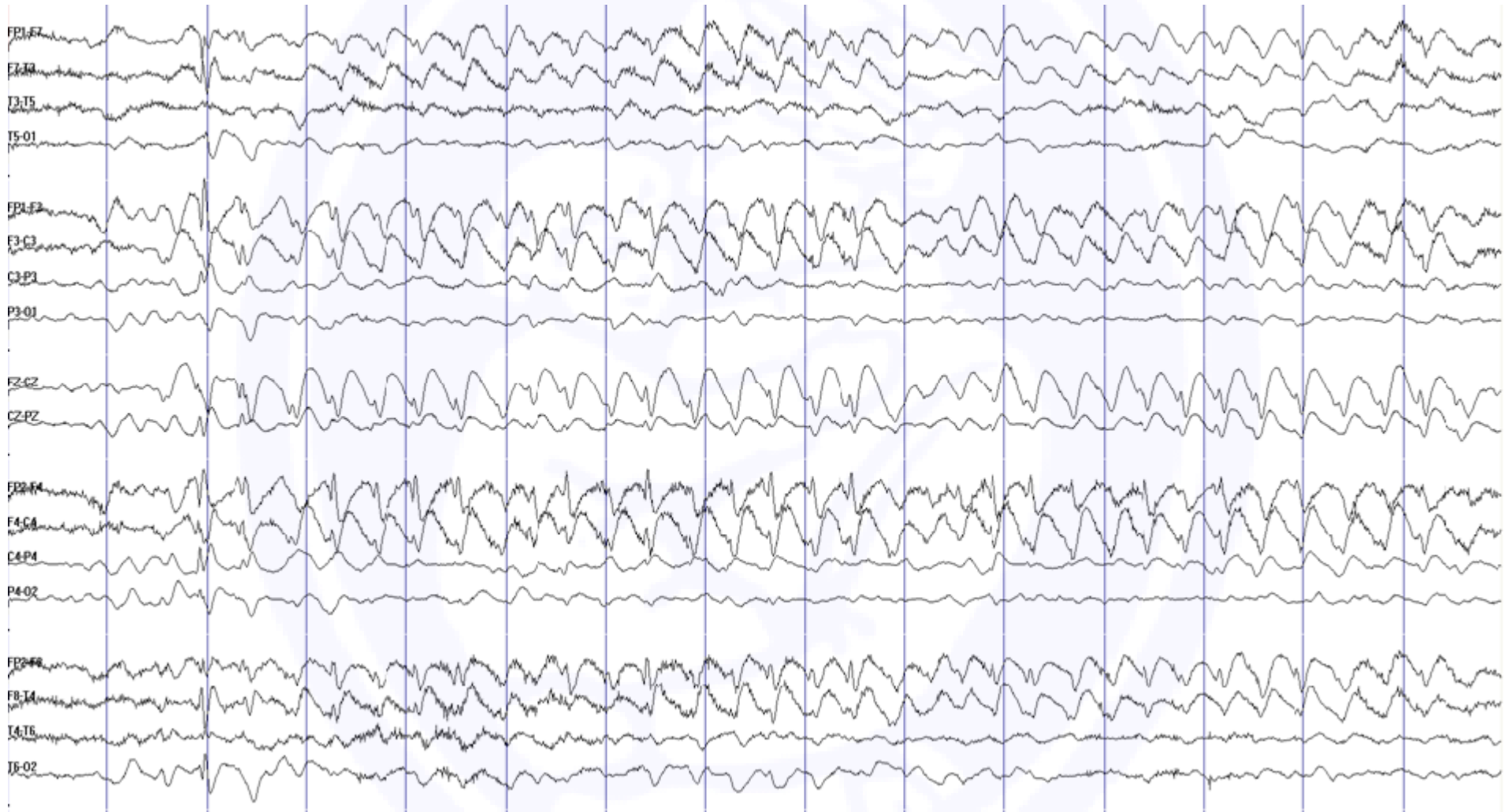
**1...?**

**2...?**



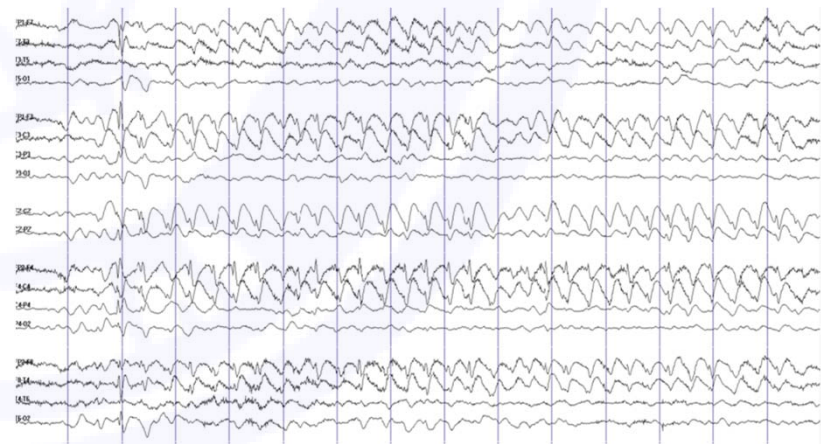


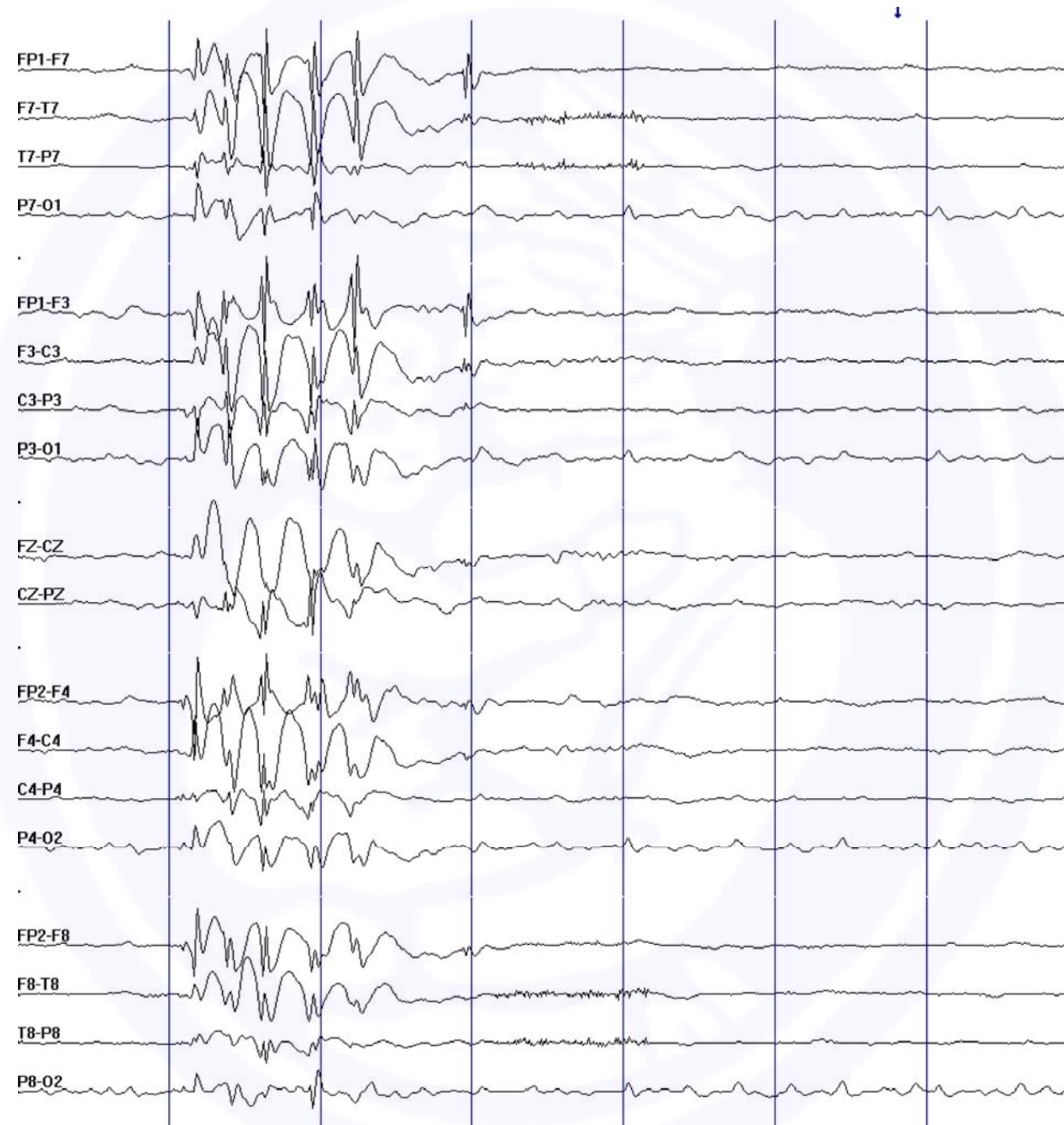
remember to be agnostic when you see this...



# Secondary Bilateral Synchrony

- lead-in from same side
- voltage maximum on same side
- independent interictal discharges from same side



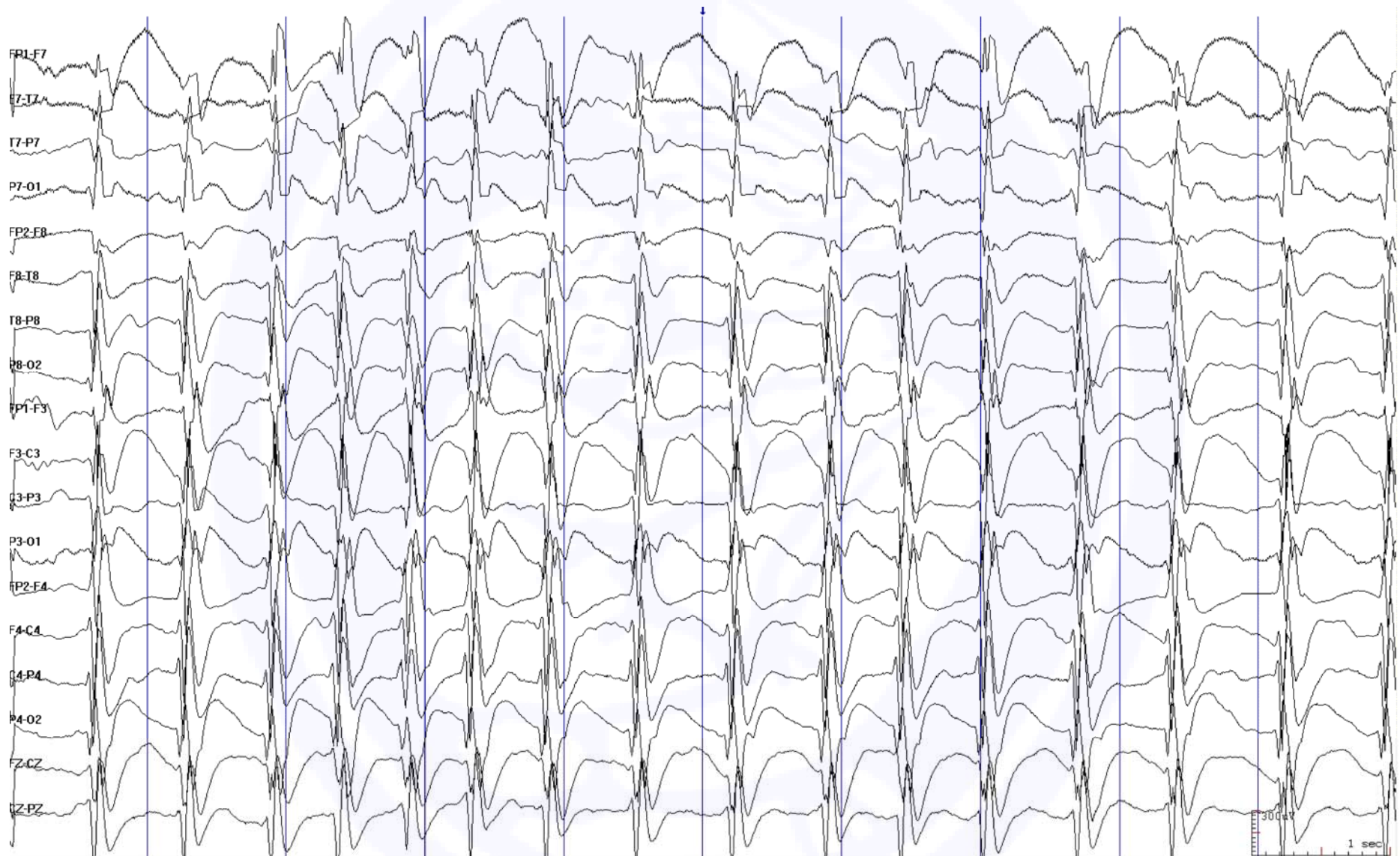


## Intellectual disability, mixed seizures...



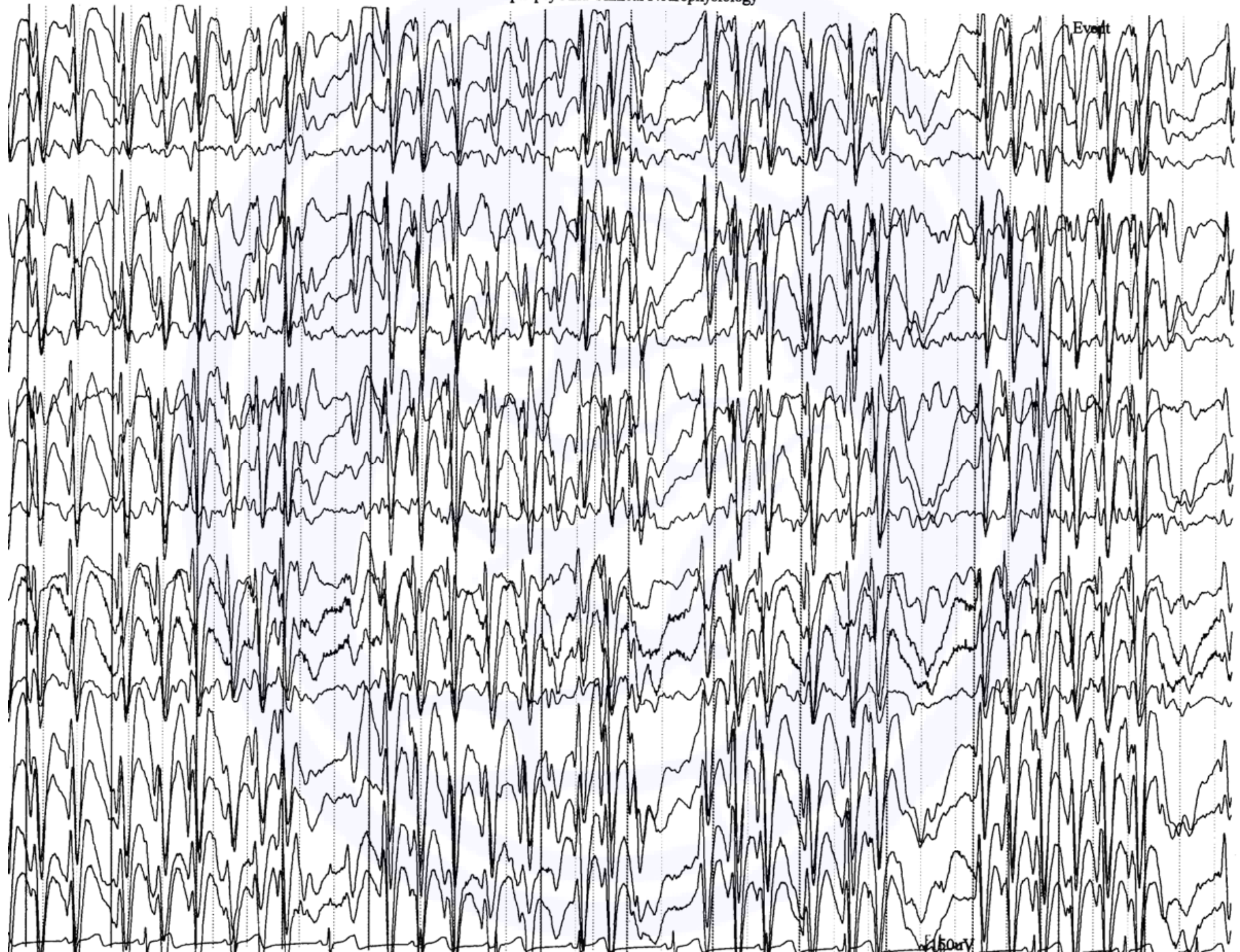


This patient is sleeping...

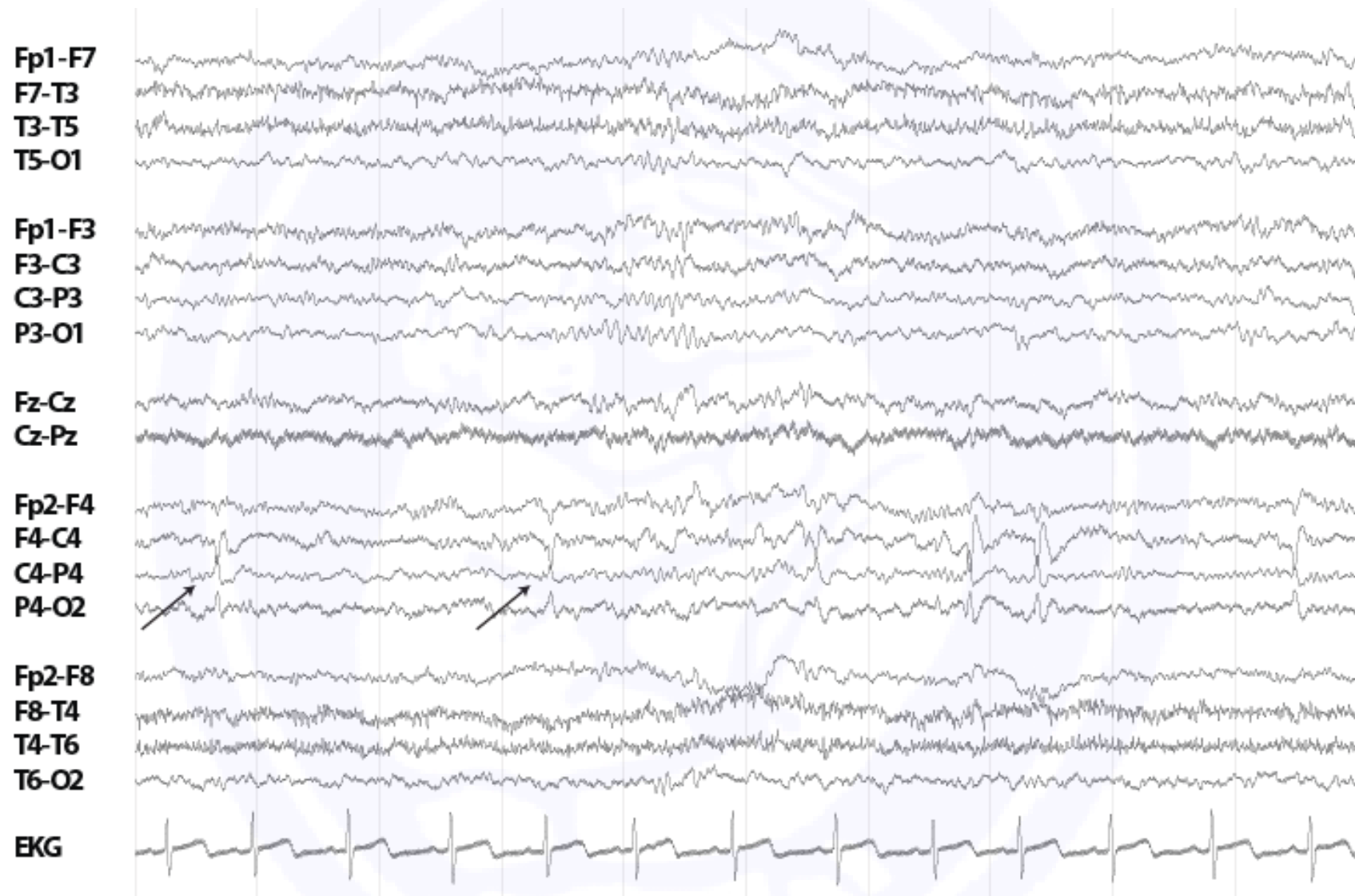


# ESES vs. not-ESES

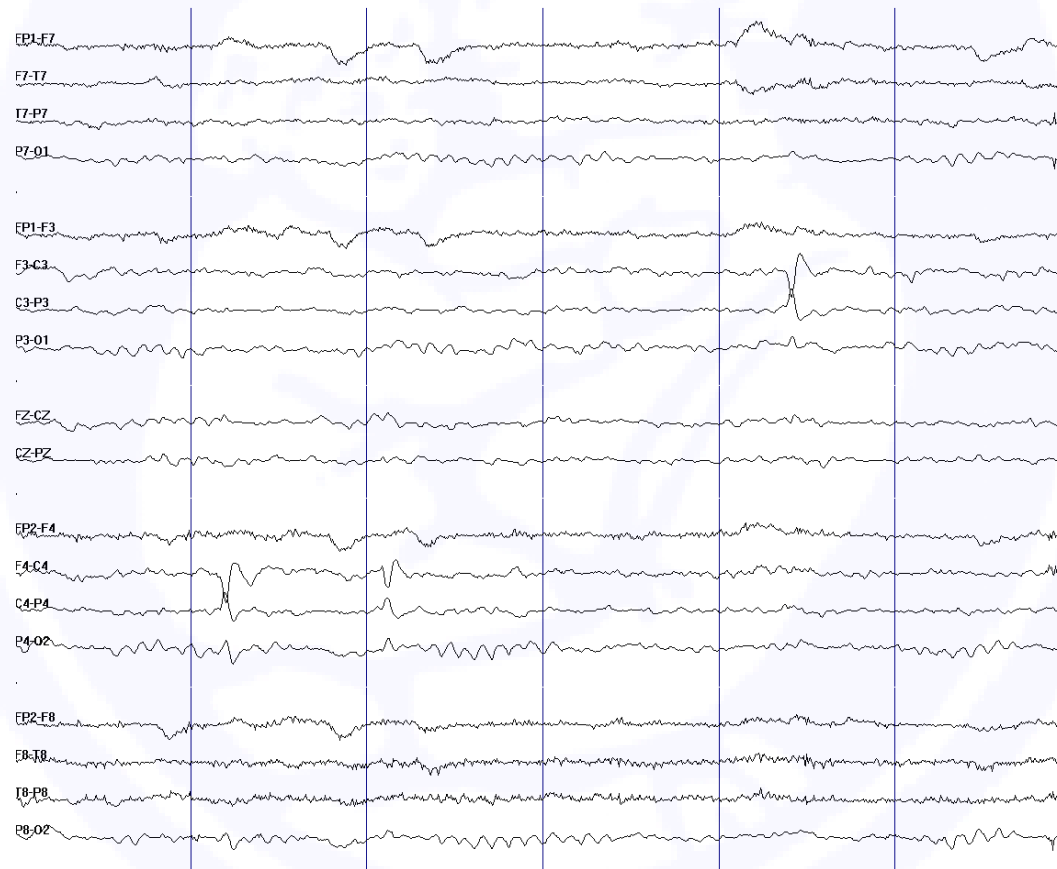
- spike count per minute vs. “spike-wave index”
- electrical status epilepticus of sleep
  - classically >85% of record
  - clears/breaks up in REM/on awakening
  - tends to “burn out” by early teenage years
- CSWS: global cognitive impairment
- LKS: language (receptive > expressive)/behavioral impairment

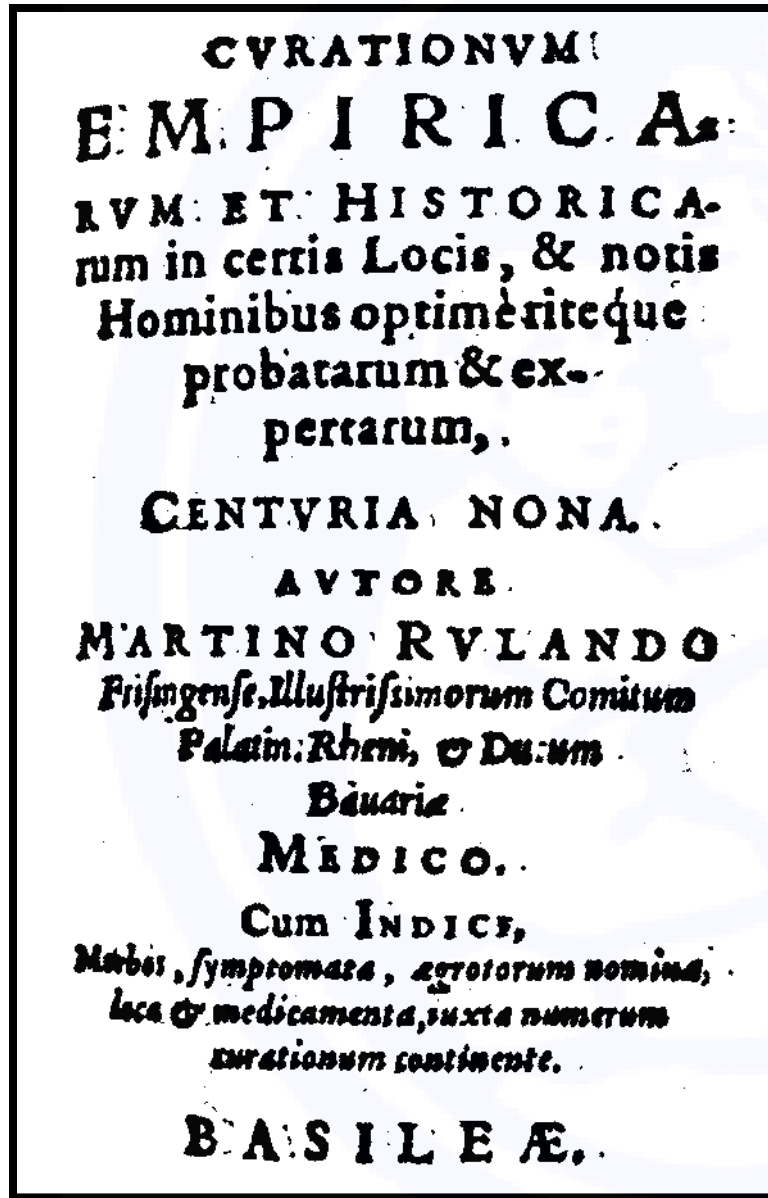










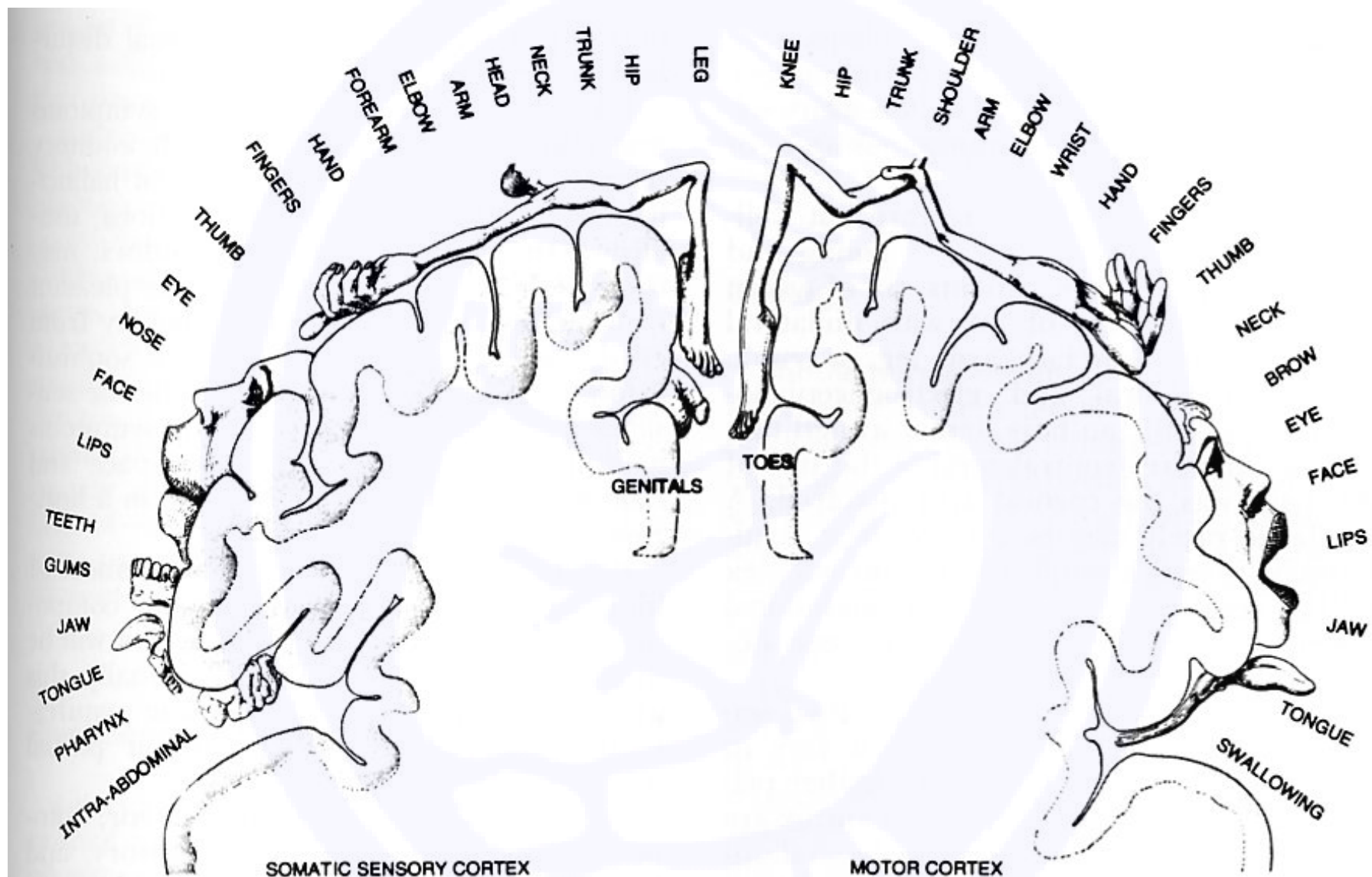


Ninth hundred of empirical and historic treatments in established places and known people that are well and officially proven and experienced by the author Martinus Rulandus, from Frisian, doctor of the very illustrious Court of the Pfaltz and Dukes of Bavaria. With an index containing diseases, symptoms, names and patients, places, and medicines as well as a number of treatments. Basel.

Optime experta & probata in Oberbechinga, ubi Burgl Mairin, filius decennis persaepe correptus fuit dies noctesque horribili morbo comitiali, & in paroxysmo oculus sinister, os & manus sinistra convulsa est, loquela amissa, brachium sinistrum torpuit, sed paroxysmus citissime remisit & ad se redigt, nec lapsus est, ut fit in graviore epilepsia

# BECTS

- two types of seizures:
- *generalized seizures*, almost always nocturnal/during sleep
- *focal seizures*, often early morning, usually on awakening from sleep
- 20-25% of patients have both seizure types

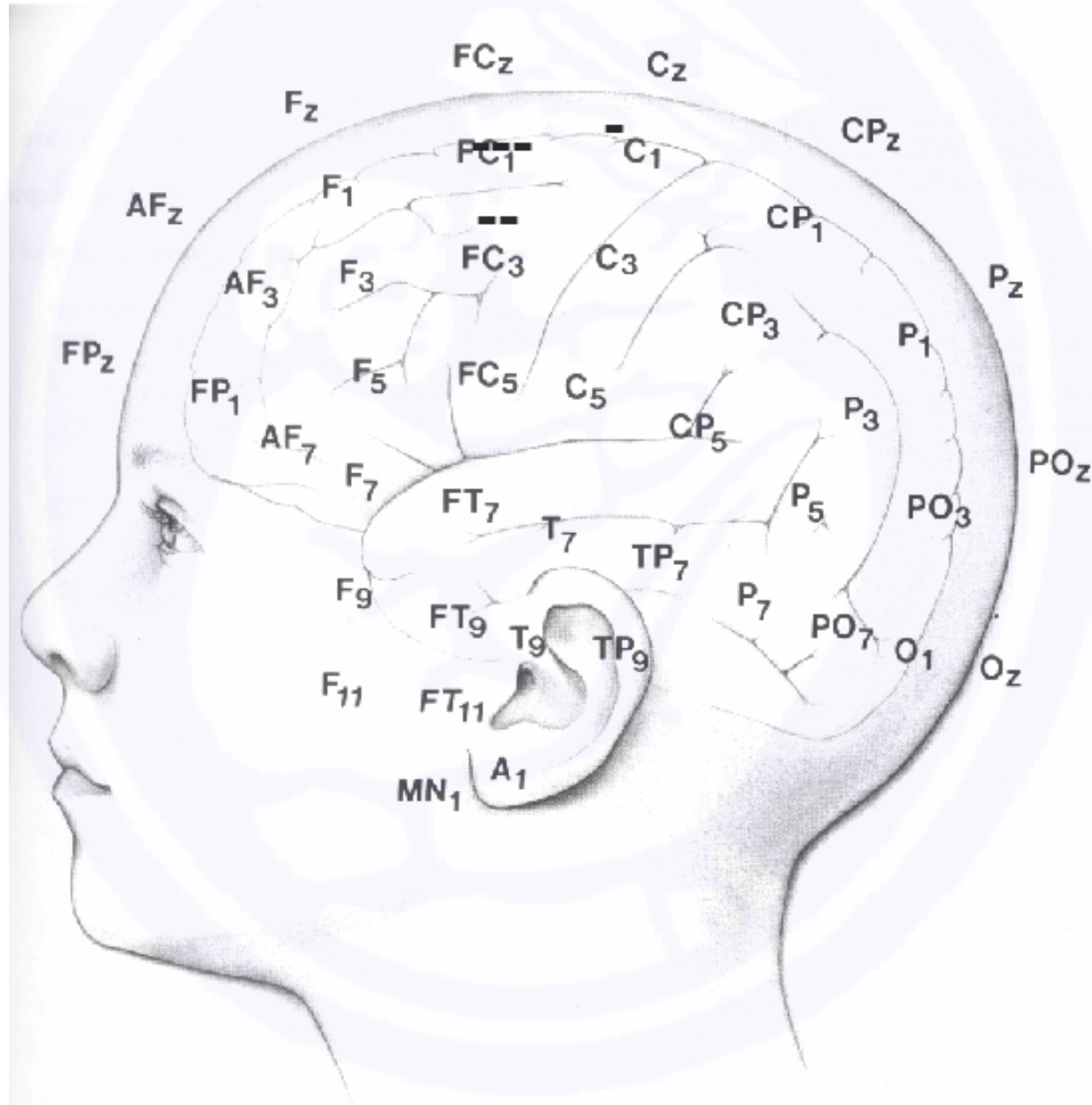


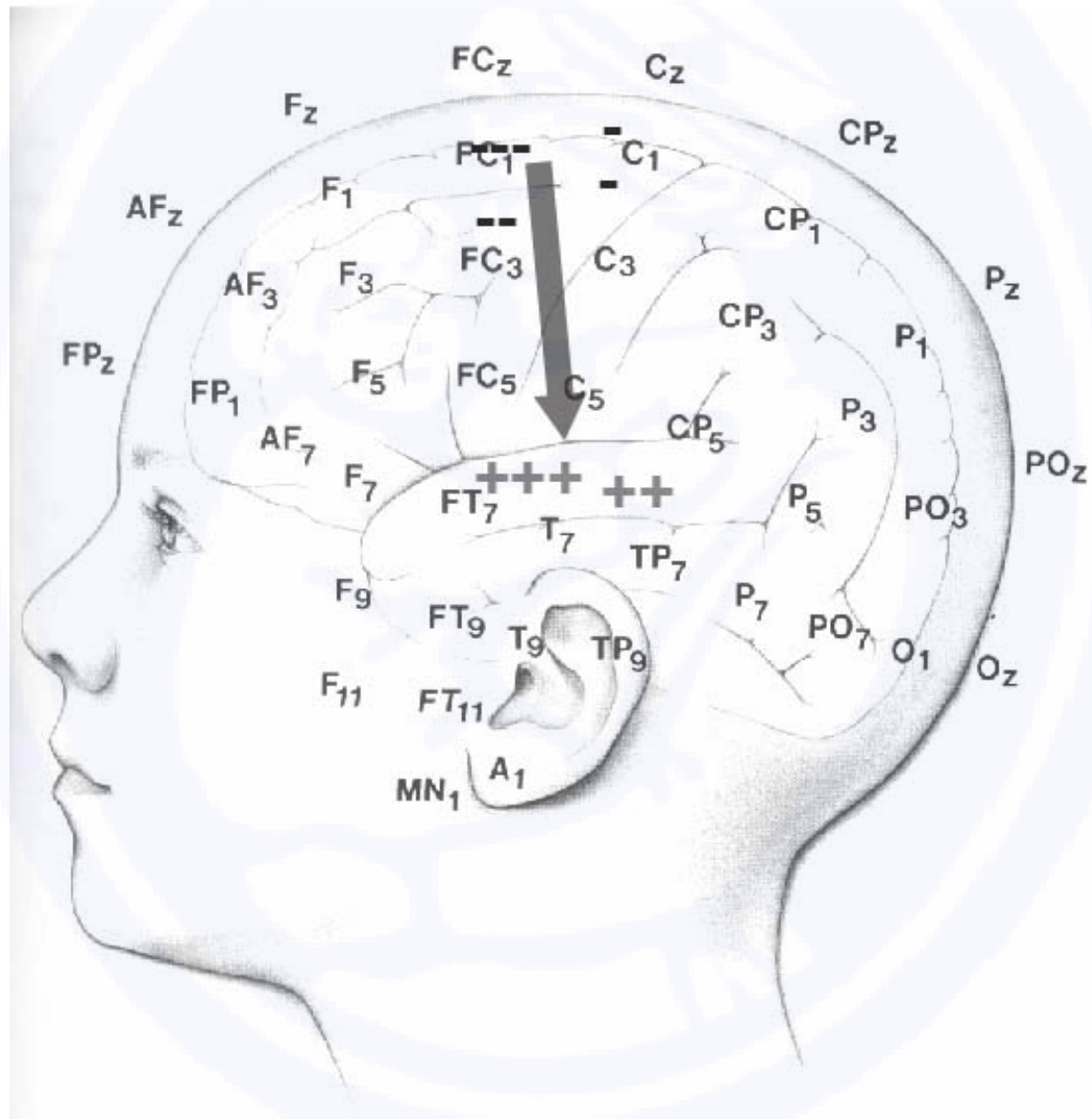
**Figure 7-2.** Somatic sensory and motor regions of the cerebral cortex. Most of the body can be mapped onto the cortex yielding two distorted homunculi. (With permission from Geschwind N.: Specializations of the human brain. Scientific American, Sept. 1979.)

# rolandic discharges

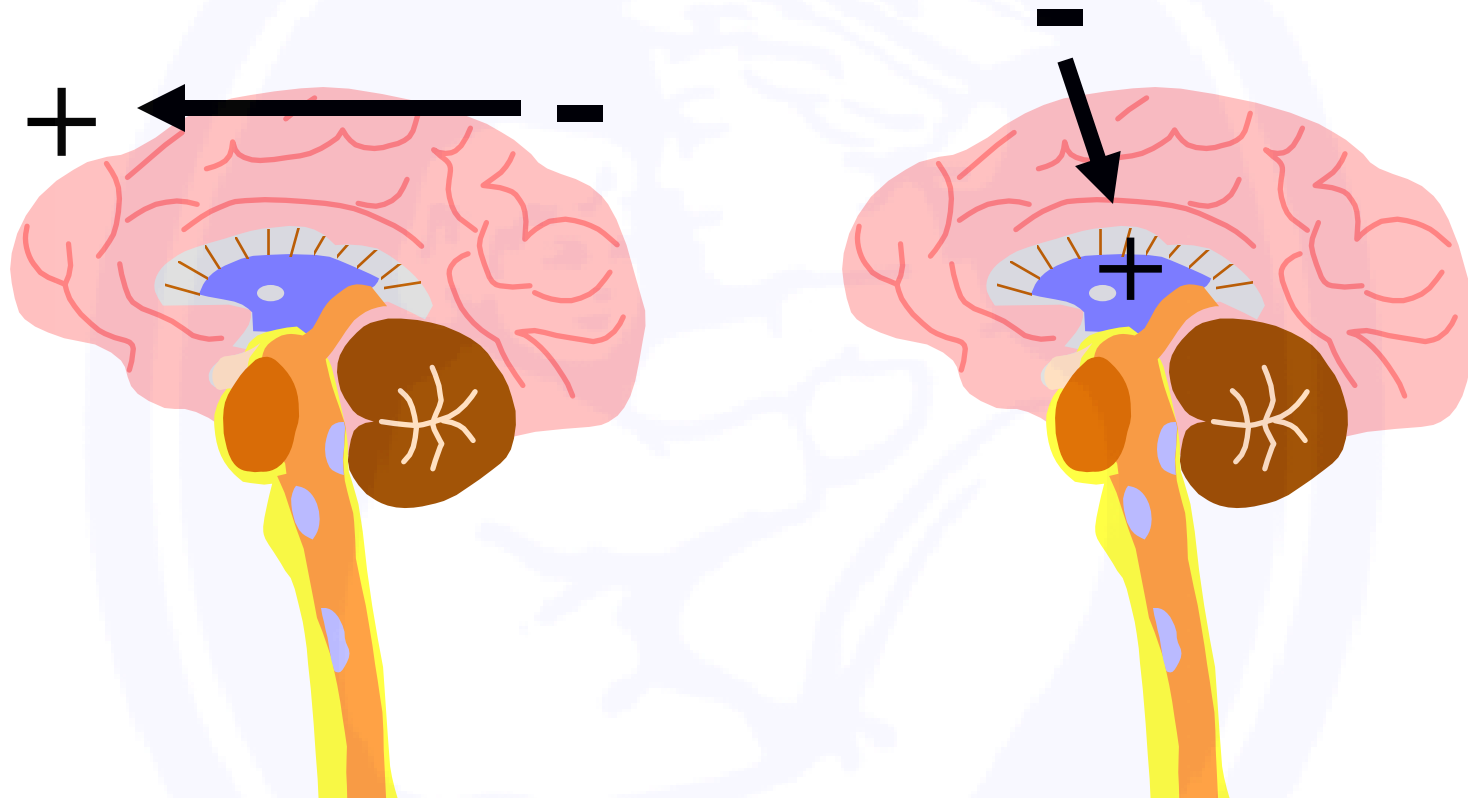
- rolandic epilepsy vs. rolandic trait
- “horizontal” or “tangential” dipole

++?



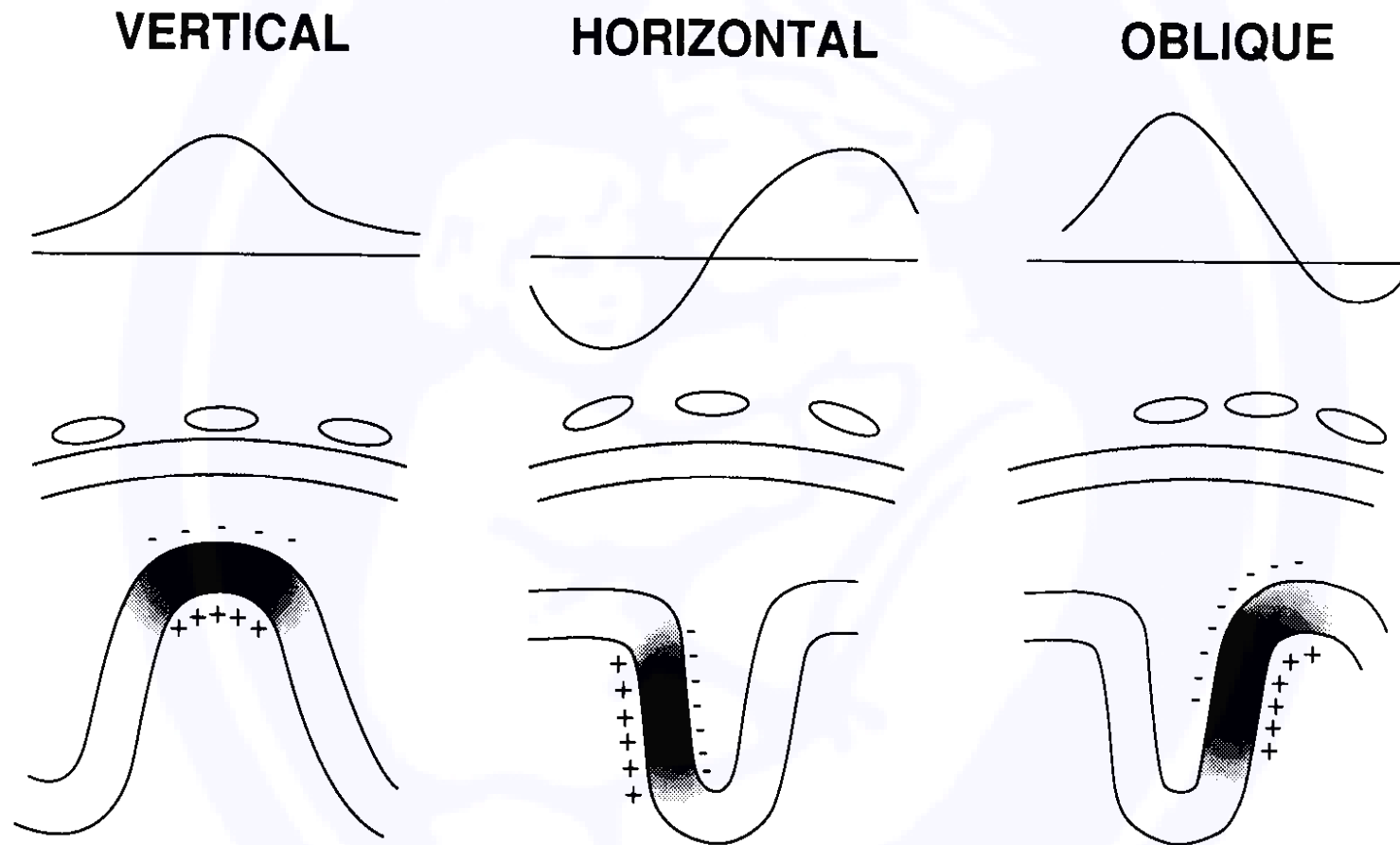


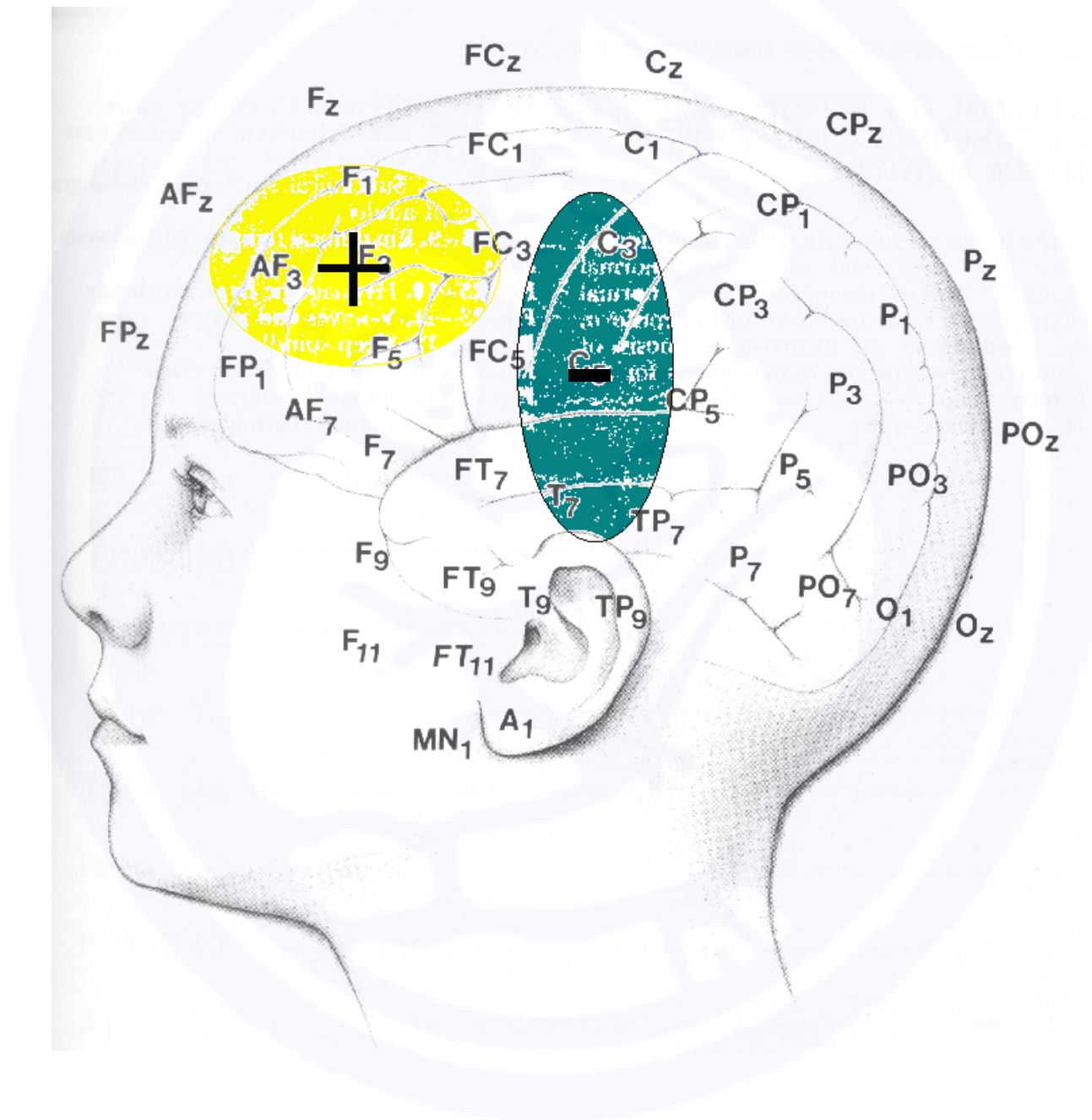


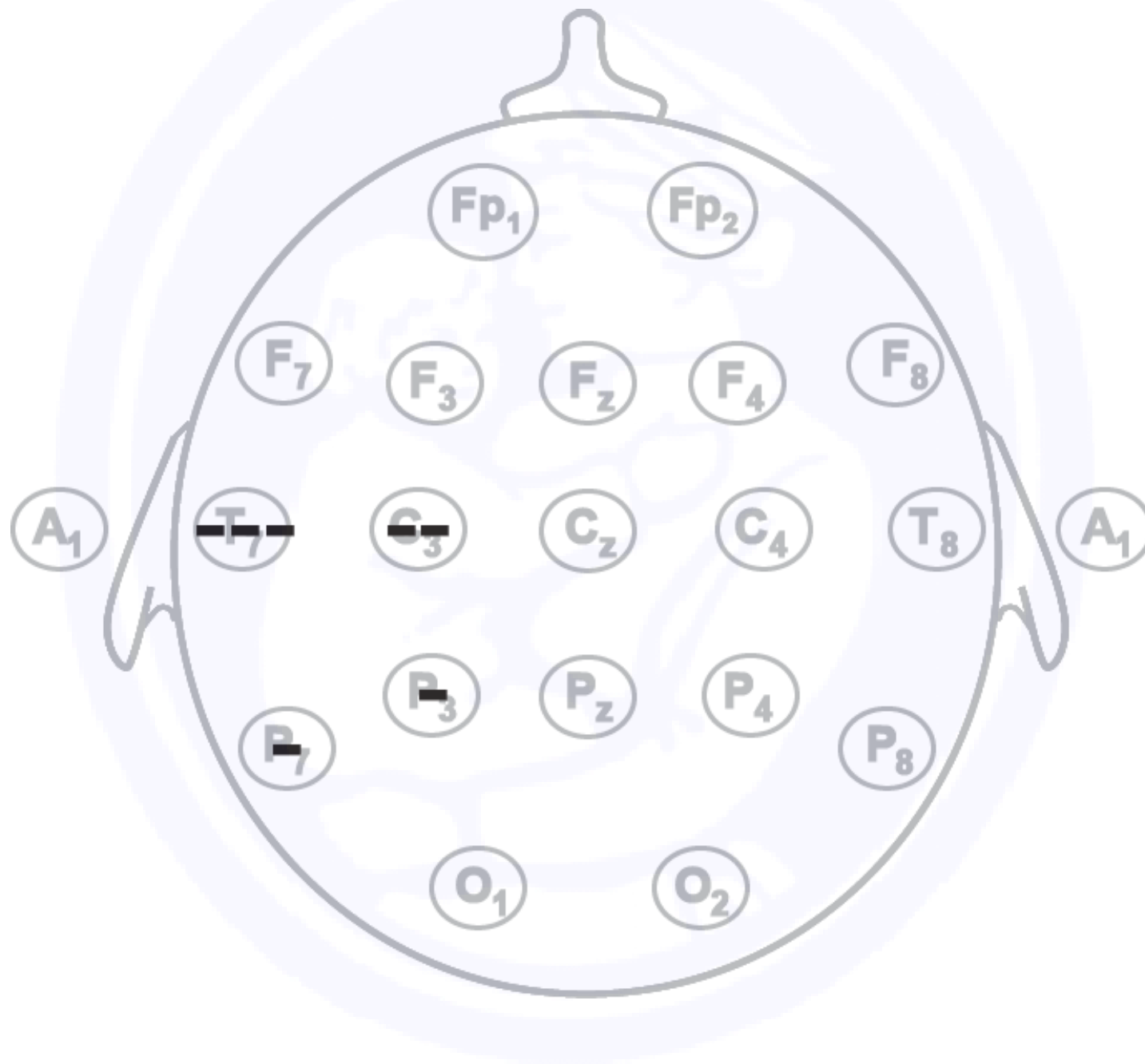


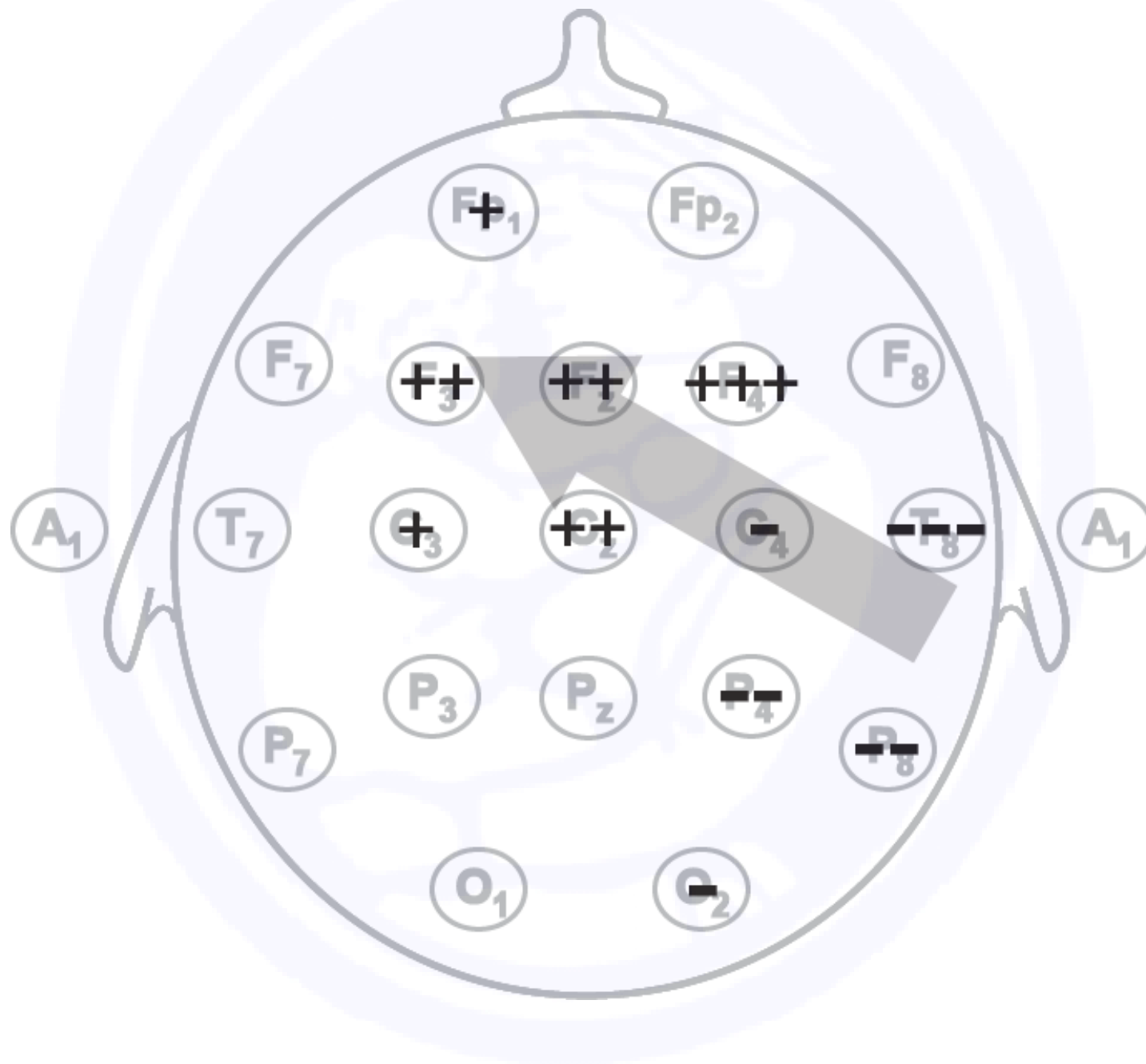
Horizontal Dipole

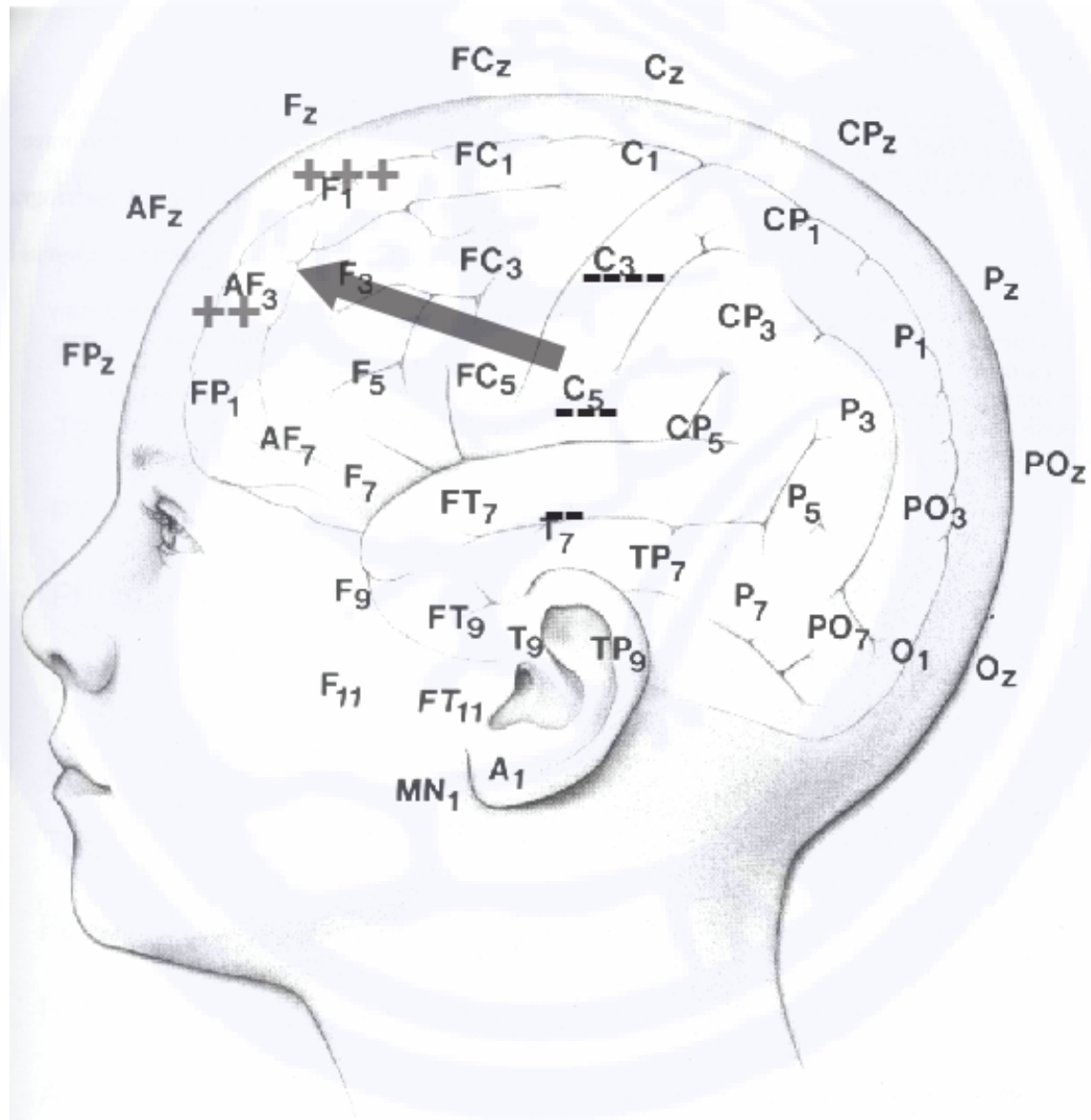
Radial Dipole











# Massachusetts Folklore



# Massachusetts Folklore

