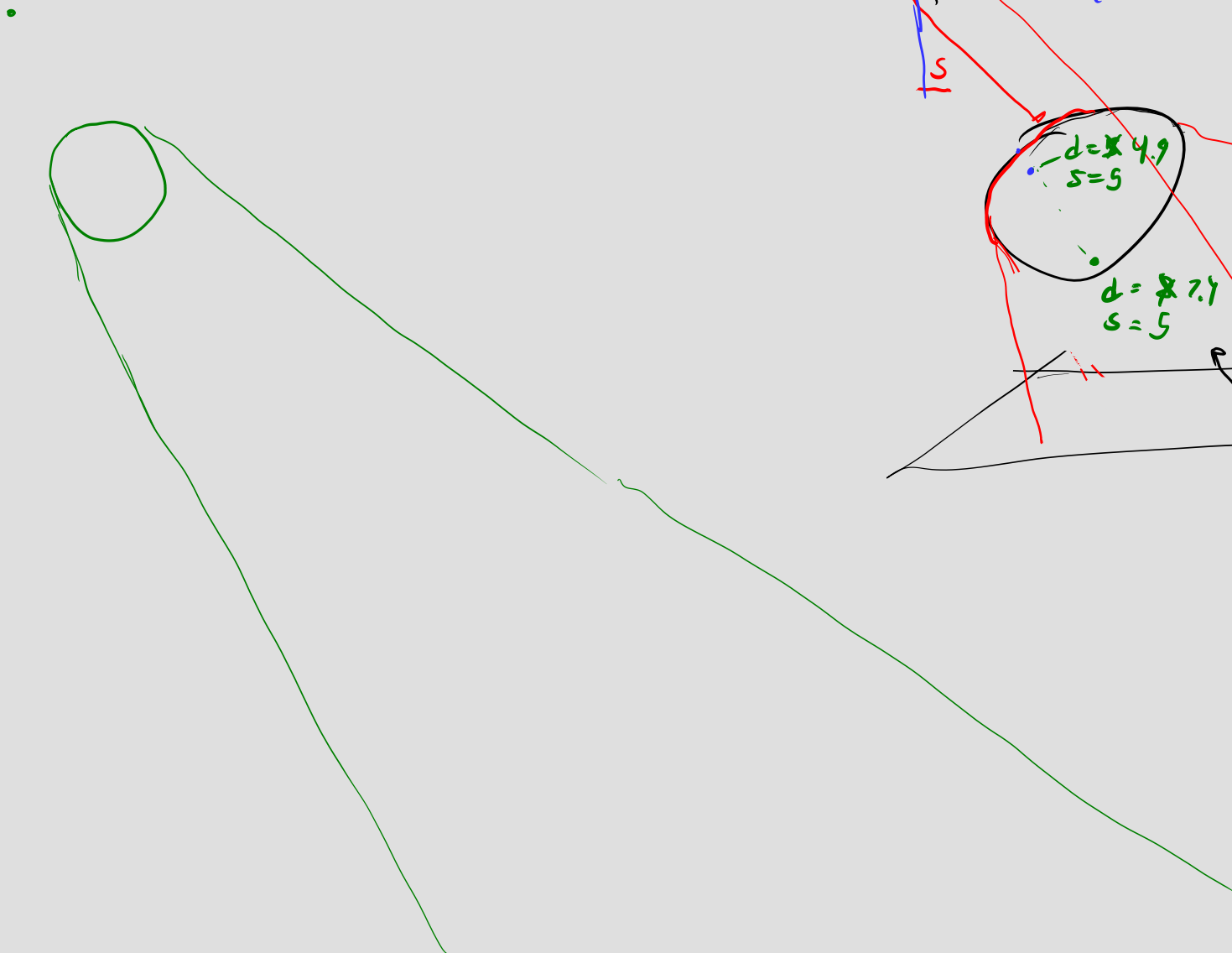
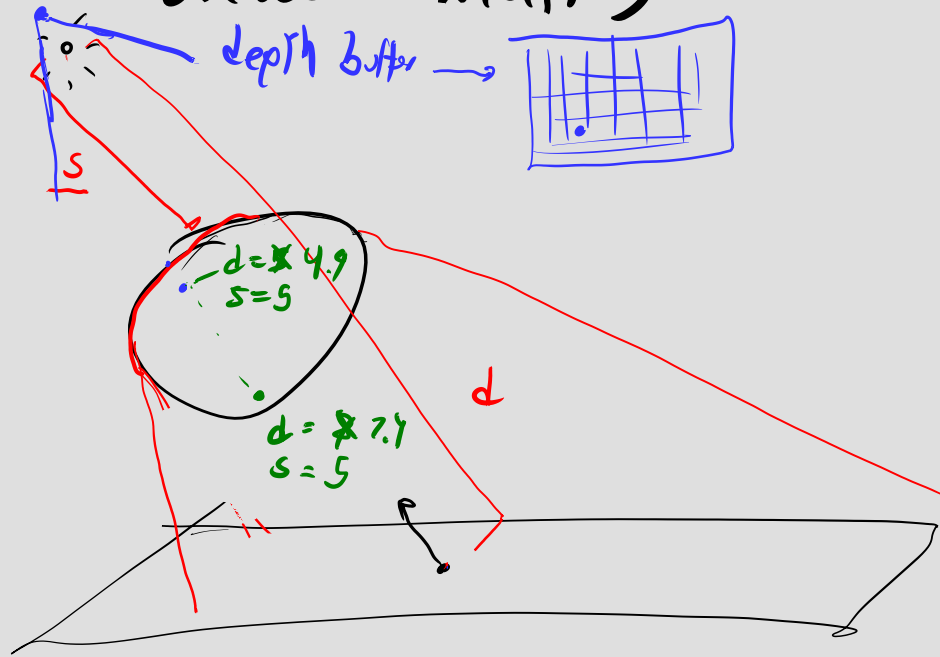
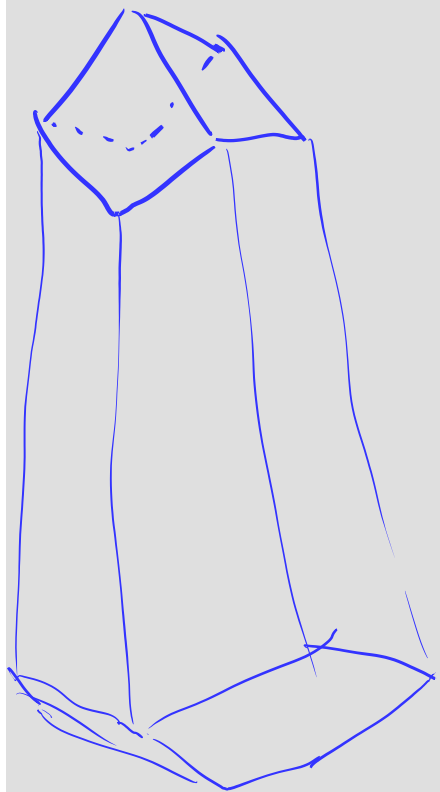
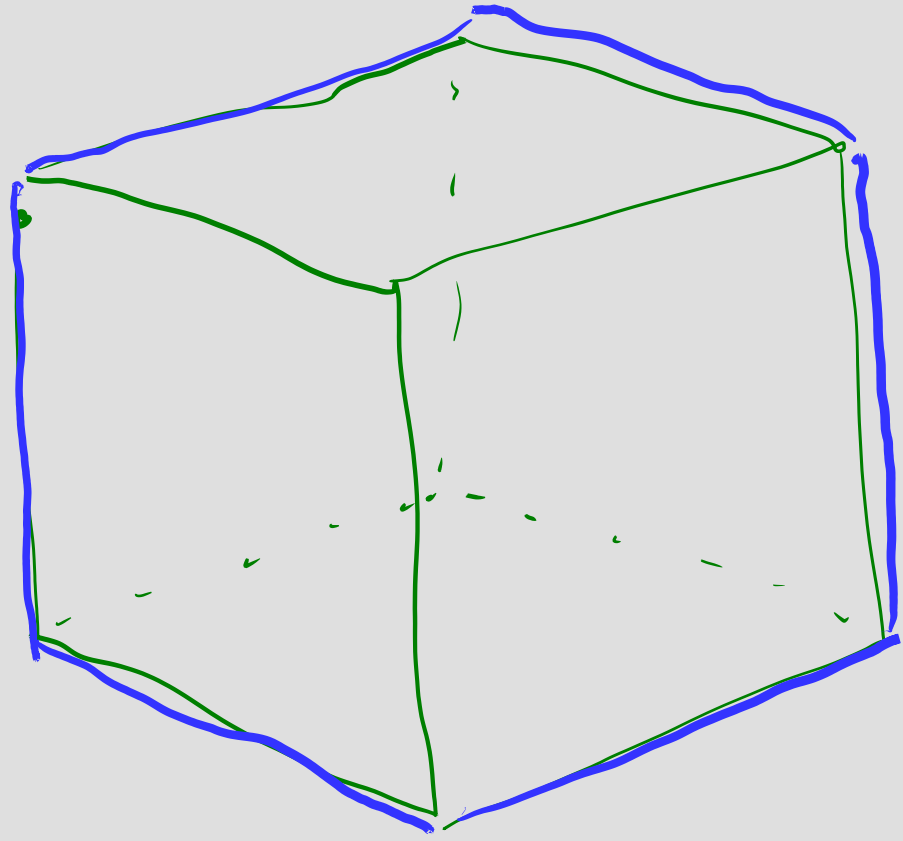


# Shadow volumes



## Shadow mapping



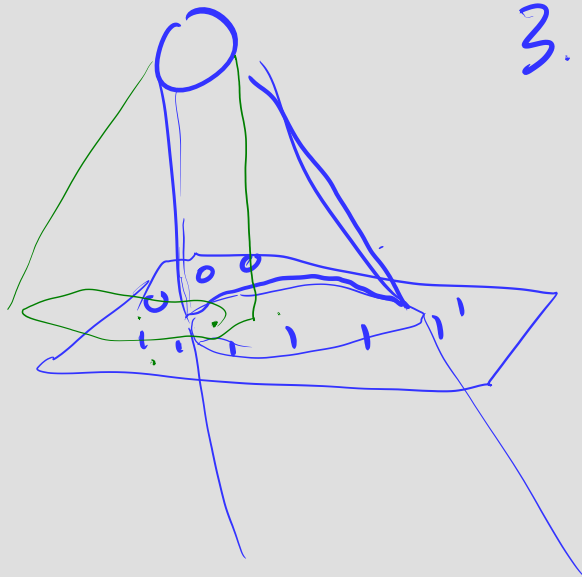


# Stencil buffer

1. render back-side shader values  
→ depth

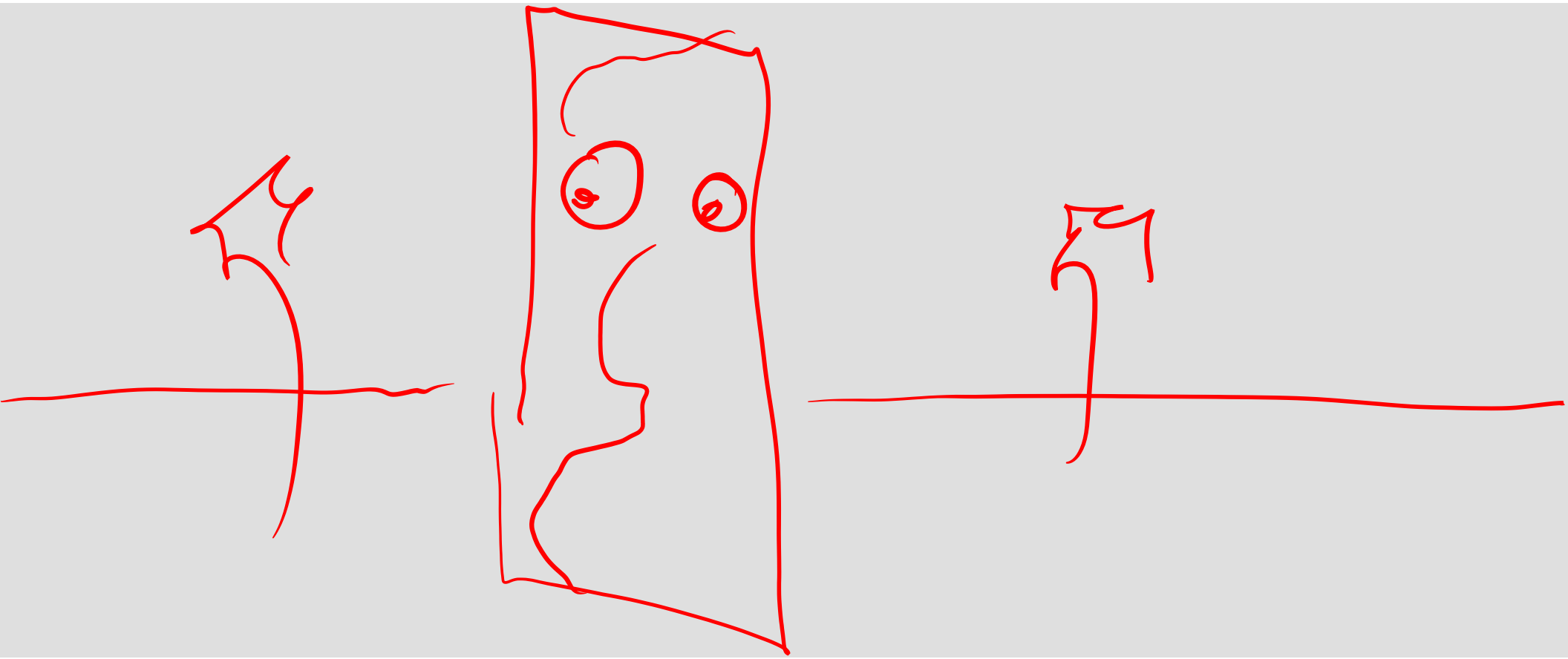
2. render geom → stencil

3. render front shader values  
→ toggle stencil



12/10







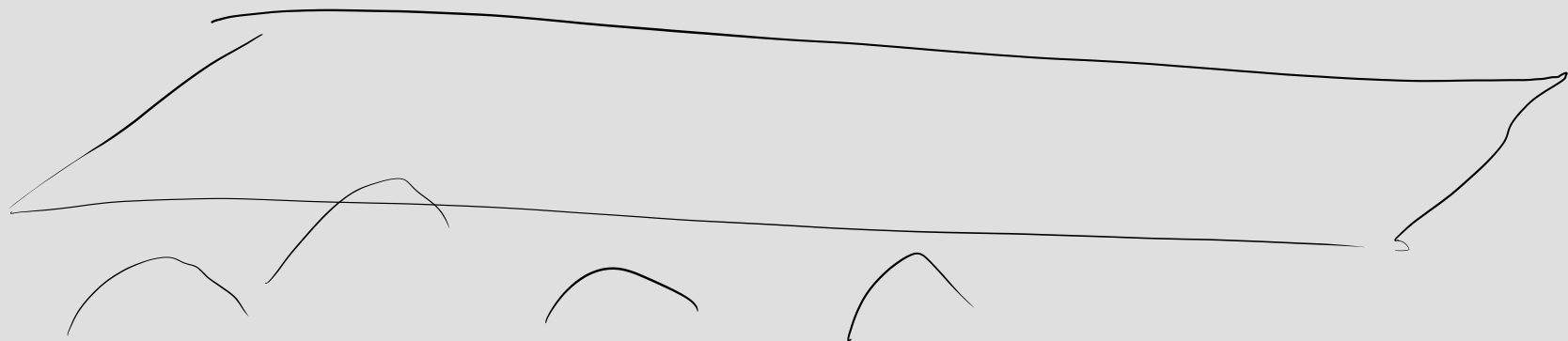
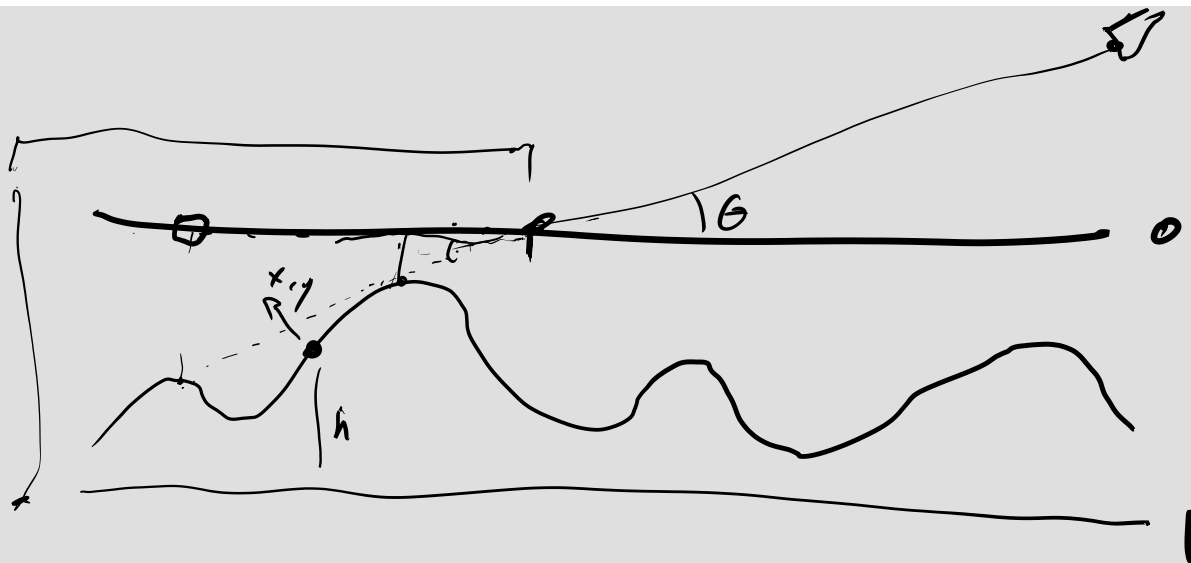
Blum

HDR

blur - Airy disk

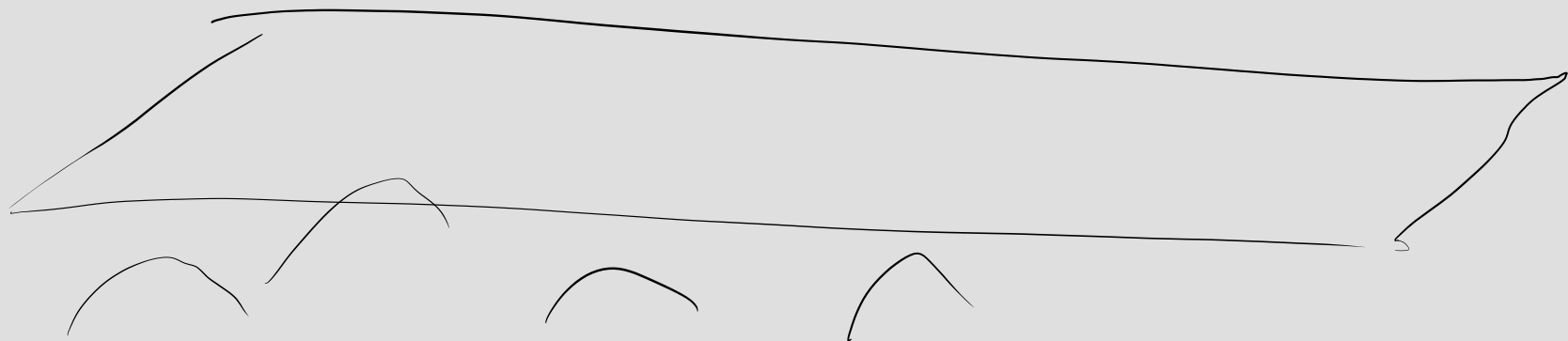
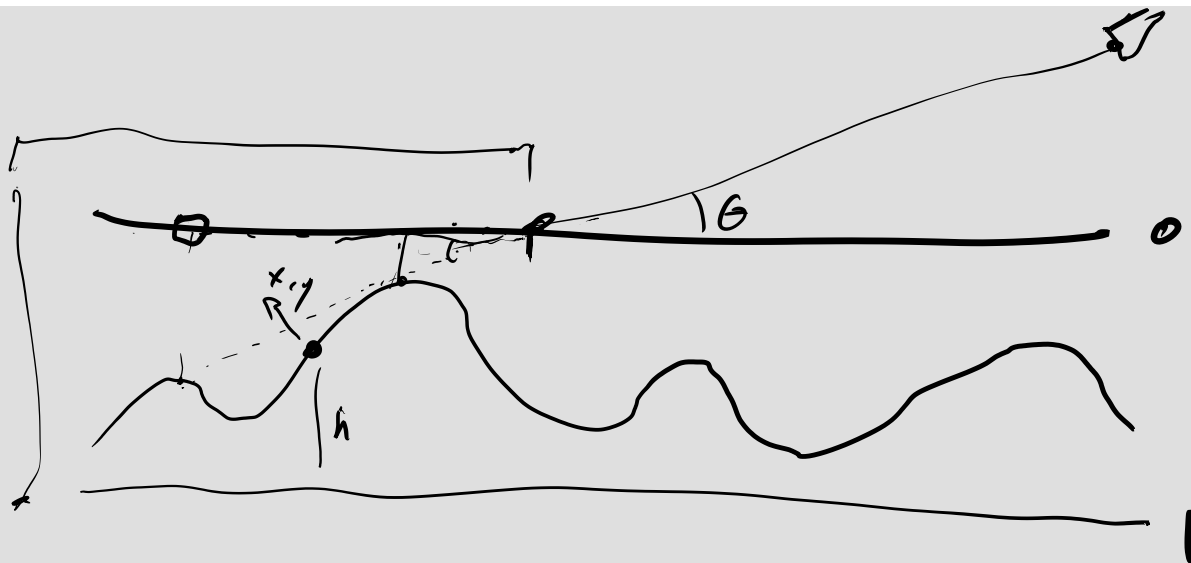
~~height~~ map  
~~depth~~  
height

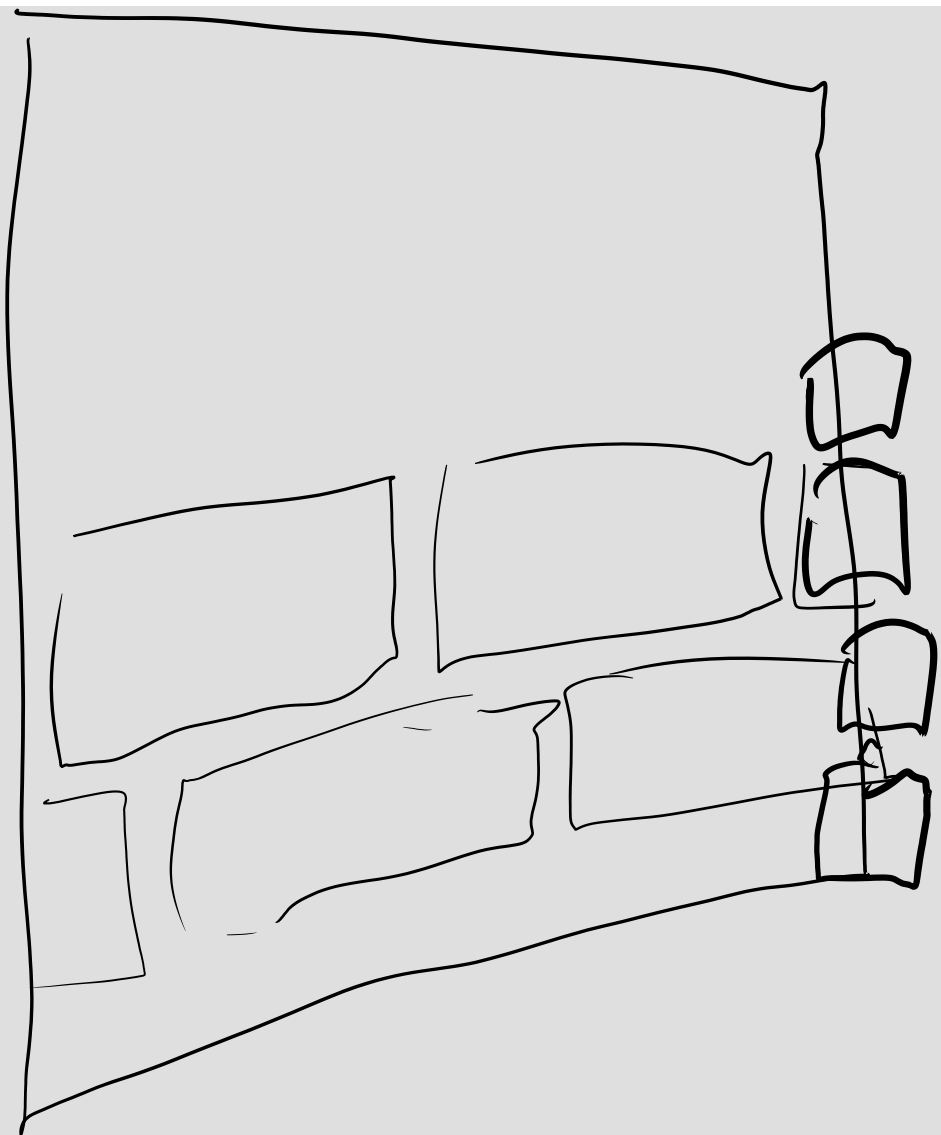
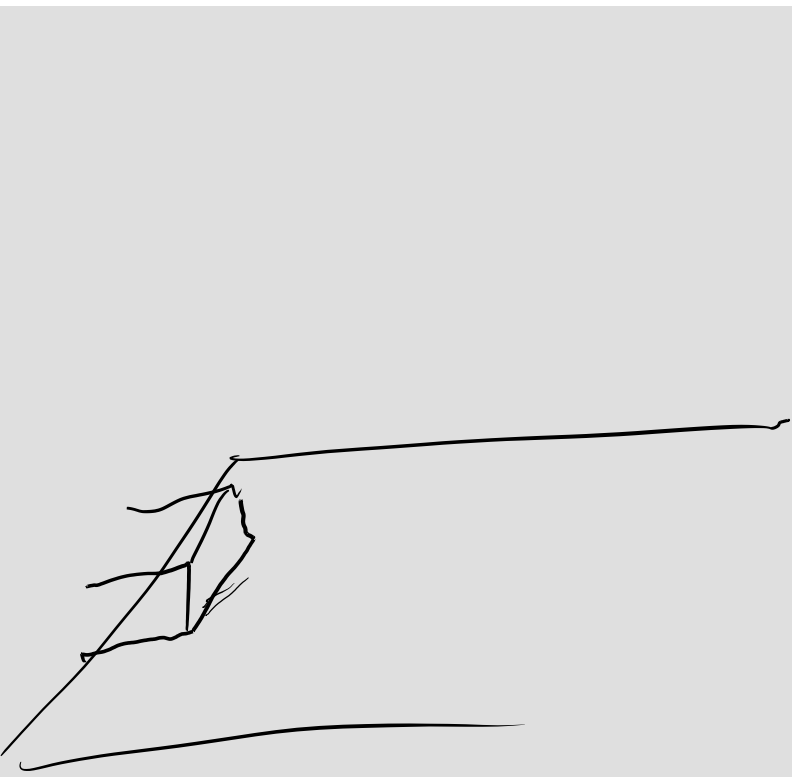
+ normal map



~~height~~ map  
~~depth~~  
height

+ normal map





# Particles

