

CH 13

11/10/11

SPECIAL VIZ TECHNIQUES

1. BLENDING

COMBINES CURRENT PIXEL

COLOR WITH NEW COLOR

a) ORDER OF WRITING MATTERS

b) PIXEL IS BLENDED ONLY

WHERE IT WOULD HAVE

REPLACED OLD VALUE

(USING 2 BUFFER)

REFLECTION

2 FOG - CUES VIEWER
TO THE DISTANCES
TO OBJECTS

3 BILLBOARDING

- APP OF TEXTURE

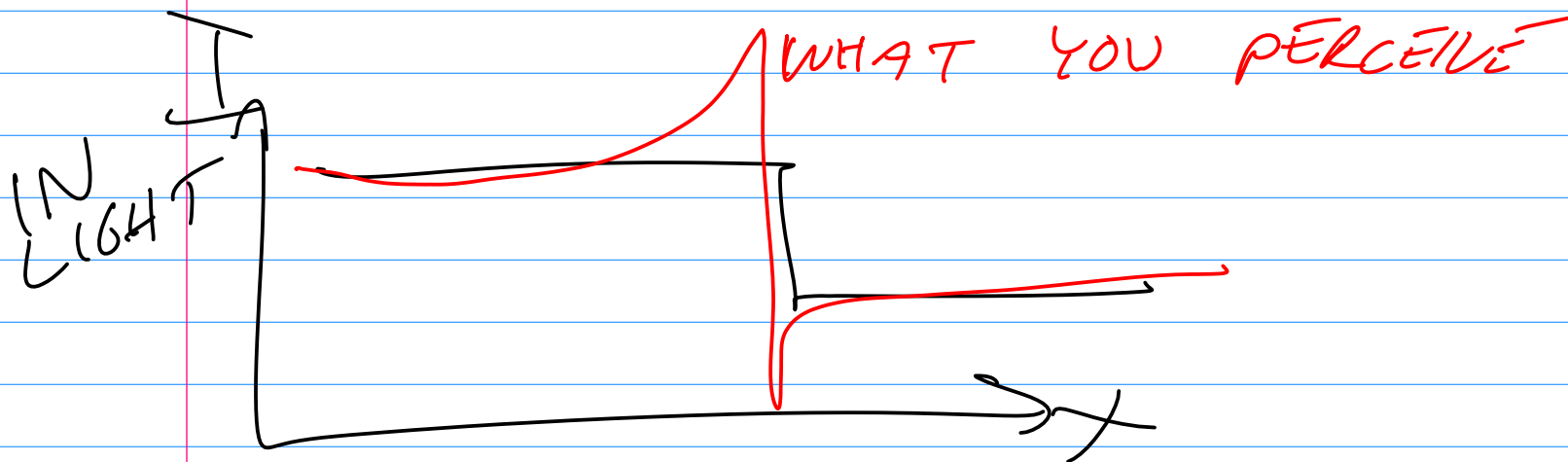
2

4 ANTI ALIASING

MACH BAND EFFECT

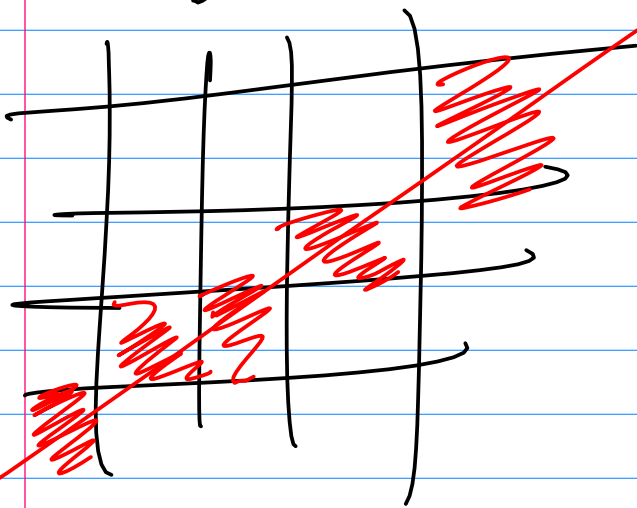
NEURONS IN RETINA INHIBIT
NEIGHBORS

→ HI PASS FILTER



LITTLE SUDDEN CHANGES IN
AN IMAGE ARE MORE OBVIOUS
THAN YOU WOULD THINK
→ TRY TO REMOVE THEM.

EG DRAWING ANTI-ALIASSED LINES

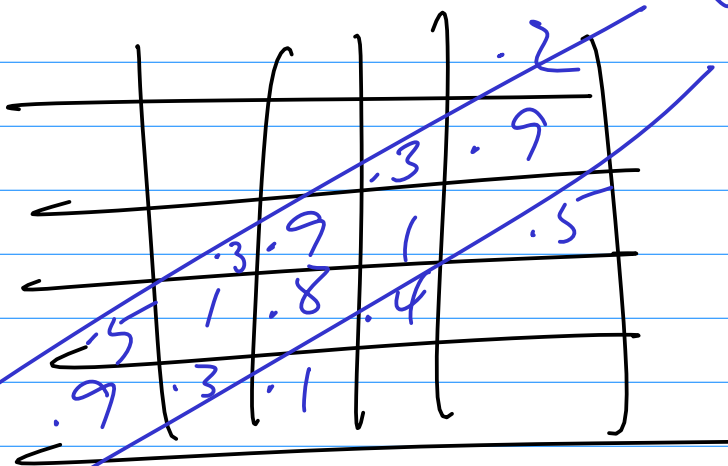


SIMPLE WAY
DRAW 1 PIXEL
(2 EACH COLUMN
(IF $|\text{slope}| \leq 1$)

LINE

ANTI-ALIASSED LINE - COLOR THE
PIXELS FRACTIONALLY

eg SUPPOSE LINE IS A RAIN
CLOUD. COLOR PIXEL PER
AMOUNT OF RAIN.



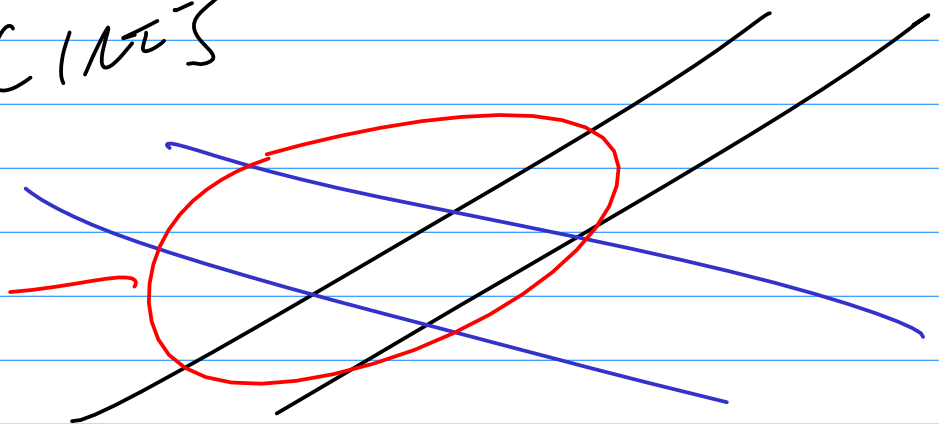
NOW THE LINE
HAS WIDTH
←
ANOTHER +;
YOU CAN SMOOTHLY
MOVE A FRACTION
OF A PIXEL.

EXPENSIVE BUT GOOD
WHO CARES?

IMPLEMENTATION ISSUES

OVERLAPPING LINES

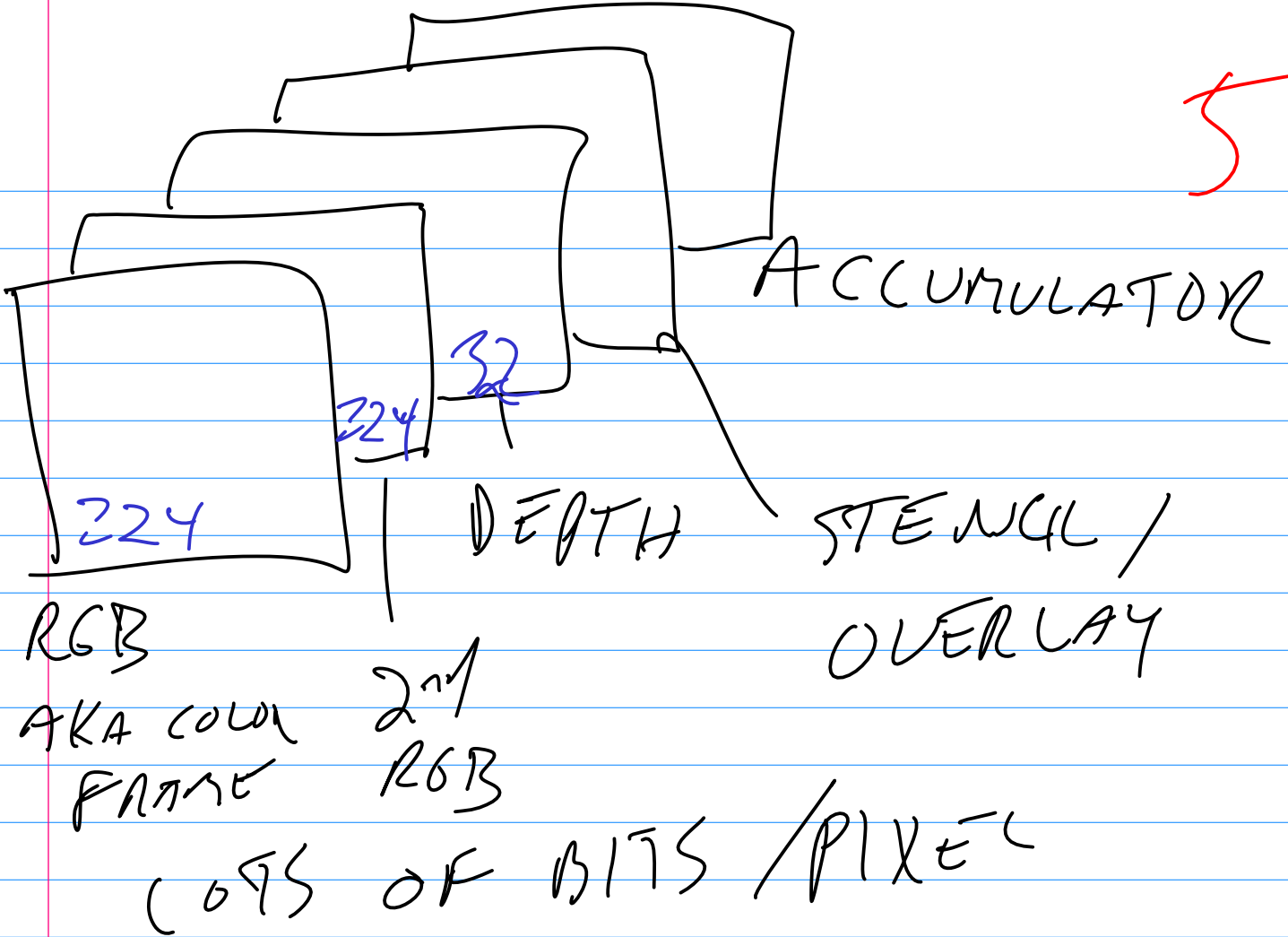
POTENTIAL PROBLEM



ENVIRONMENT MAPPING

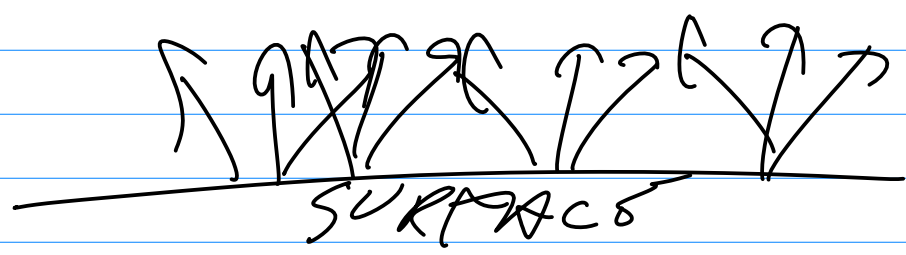
e.g. SPHERE MAPPING

STENCILS AND OTHER
BUFFERS



BUMP MAPPING

- PERTURB NORMALS @ PIXELS
- ⇒ AFFECTS LIGHTING



WE'LL SEE RIDGES THO SURFACE IS PLANE!