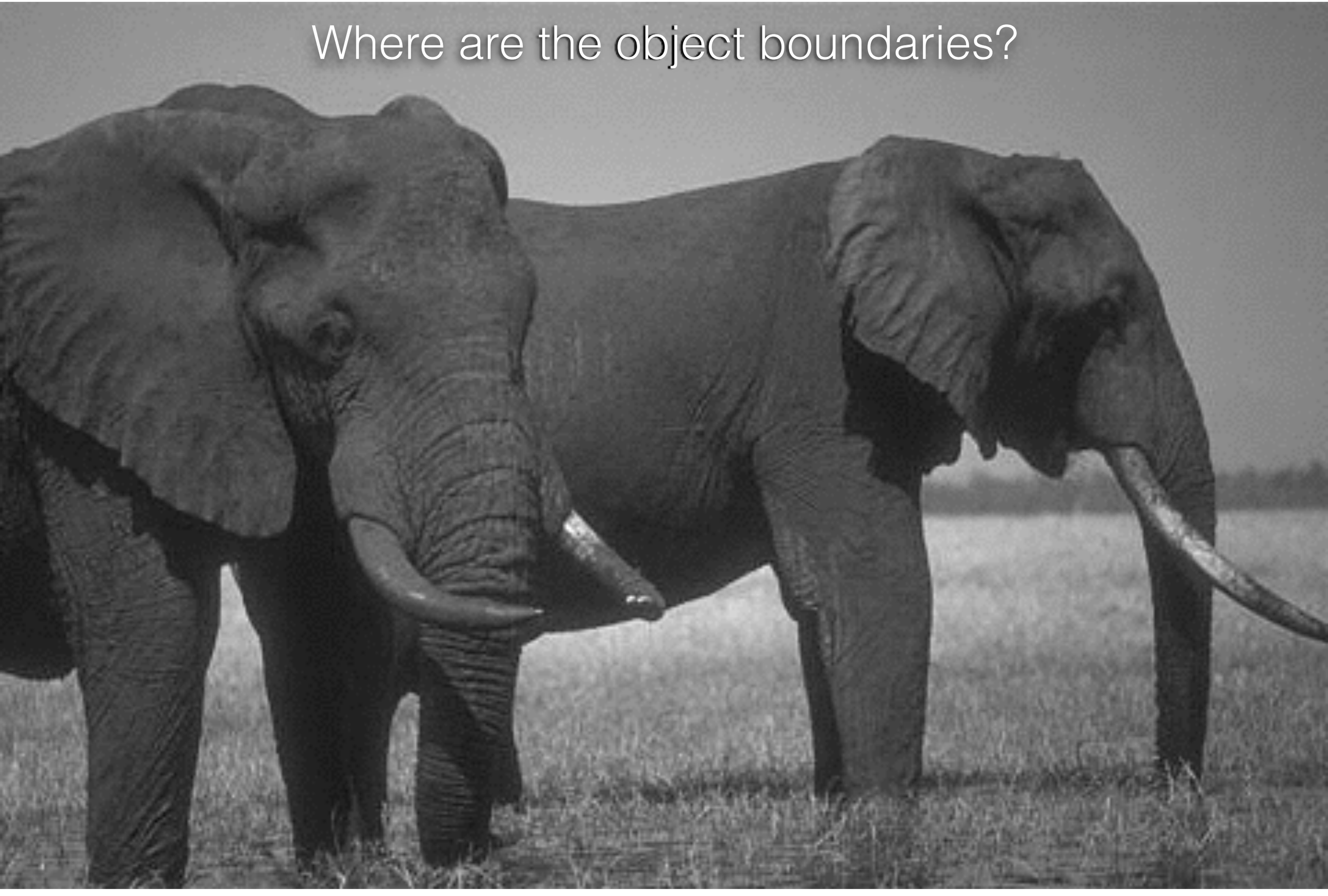
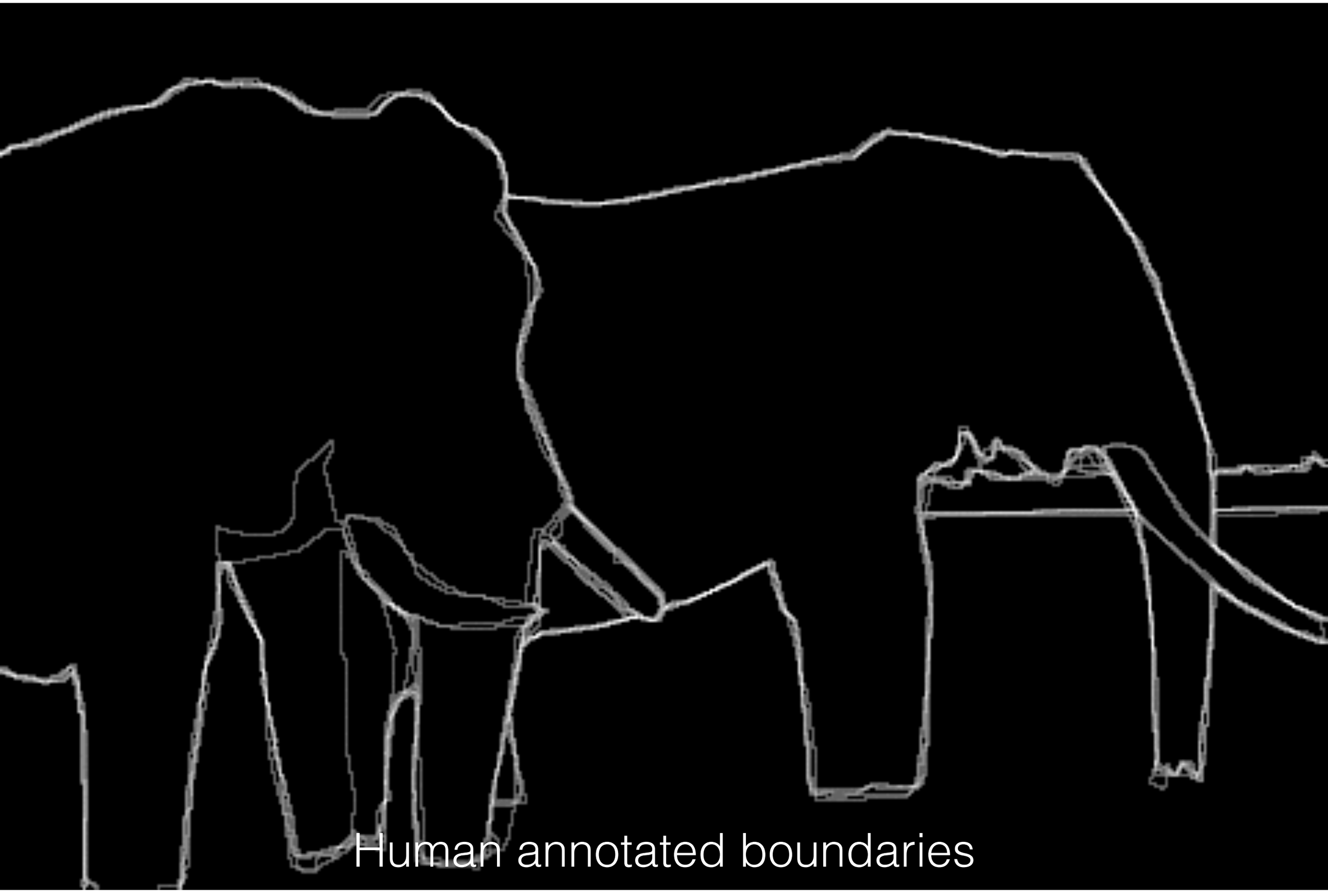
Defining boundaries

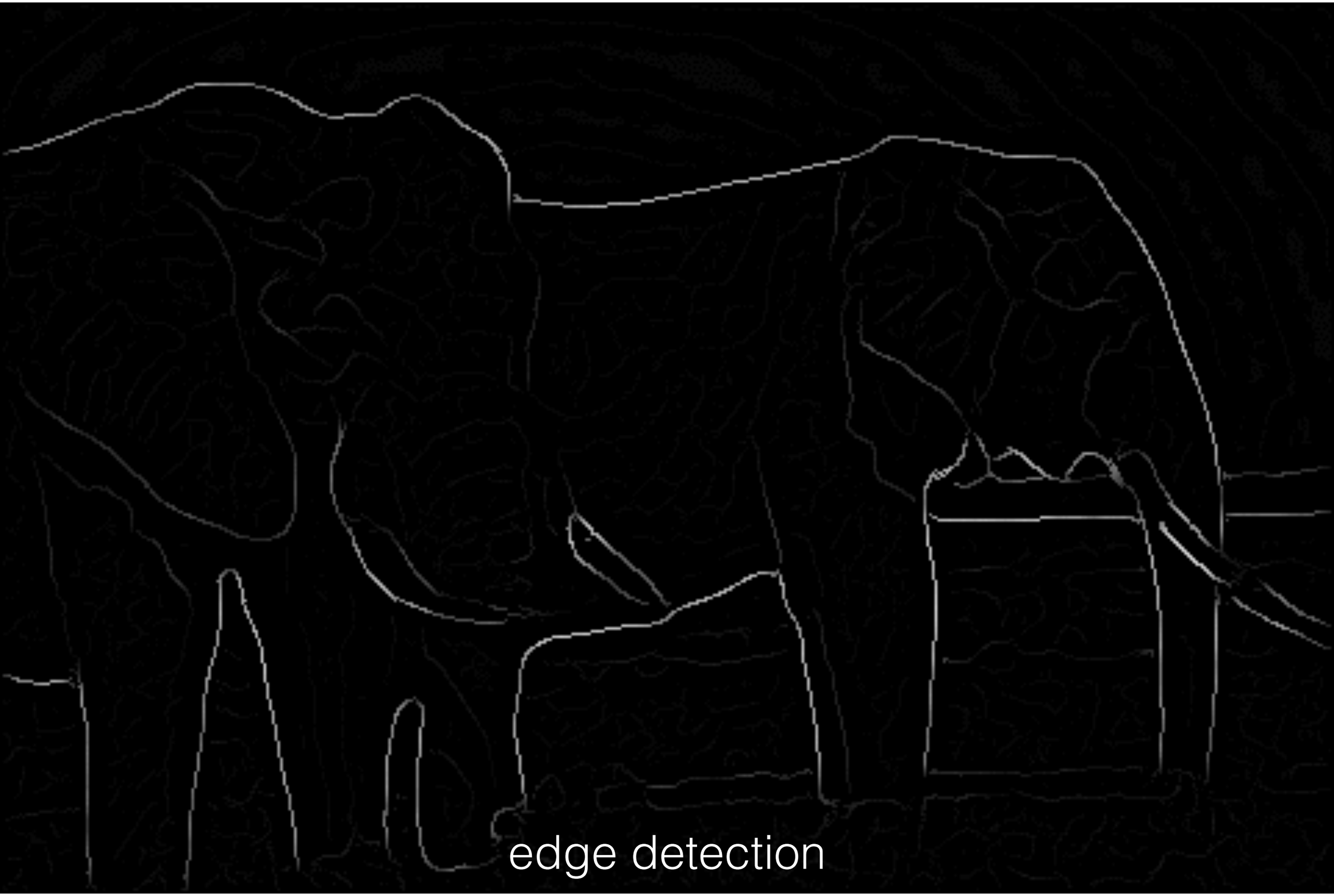
16-385 Computer Vision (Kris Kitani)

Carnegie Mellon University

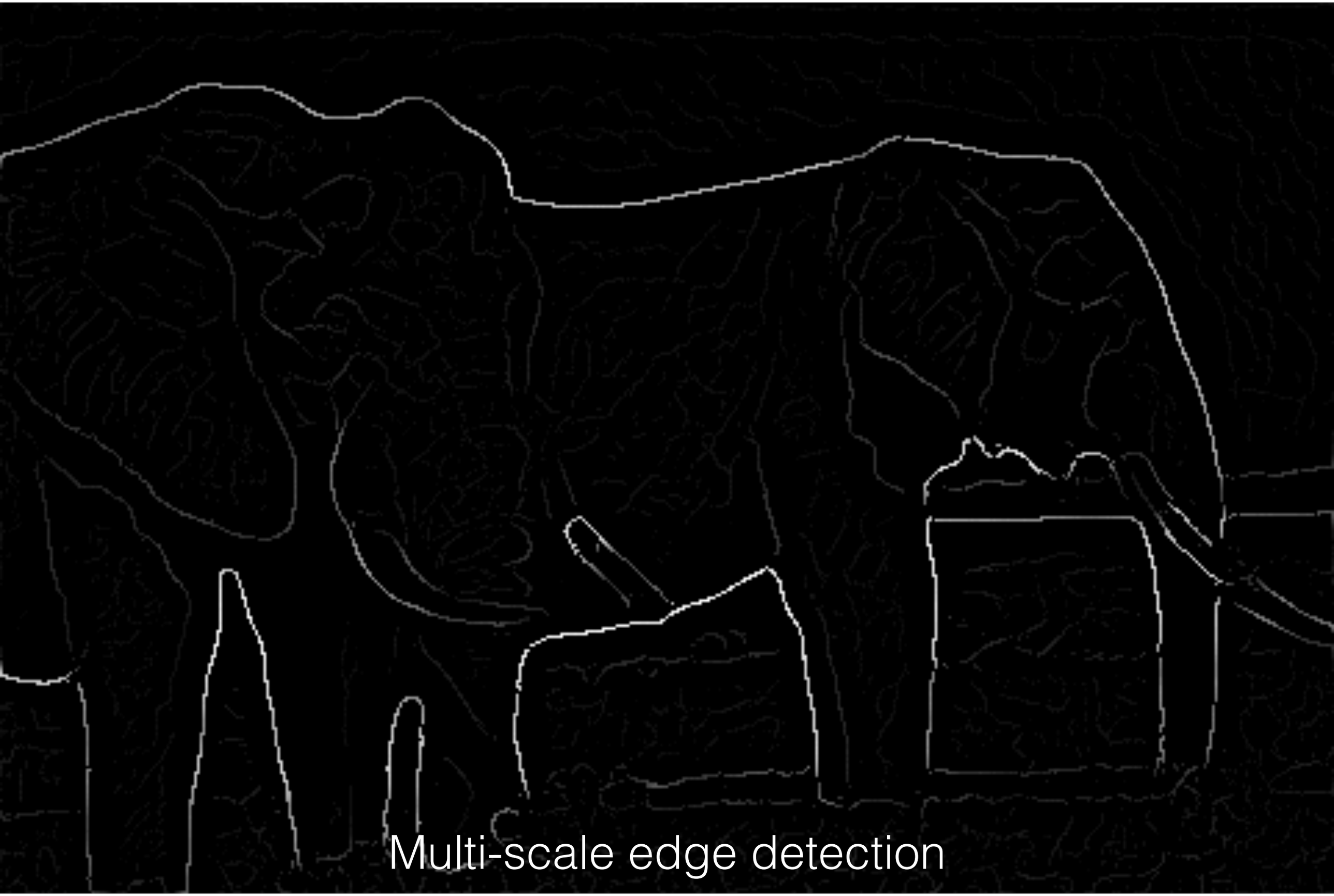
Where are the object boundaries?



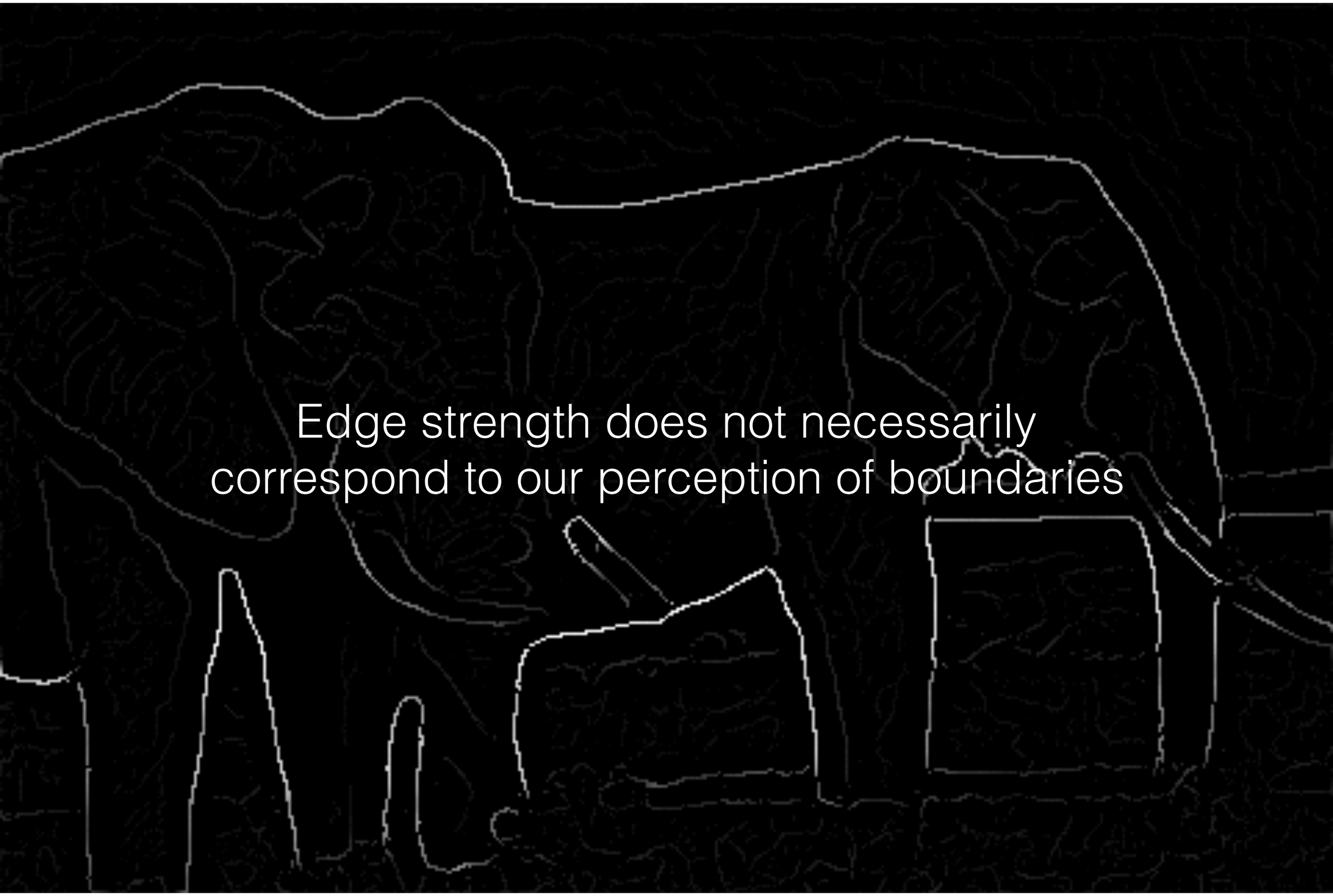

Human annotated boundaries



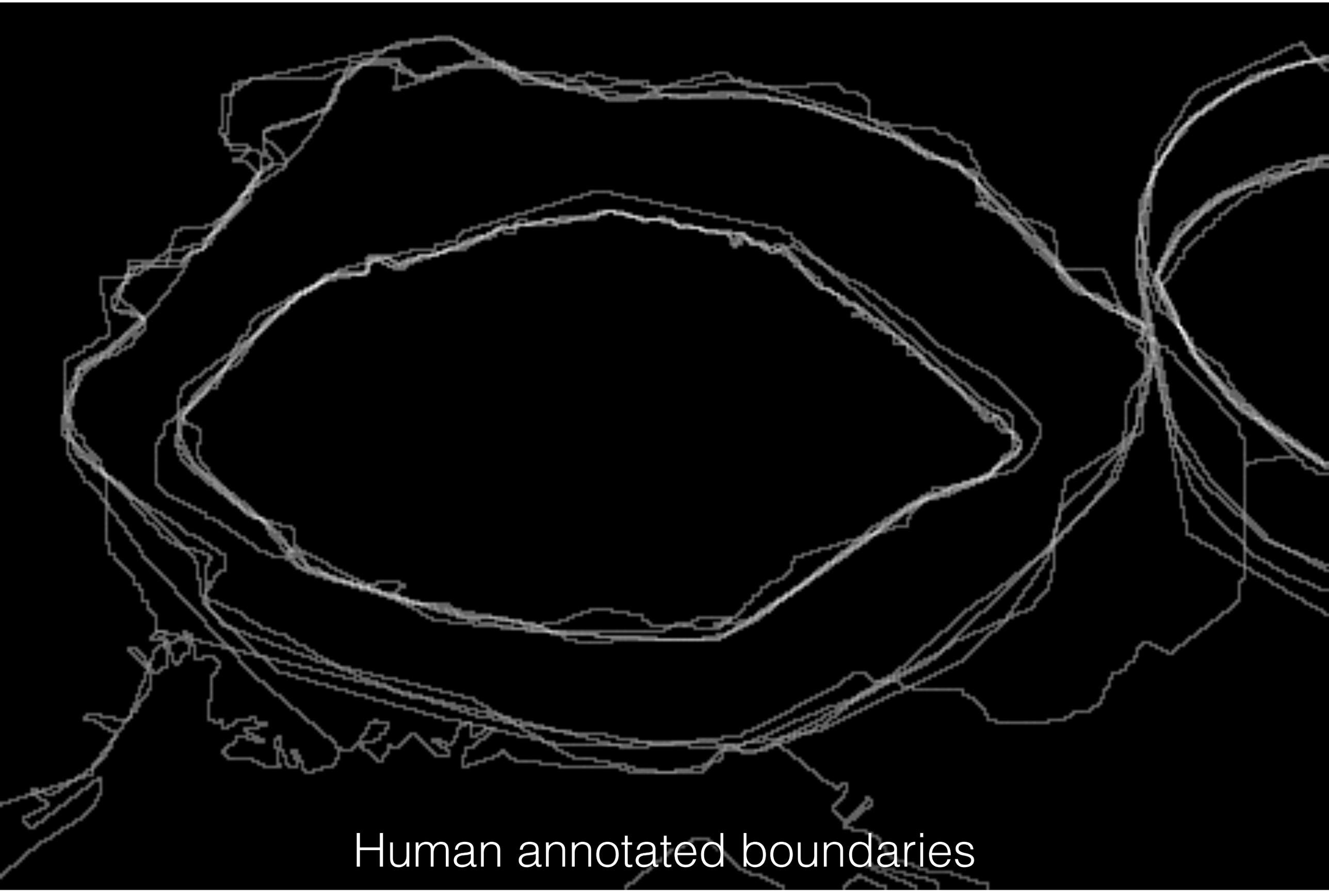
edge detection



Multi-scale edge detection

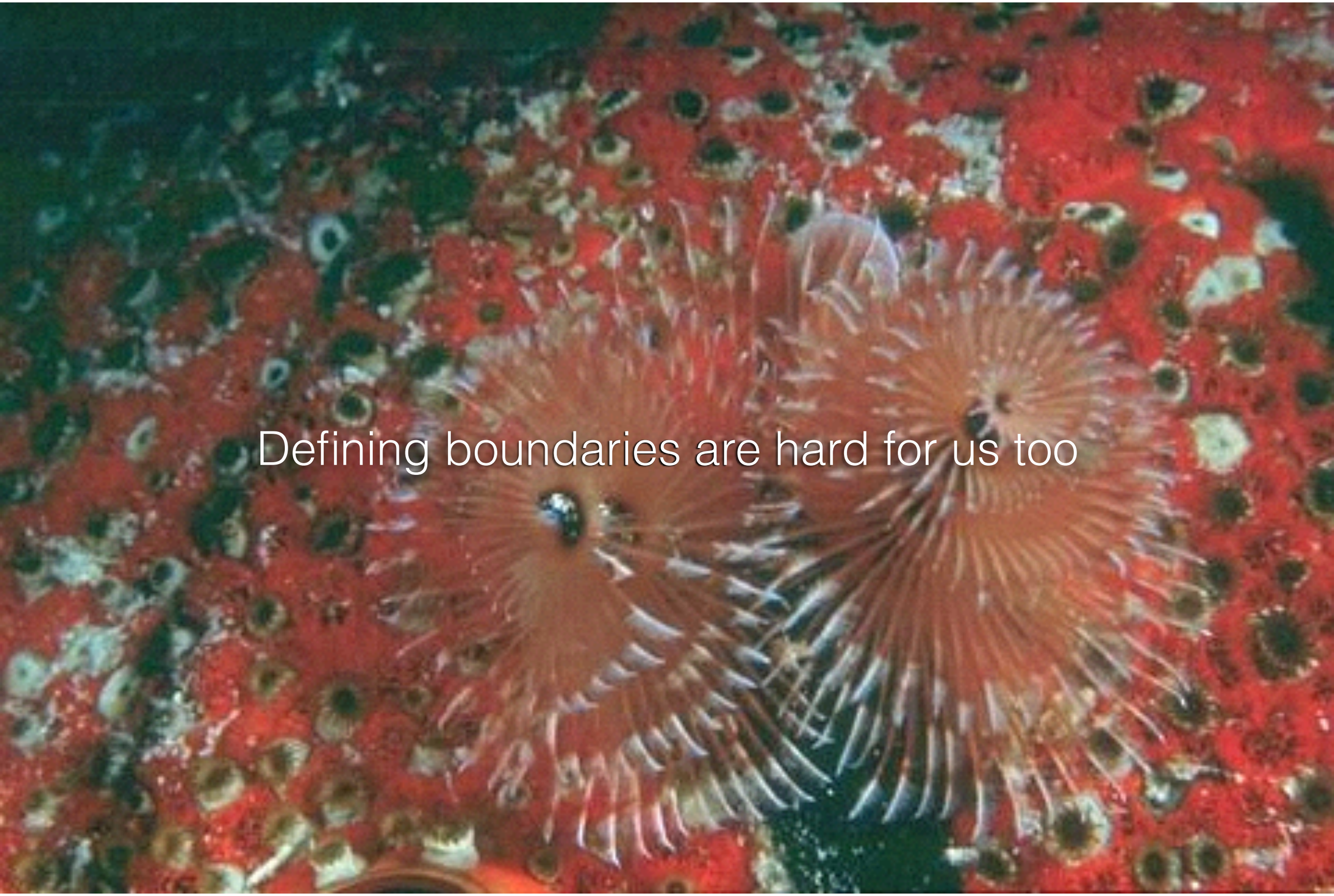

Edge strength does not necessarily
correspond to our perception of boundaries

Where are the object boundaries?



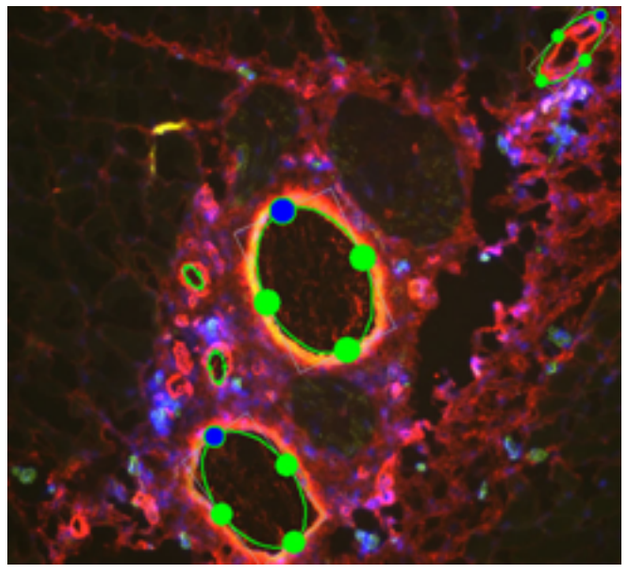
Human annotated boundaries

edge detection

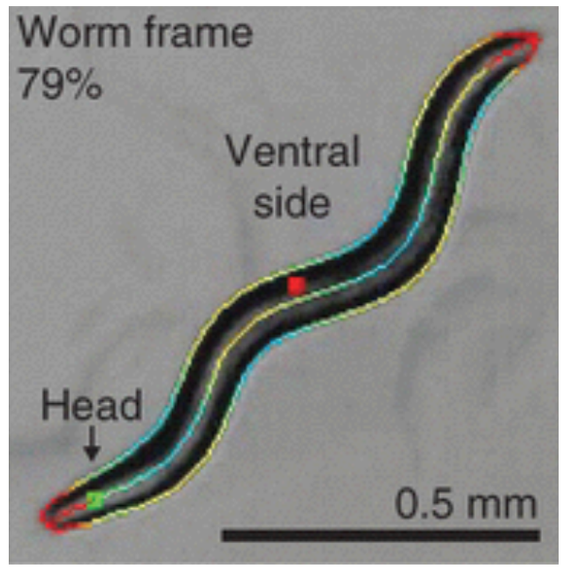

Defining boundaries are hard for us too

Applications

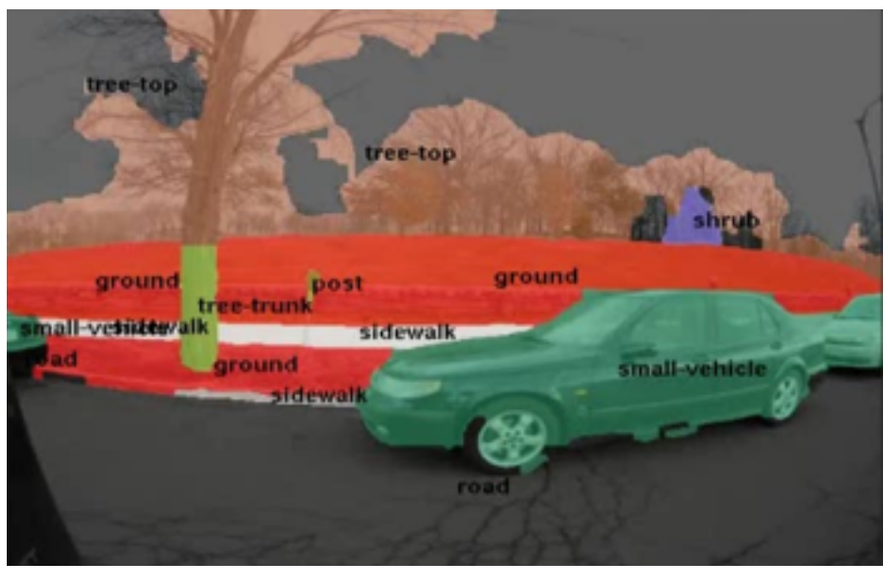
Autonomous Vehicles
(lane line detection)



tissue engineering
(blood vessel counting)



behavioral genetics
(earthworm contours)



Autonomous Vehicles
(semantic scene segmentation)

Computational Photography
(image inpainting)