

# Pinhole Camera Photography

Ancient & Modern

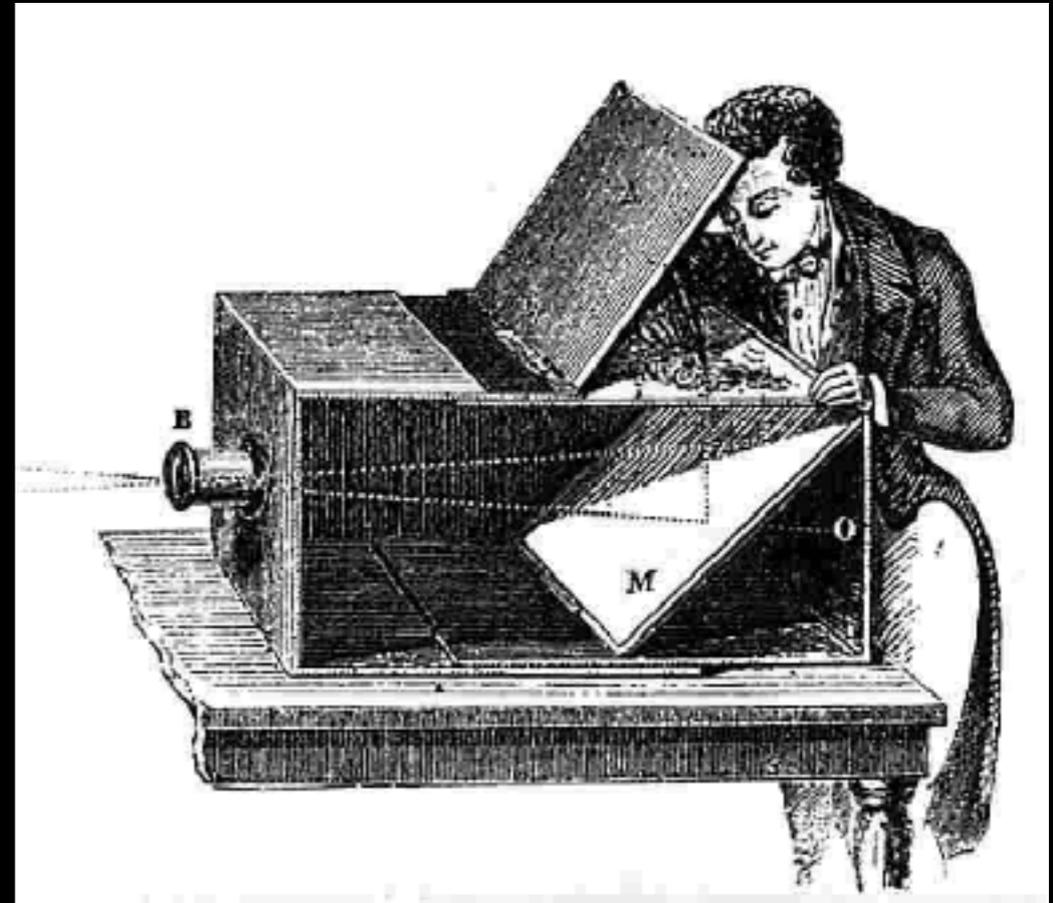
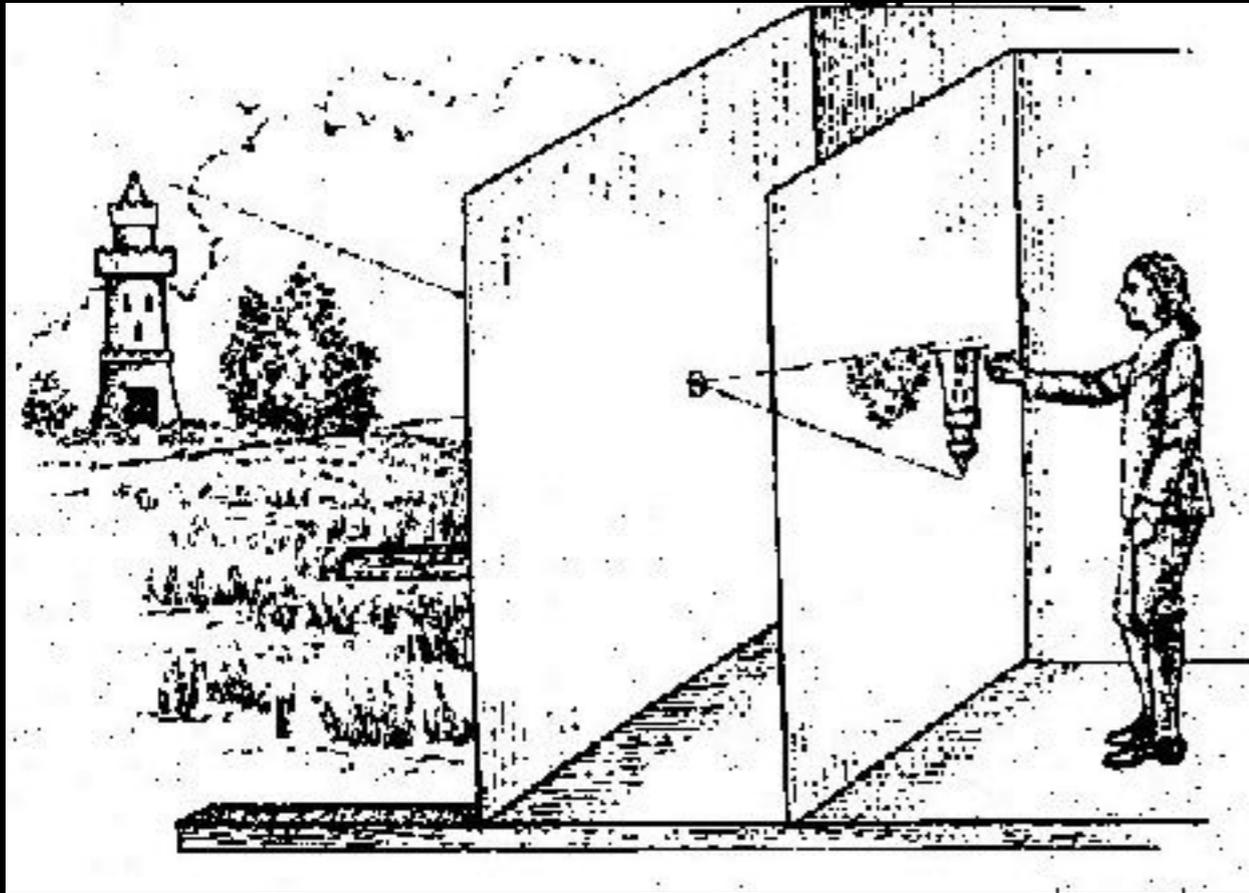
# History

Camera - means "(vaulted) chamber or room,"

Camera Obscura - literally means darkened "(vaulted) chamber or room," and has come to mean the room in which a projected image is produced.

A pinhole camera is a portable Camera Obscura.

# Artist's aid from 1450



# Pinhole Camera History

## Simplified timeline

Prehistory to 500 BC: Possible inspiration for prehistoric art

500 BC to 500 AD: Earliest written observations - China, Greece, Near East

500 to 1000: Earliest experiments, study of light

1000 to 1400: Optical and astronomical tool, entertainment

1450 to 1600: Depiction, lenses, drawing aid, mirrors - Leonardo, Dutch

1600 to 1650: Name coined, camera obscura telescopy, portable drawing aid in tents and boxes

1650 to 1800: Introduction of the magic lantern, popular portable box-type drawing aid, painting aid

# Camera Obscuras



# Camera Obscuras

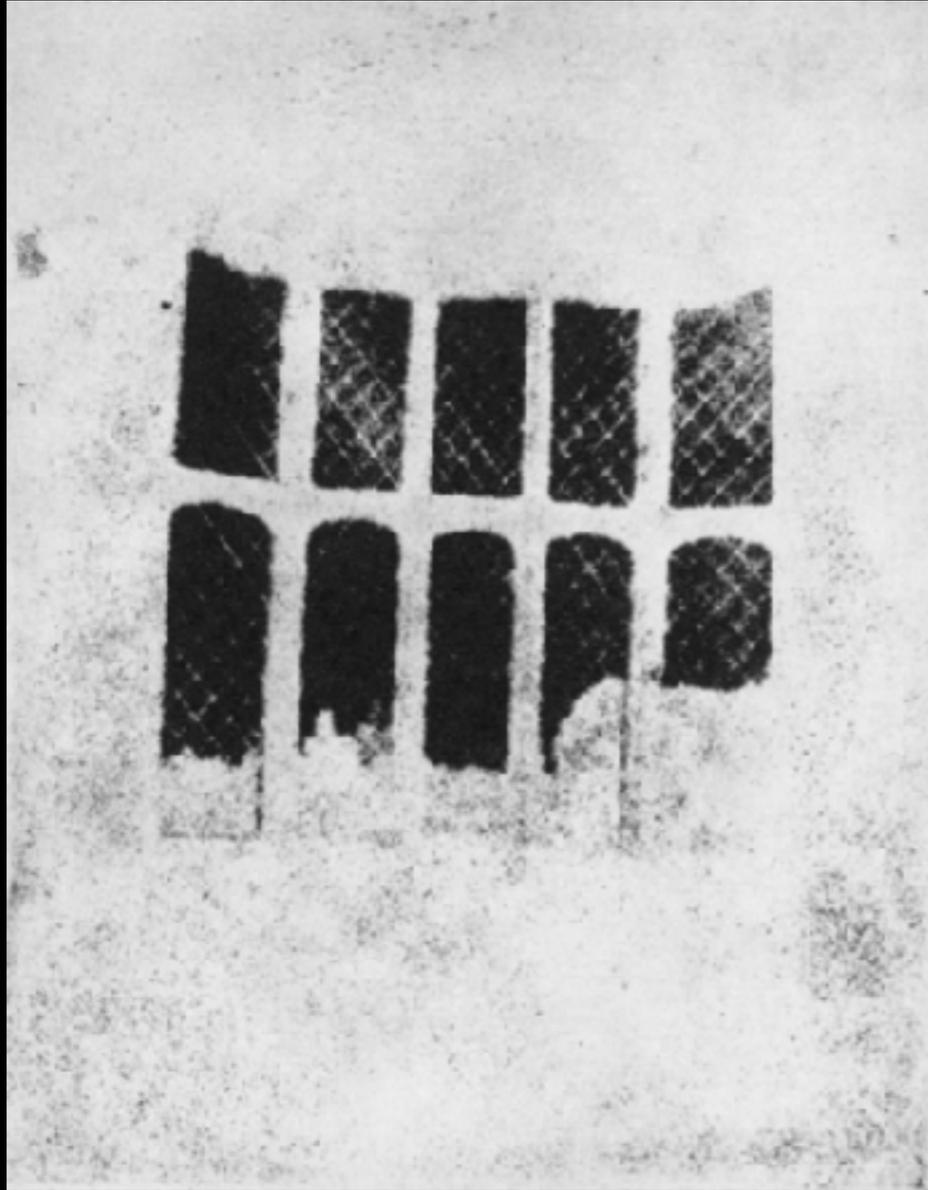


# Photographic History



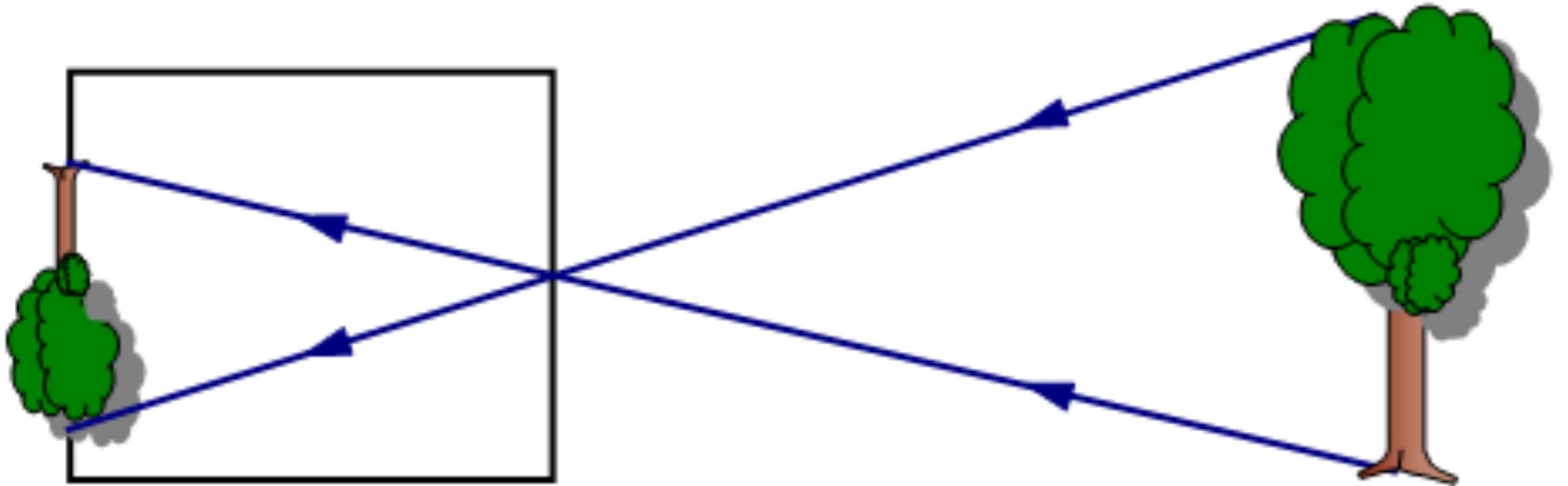
1826 French lithographer Joseph Niepce made the first permanent photograph. It was an exposure -several days long - of the view from his window. The image was formed out of hardened bitumen on a pewter photographic plate.

# Our History

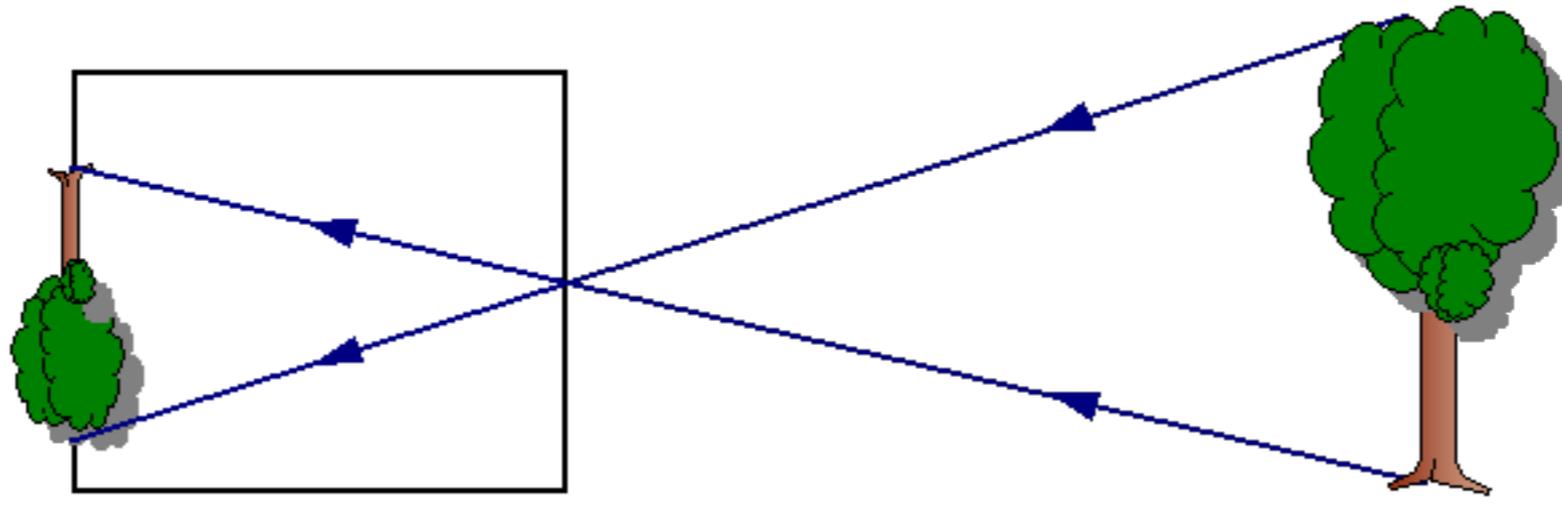


- 1835 – Henry Fox Talbot (Lacock) produces durable silver chloride camera negatives on paper and conceives the two-step negative-positive procedure used in most non-electronic photography up to the present.

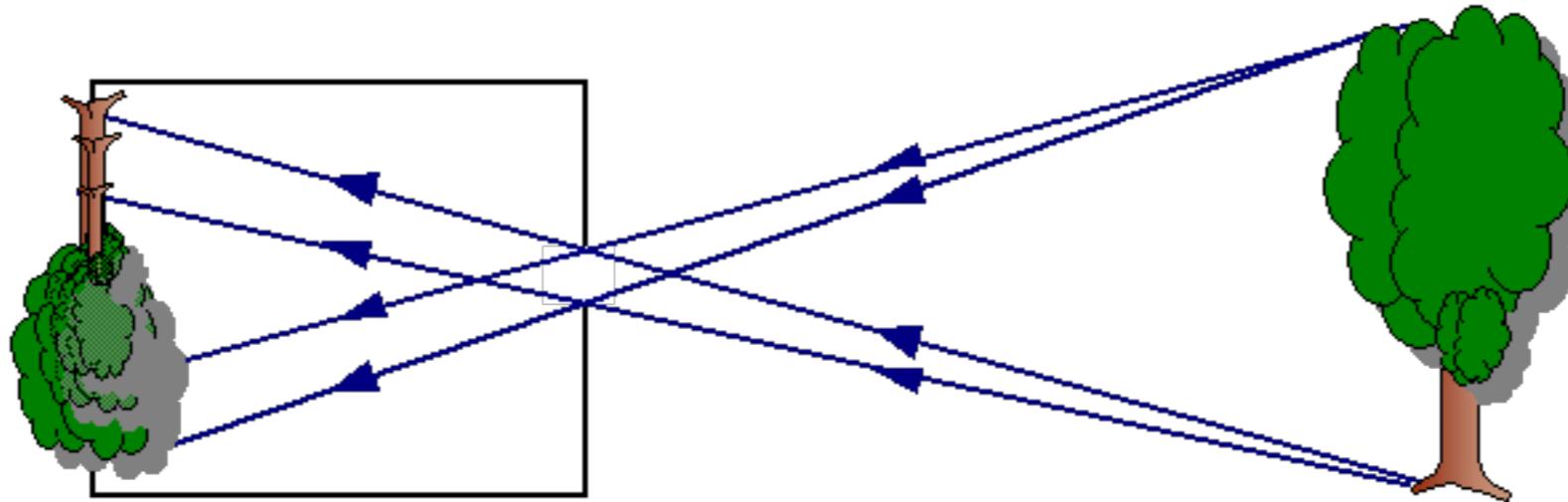
# How does a pinhole make an image?



Clear upside down (inverted) image with a small pinhole

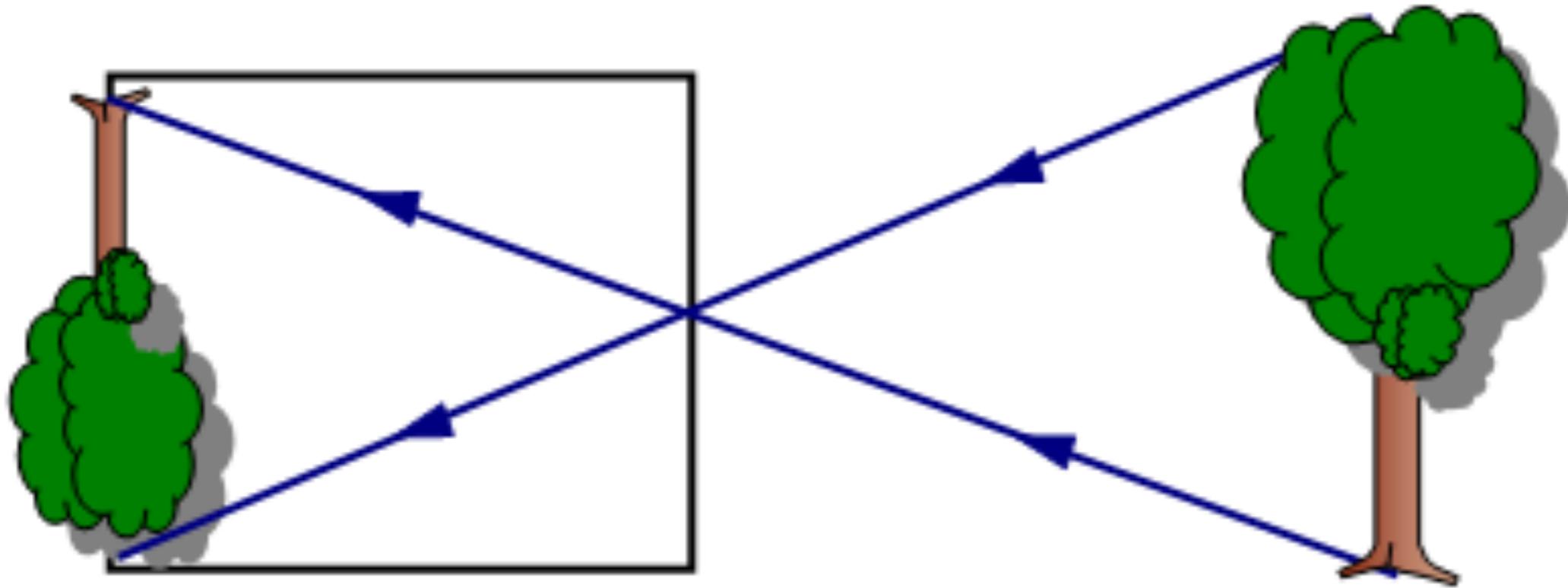


Clear upside down (inverted) image with a small pinhole



Fuzzy out of focus image with a large pinhole

# How does a pinhole make an image?



Camera closer to the object – a larger image

# Why a pinhole camera?

- infinite depth of field
- ethereal look (soft edges)
- no lens distortions
- film plane distortions can be used creatively

# Limitations

- Sharper image needs a smaller pinhole
- Smaller pinhole means dimmer image - longer exposure times
- The diameter of the pinhole produces soft edges

# Making a simple camera

- Light tight box
- Pinhole “lens”
- Light sensitive surface
- Shutter

# Making a simple camera

- The F stop for the camera is the diameter of the hole divided by the depth of the camera box

## Pinhole for coffee cans 75 mm

### Pinhole Size Calculator

MrPinhole.com

<b>Focal Length</b>	75 mm
<b>Diameter</b>	0.365 mm
<b>f stop</b>	205
<b>Image Circle</b>	144 mm









TONIC  
WATER  
LIGHT

Light tonic water Contains 0 kcal

100% Recycled  
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Travis Perkins





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Horizon  
100g (3.5oz)  
Best point





**Whole Bean Coffee**  
Freshly roasted blend of Arabica and Robusta  
medium roast coffee.

**Ingredients**  
Robusta coffee (20%), Arabica coffee.

**How to prepare**  
Brew in a press, pour over, or use in a coffee machine.

**Storage**  
Store in a cool dry place.

**METAL - CAN widely recycled**  
**LD - PLASTIC check local recycling**

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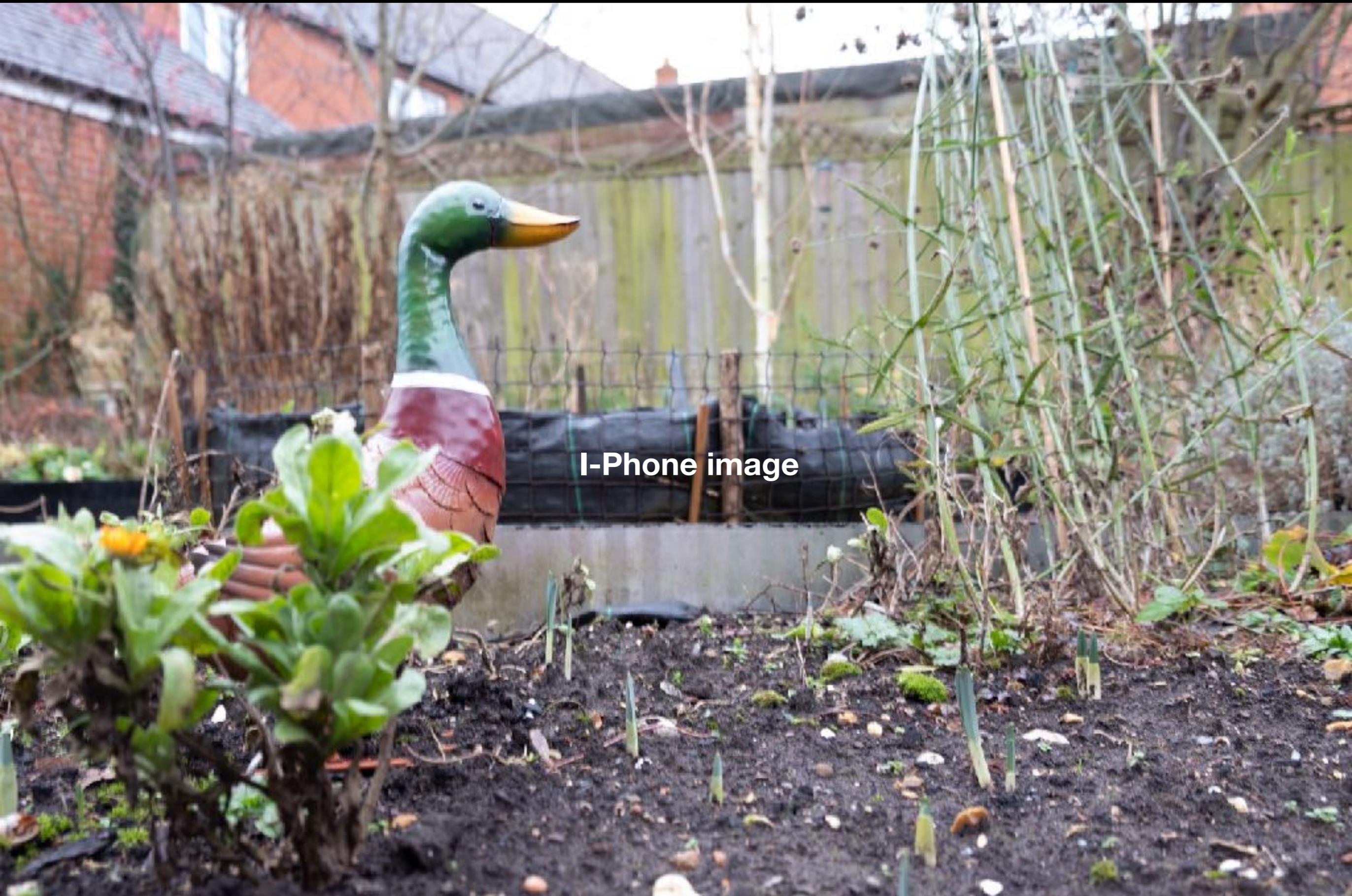
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1000



Screenshot





I-Phone image



**Pinhole camera-derived image**



# Pinhole telephoto image





**Digital SLR - Body cap  
adapted for a pinhole**

1mm hole : Focal Length=60mm : f-Stop=184  
ISO 1250, Exposure 5s  
Fuji X-T20 digital camera







*Pinhole Fern - Limited Edition 1 of 1*

Shelton Walsmith

United States

Photography

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