



# Making Color

Blacks and Browns

# Charcoal and ochres in cave paintings

Chauvet cave, France  
Paleolithic, 33,000-30,000  
years ago





Lascaux cave, France  
ca. 15,000 BCE





Altamira, Spain  
Ca. 15,000-12,000 BCE

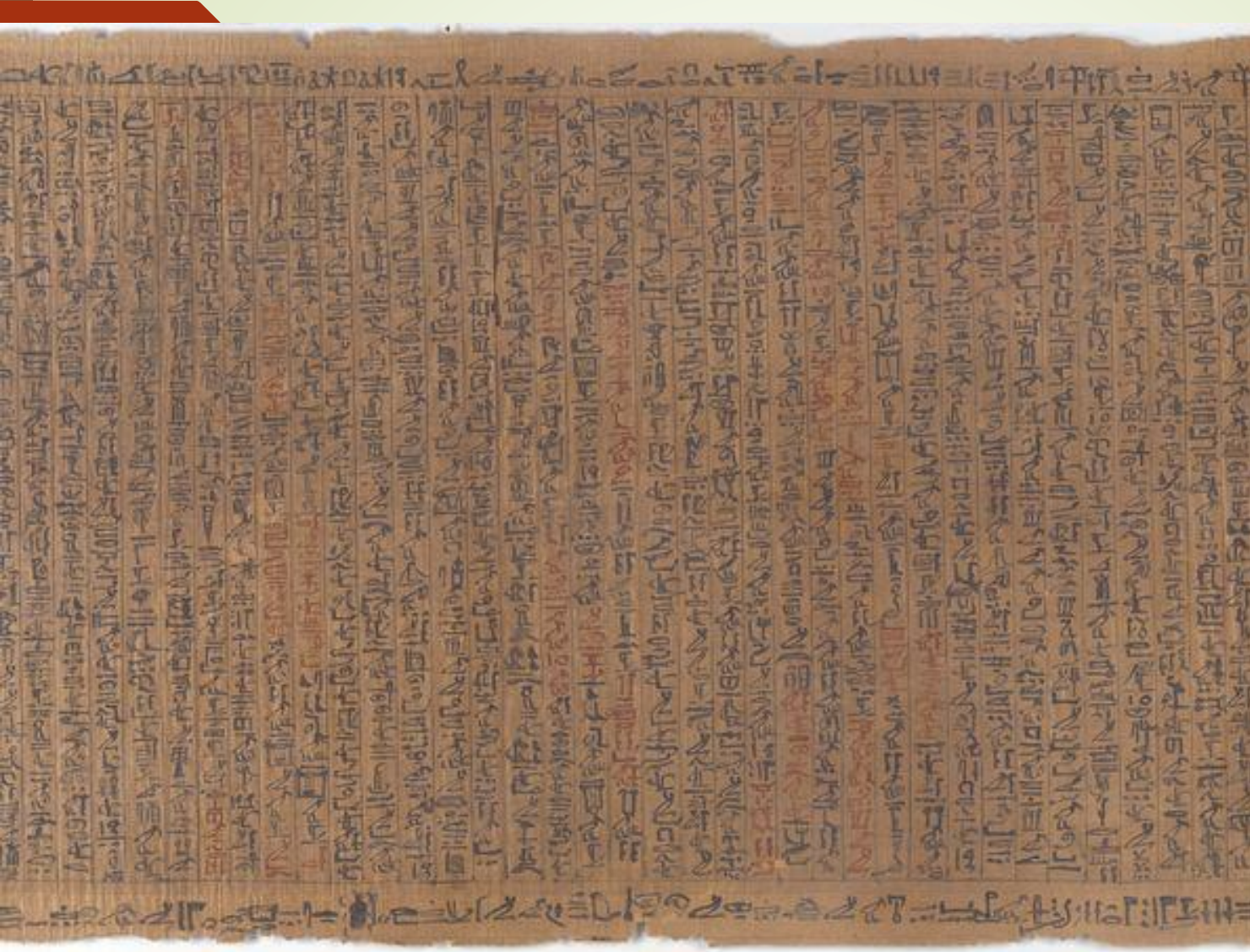




# Carbon inks

- Burn carbon based material with insufficient air supply to purify soot of oils and fats
- Chemically stable, doesn't damage support, light-fast, appears saturated and black
- Easily rubbed or smudged, doesn't penetrate support
- Chinese pine oil based ink collected with feathers
  - Sold in Europe from 17<sup>th</sup> c. via India (thus called Indian ink)




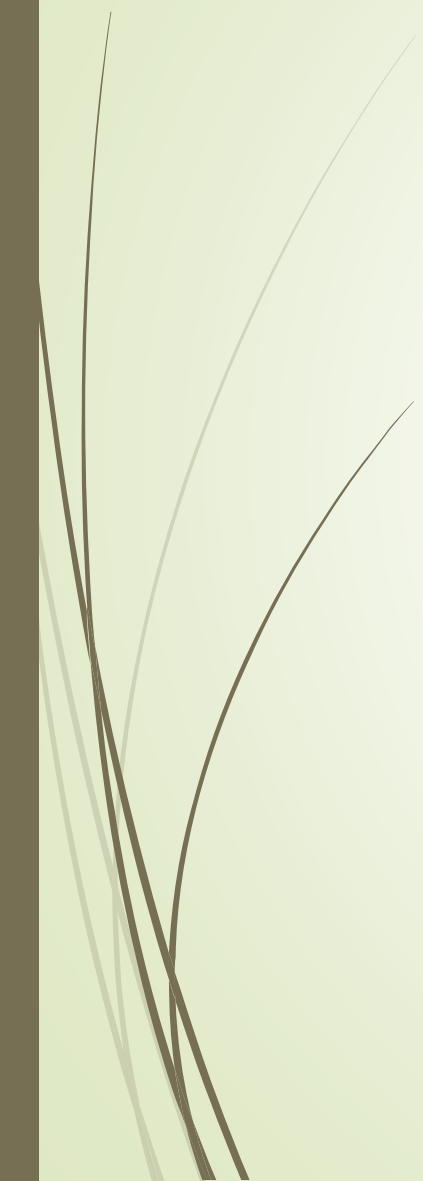


Fragment from  
the **Book of the  
Dead of the  
Goldworker  
Amun,  
Sobekmose.**

New Kingdom,  
Dynasty 18, ca.  
1479-1400 B.C.E.  
Brooklyn  
Museum,  
37.1777E.

# Carbon black recipe



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- Dissolve gum arabic powder in distilled water to form thick syrup; mix with lampblack in mortar, adding pigment until forming paste, mixing until all granules dissolved (can take 30 hours); blend with distilled water to form thick liquid (blend every hour for a week).





# Iron gall inks

- Also called copperas, vitriol, metallic gallic ink
- Ferrous Sulfate
- Corrosive and eats into support, darkens with oxidization
- Chop up oak gall nuts and cook then filter. Add  $\text{FeSo}_4$ .

stande flack behind Quint by  
for out of her house now  
in her  
in her

For Battle most best Labour  
in her stead only shall from her Lady Quint  
in her stande flack behind her now

**Wm. Ward**

for Densham's place.

He middle flack the fourth for the  
in first middle flack from the

For Beal's house  
first stead only shall for her Quint  
in her first flack behind her now

**Richard Ward**

He flack shall for her Lady Quint