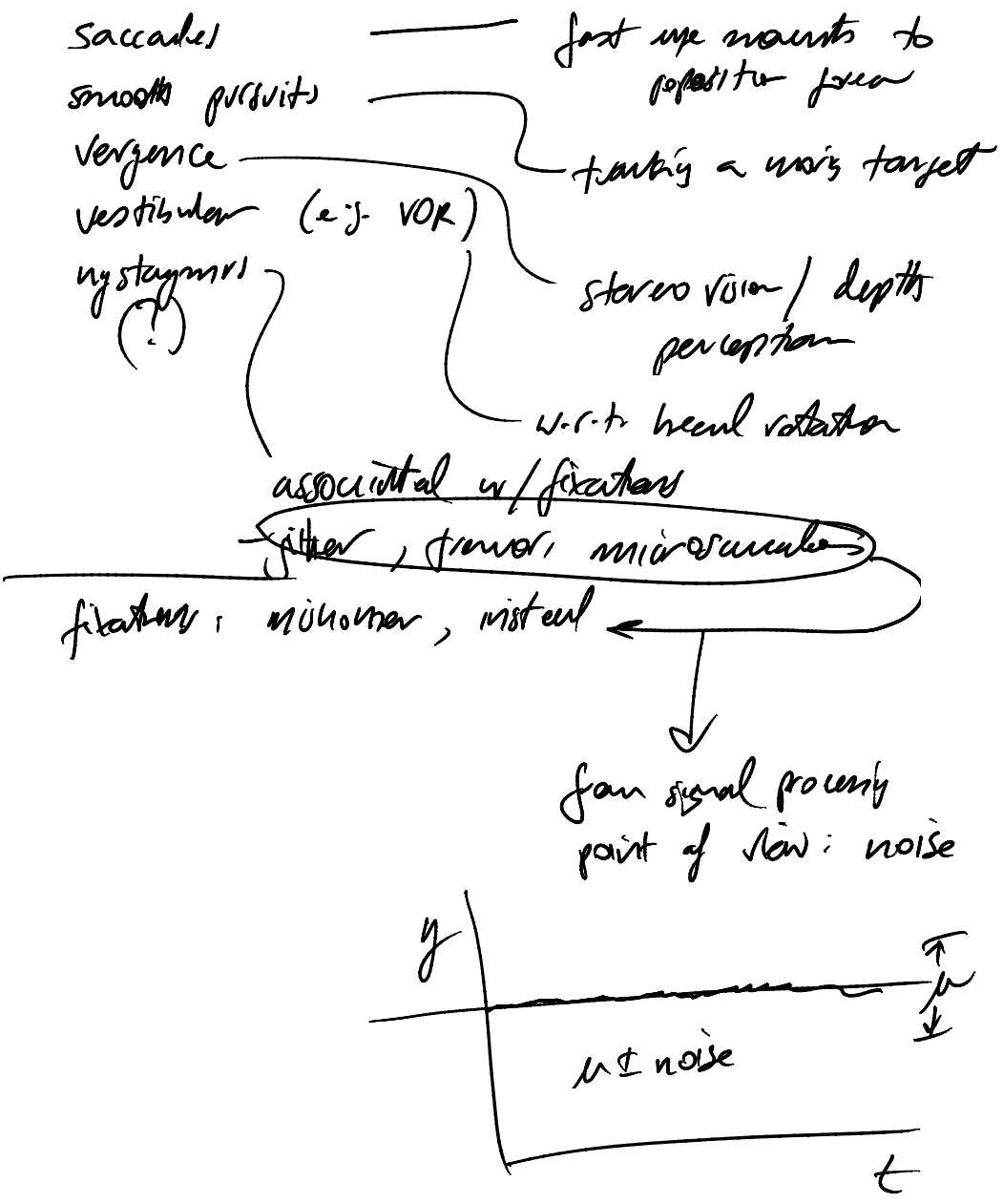
Taxonomy of eye movements:



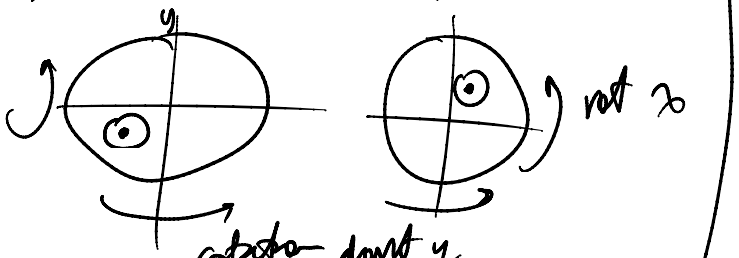
- other types of movements that don't fit
  reposition- eyeball : (non-positional)
  - adaptation : adapting to different light levels
    ⇒ pupil dilation
  - accommodation : focusing : flexing of the lens

Saccades

— most easily detectable via signal processing

- duration: range 10ms – 100 ms
- effectively blind during a saccade: saccadic suppression
  brain suppresses retinal signal: retinal smear
- "ballistic" & stereotyped } some exceptions to this theory
  ↳ saccades can be repeated

"preprogrammed" trajectory (like a missile)

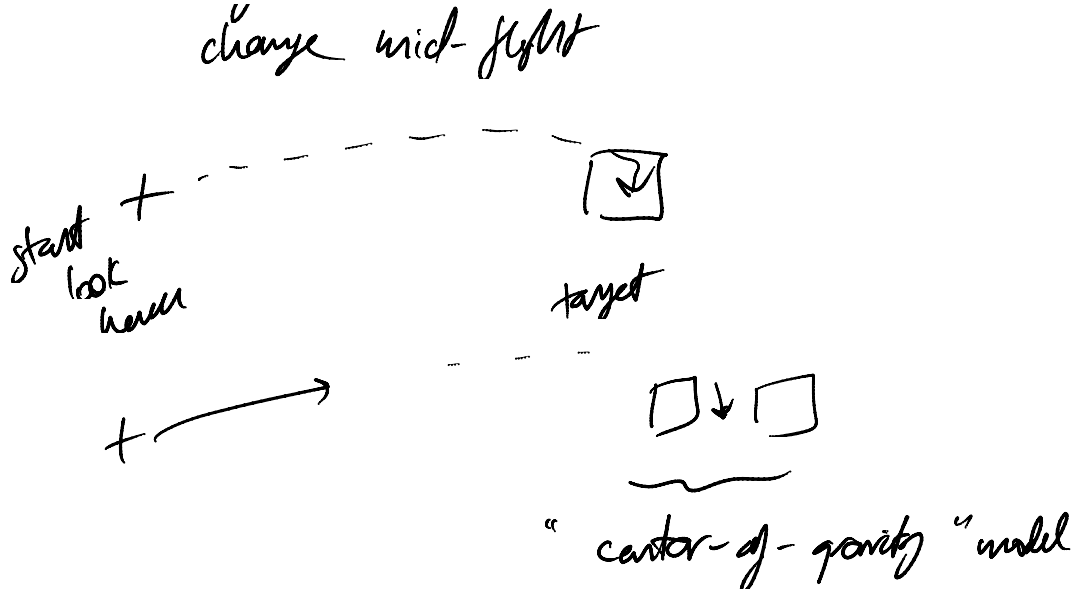


θ_x, θ_y are reproducible

bit of controversy here

eg instead of being pre-programmed, might be driven by a feedback system

eg instead of being ballistic, saccade target may change mid-flight


change mid-flight
start look here
target
"center-of-gravity" model

Thursday, November 16, 2006
10:40 AM

Fixations

duration: 150 ms – 600 ms

90% of viewing time devoted to fixations

Nystagmus

sawtooth like pattern

- optokinetic: smooth pursuit + misi-saccades
- vestibular nystagmus (VOR)