

Color in art

CS 48N, Winter 2011



Marc Levoy
Computer Science Department
Stanford University

Leonardo,
Mona Lisa (1502)





Giovanni Bellini
San Giobbe Alterpiece
(1490)



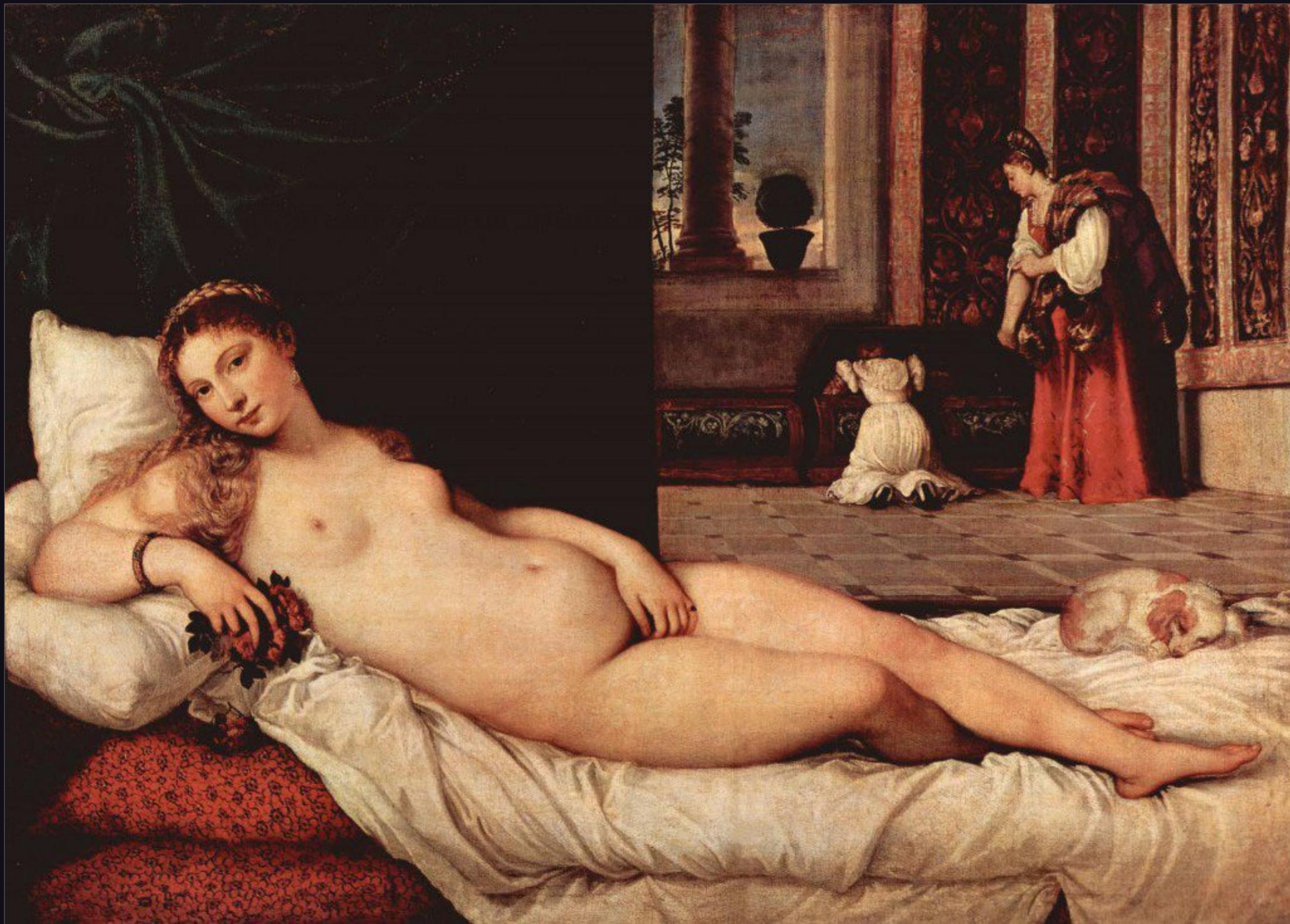
Giovanni Bellini
San Giobbe Altarpiece
(1490)



Giovanni Bellini
San Zaccaria Altarpiece
(1505)

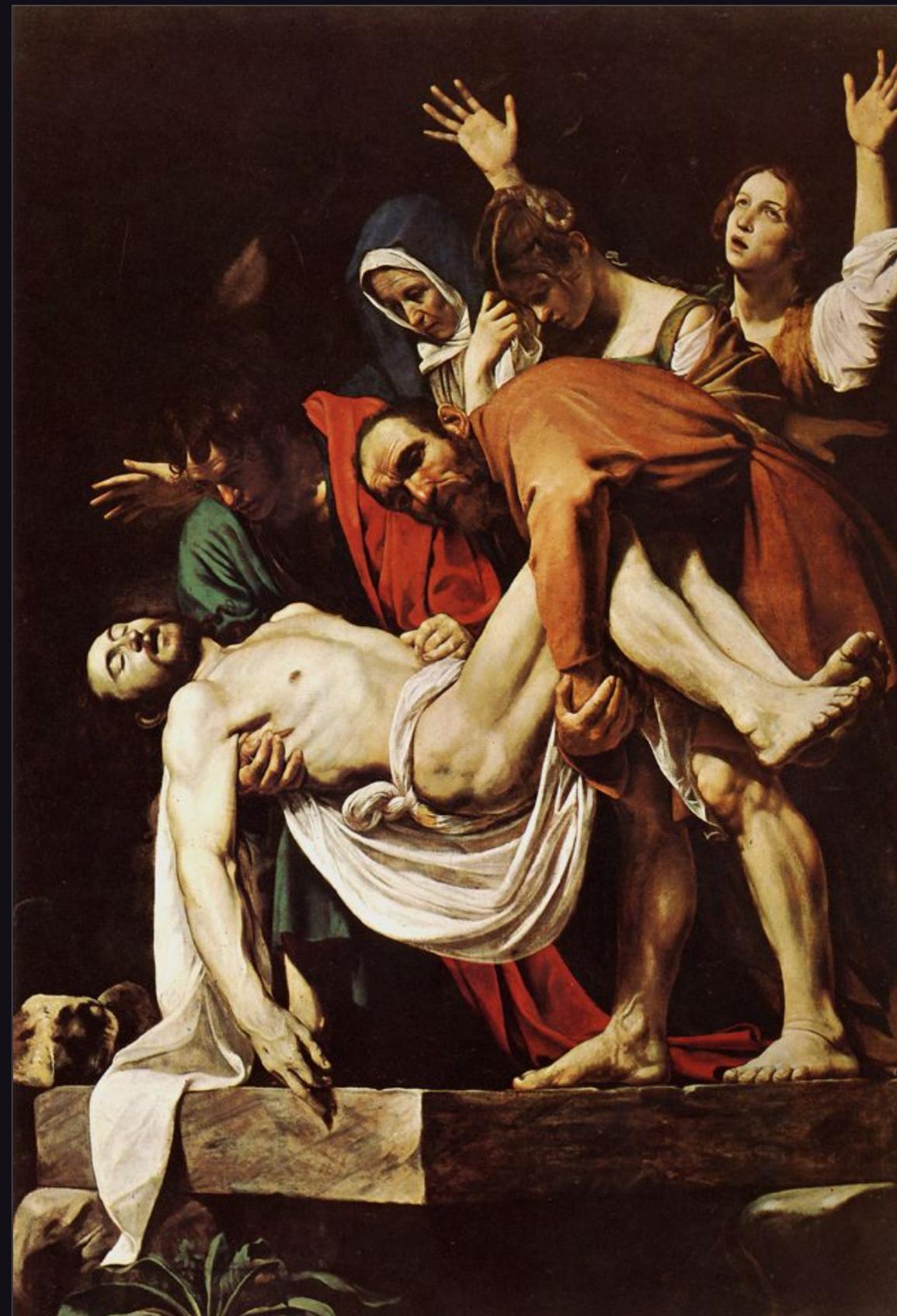
Titian
Madonna of the Pesaro
(1526)





Titian, Venus of Urbino (1538)

Caravaggio
The Burial of Christ
(1604)





Rubens, The Judgement of Paris (1657)

Velazquez
Las Meninas
(1656)





Vermeer, The Kitchen Maid (1660)





Fransois-Joseph Heim, The Exhibition of 1824

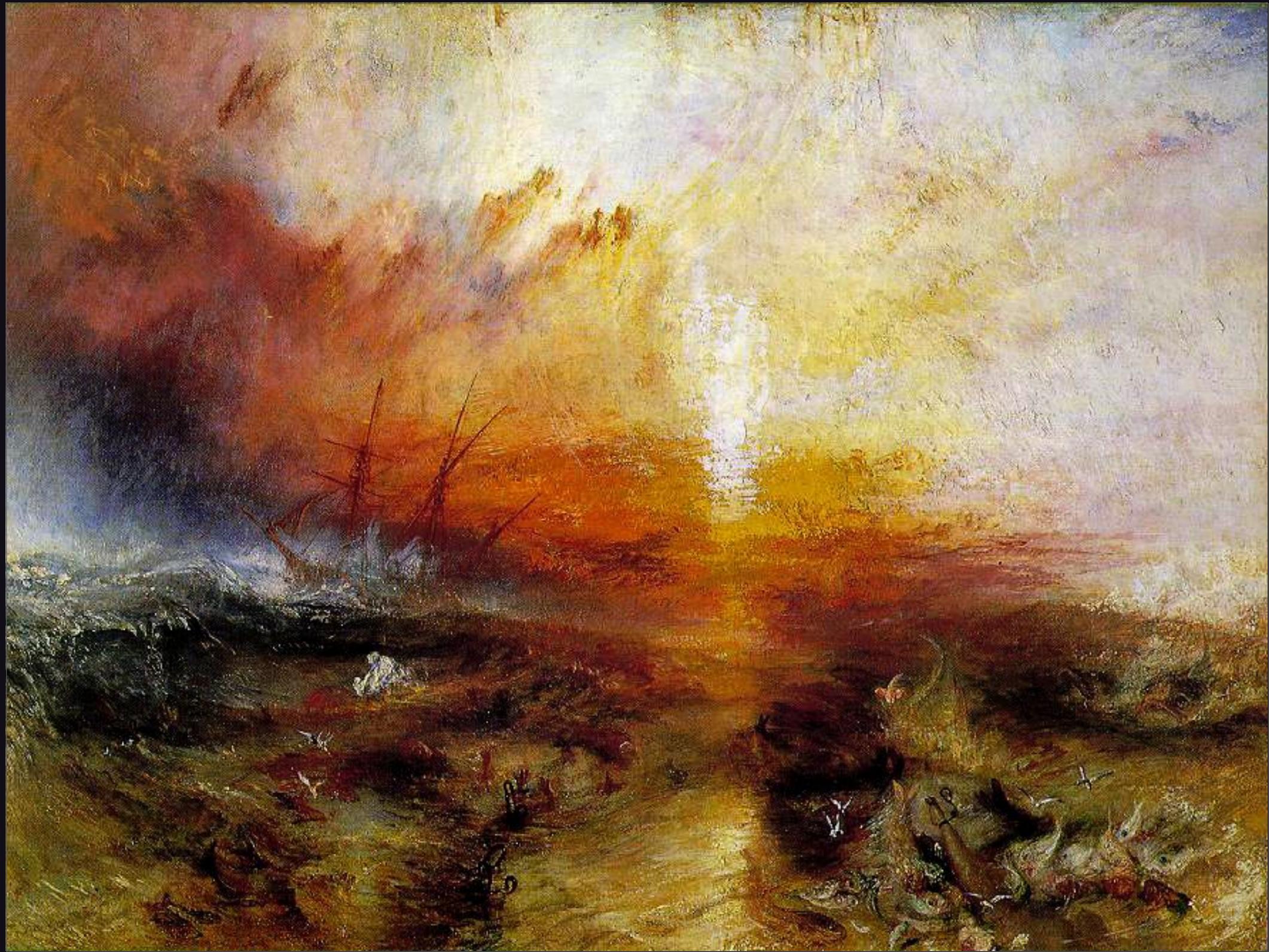




Courbet, Bonjour Monsieur Courbet! (1854)



Delacroix, Liberty Leading the People (1830)



Turner, The Slave Ship (1840)



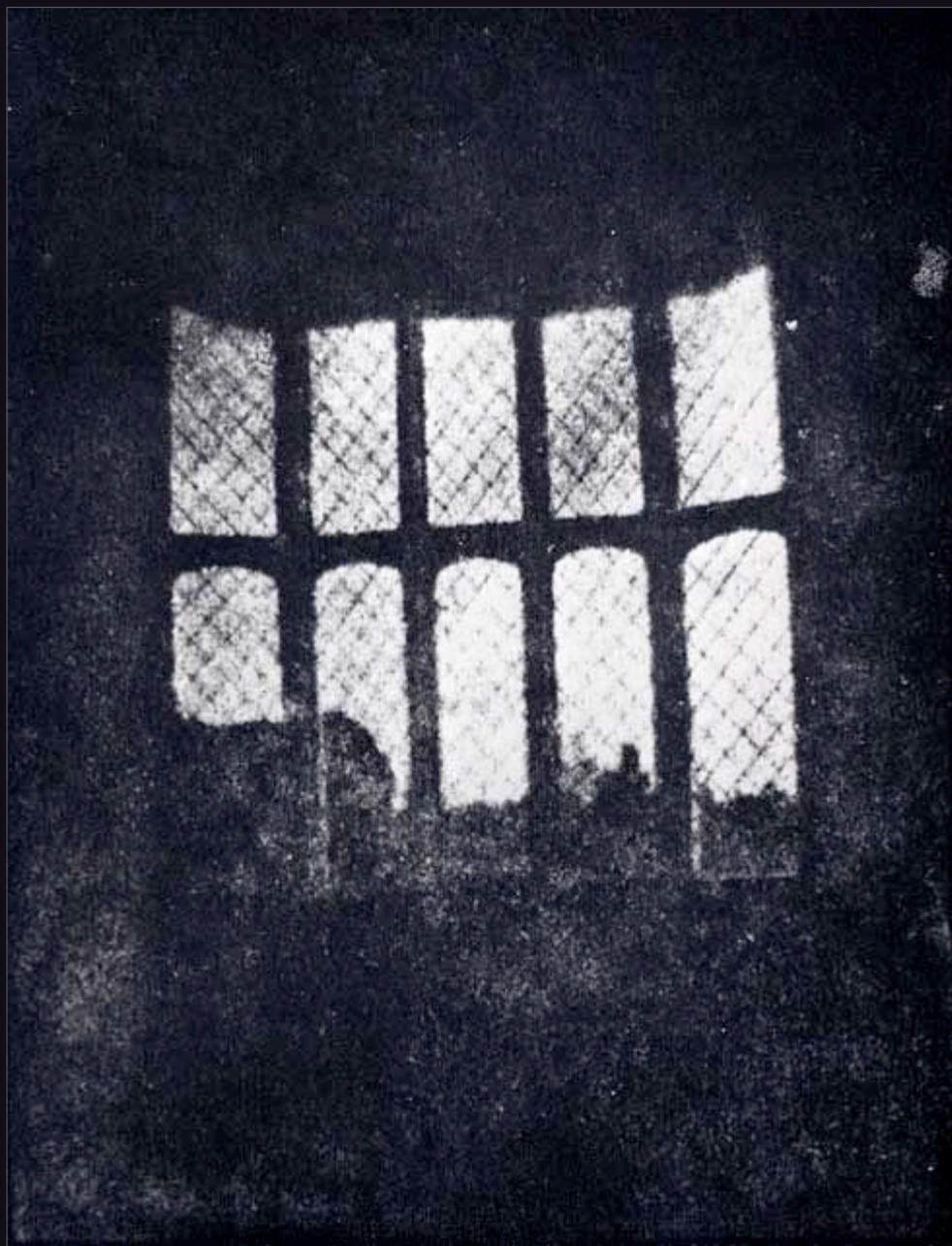
Nicephore Niepce (1827)



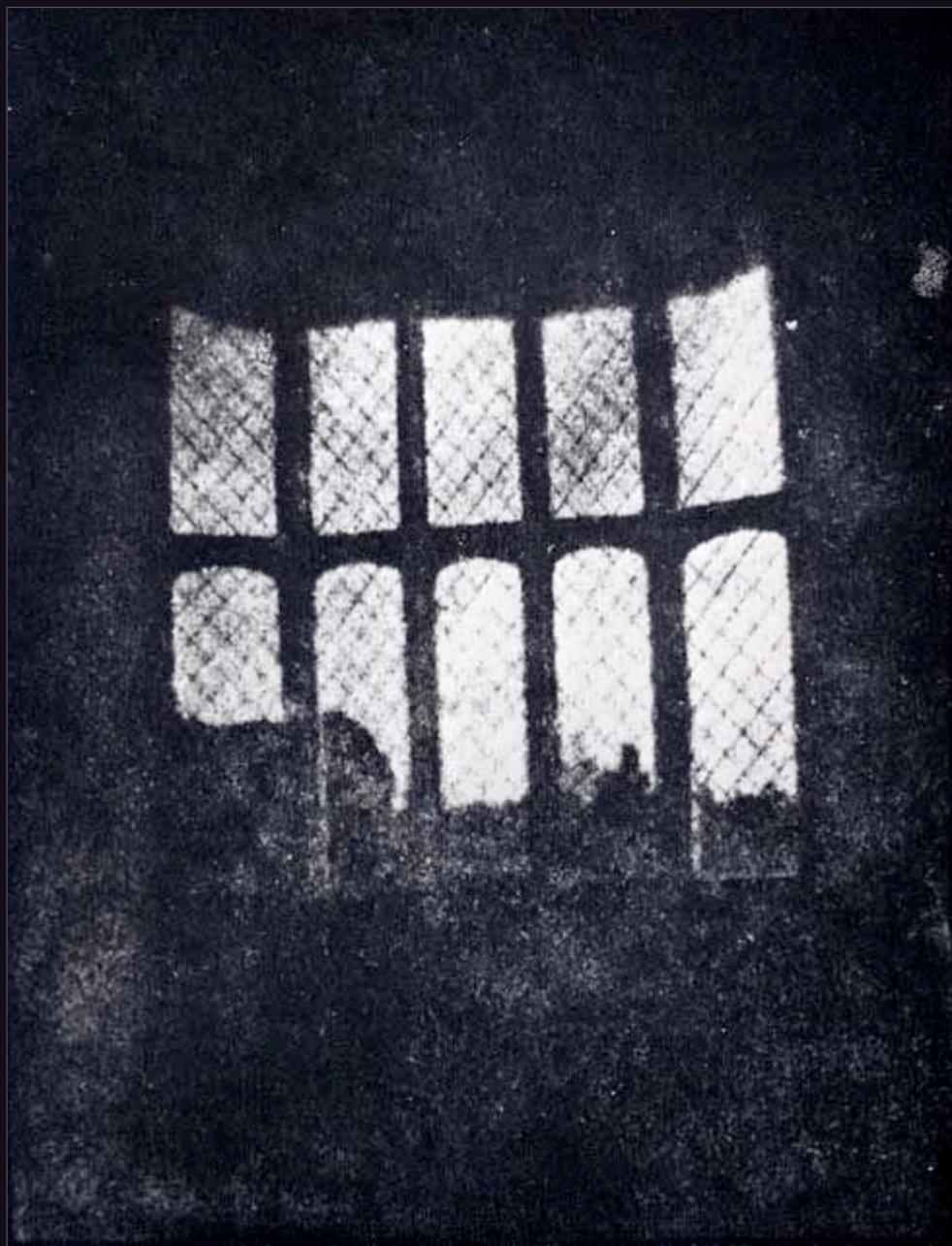
Louis-Jacques-Mande Daguerre (1837)



Louis-Jacques-Mande Daguerre (1837)



William Talbot (1835)

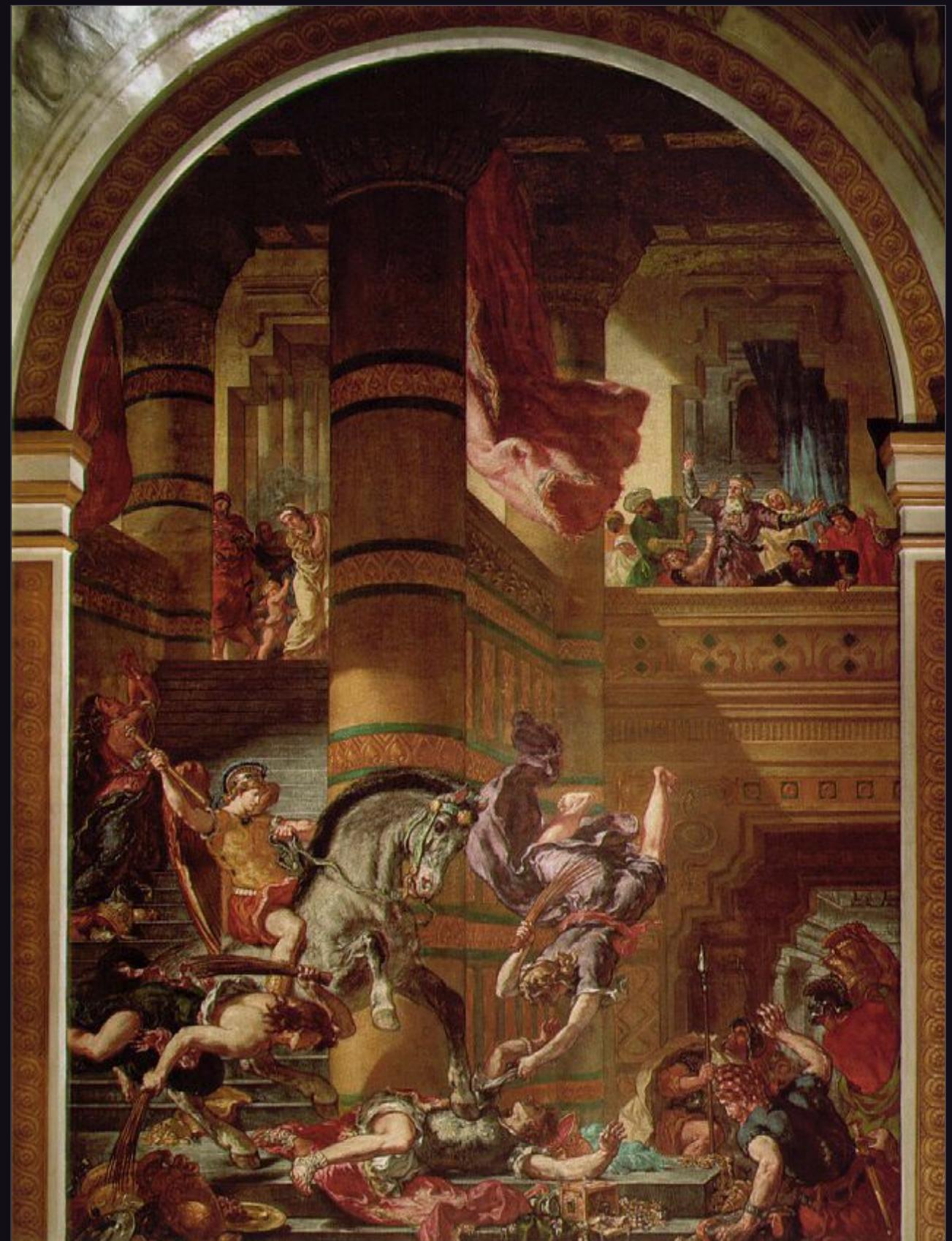


William Talbot (1835)

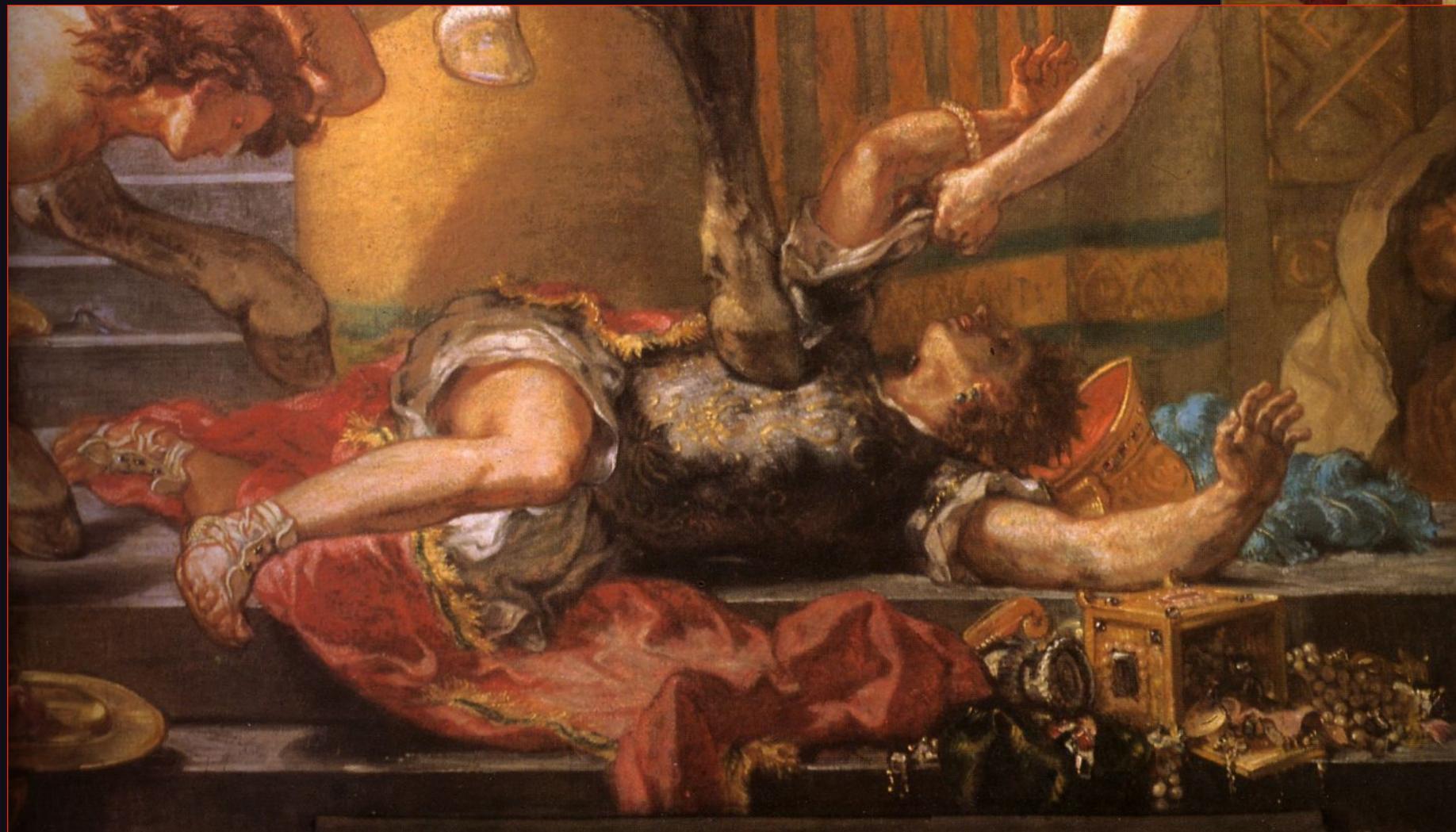


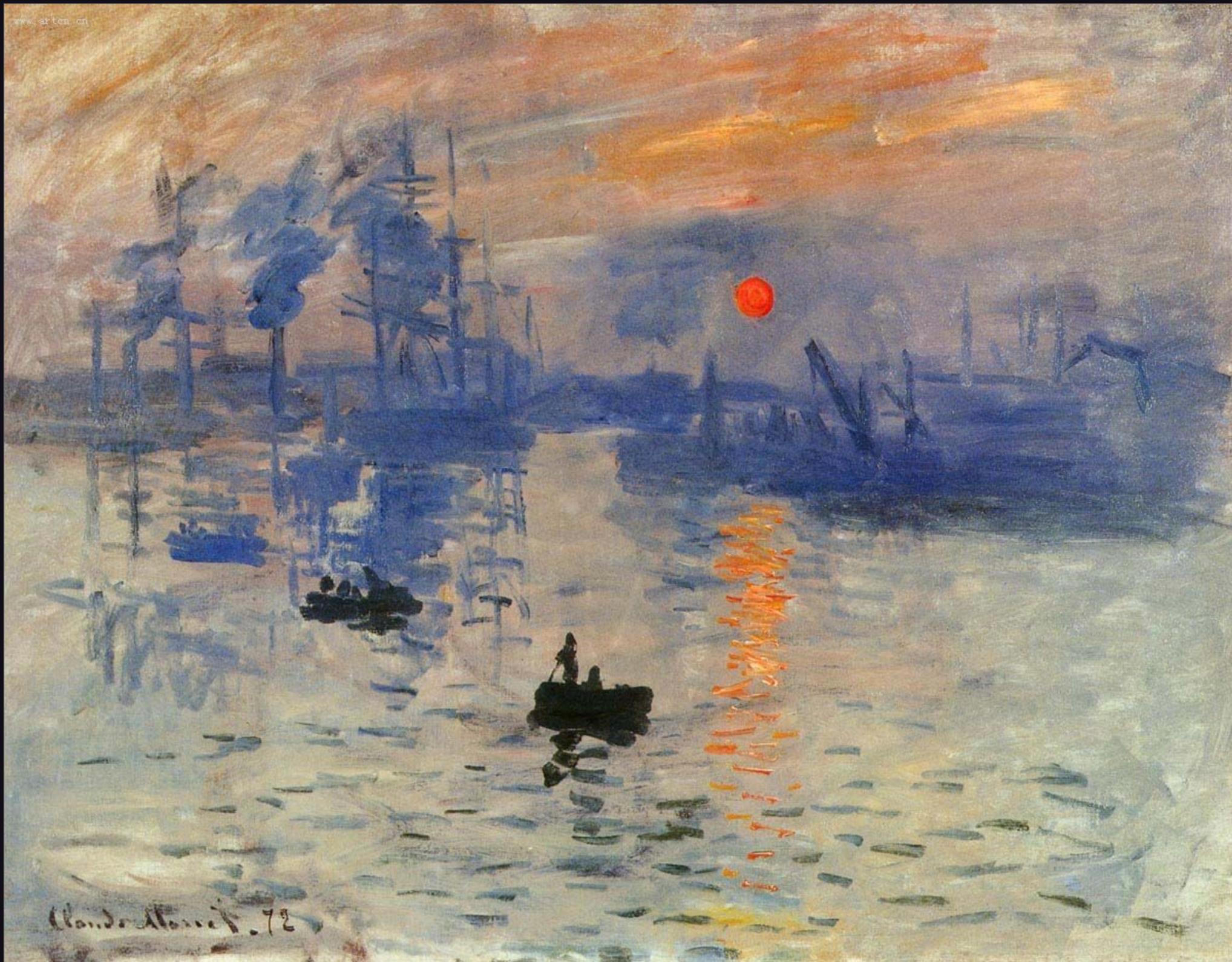
The Open Door (1843)

Delacroix
Expulsion of Heliodorus
(1861)

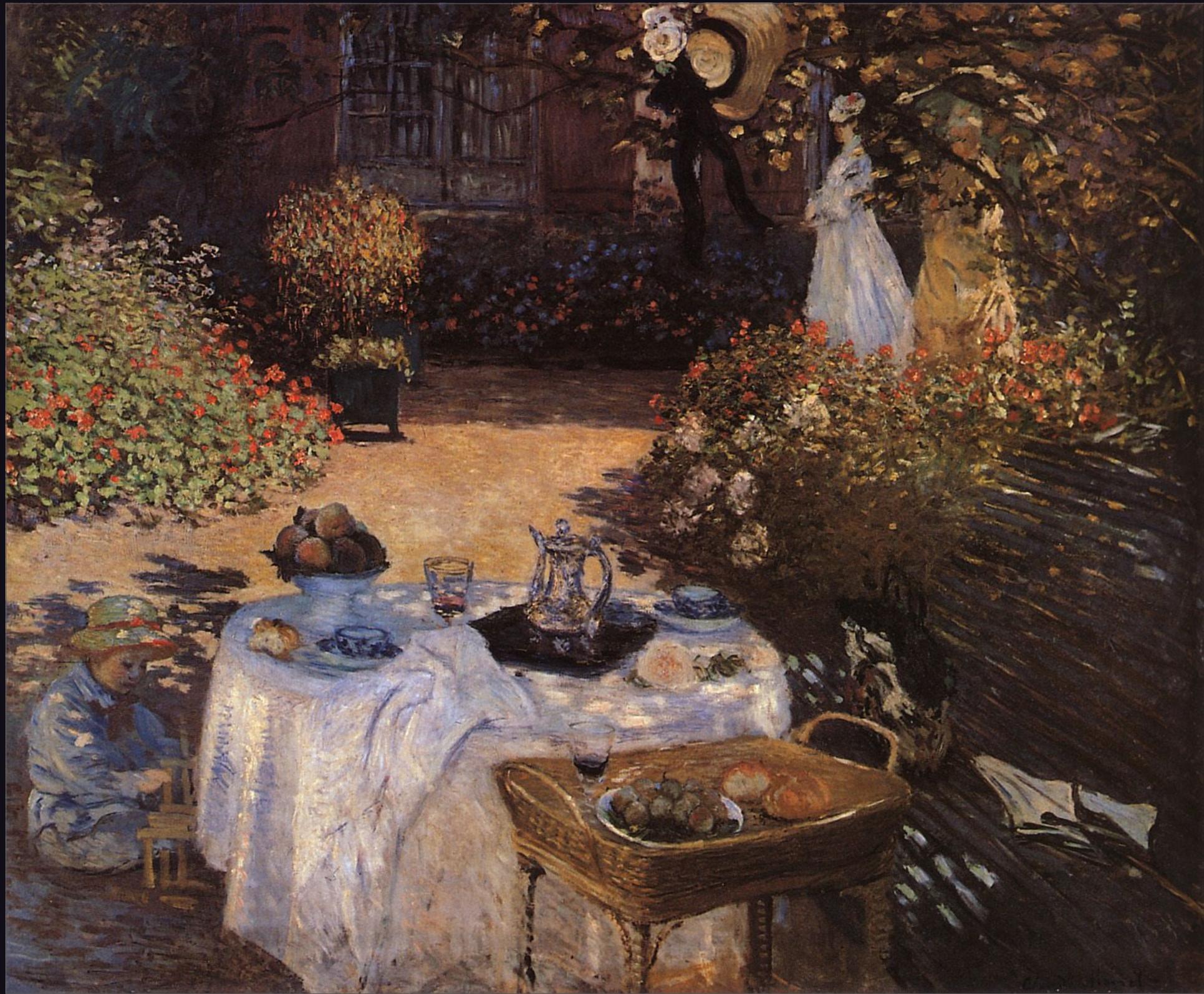


Delacroix
Expulsion of Heliodorus
(1861)





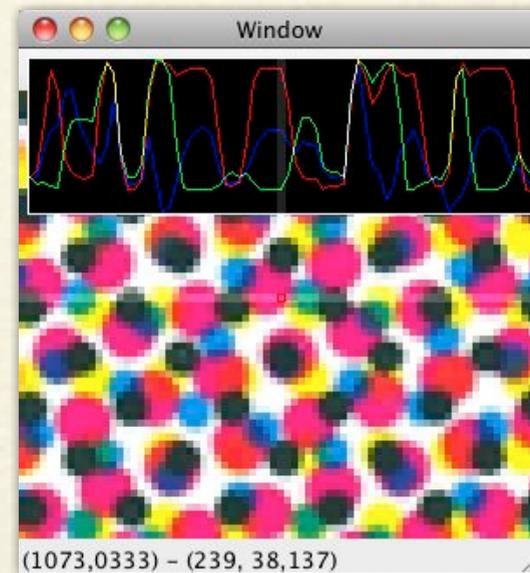
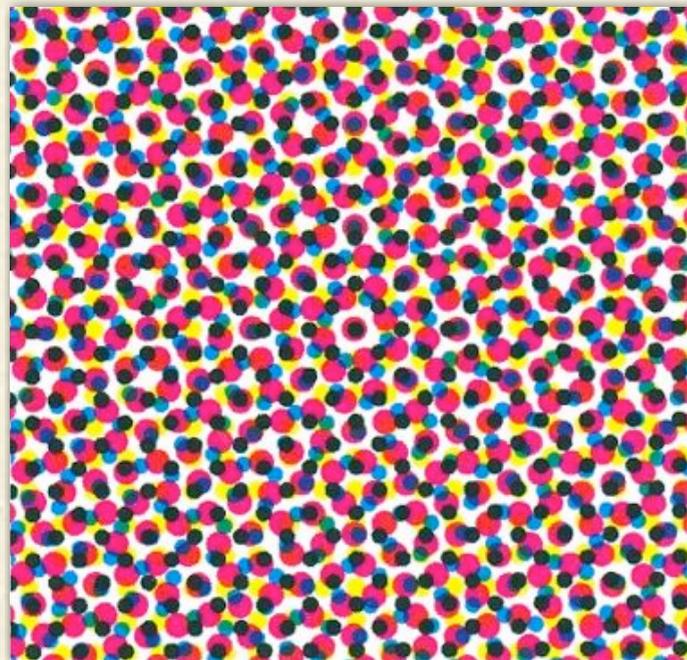
Monet, Impression, Sunrise (1873)



Monet, Luncheon (1874)

Color printing

- ❖ patches of the 3 subtractive primaries (C,M,Y) overlap partially on the page, making patches of 8 meta-primaries (Wh,C,M,Y,CM,CY,MY,CMY), which combine additively in the eye when viewed from a distance
- * these effects are modeled by the *Neugebauer equations*





Monet, Bridge at Argenteuil (1874)



Monet, Bridge at Argenteuil (1874), two versions

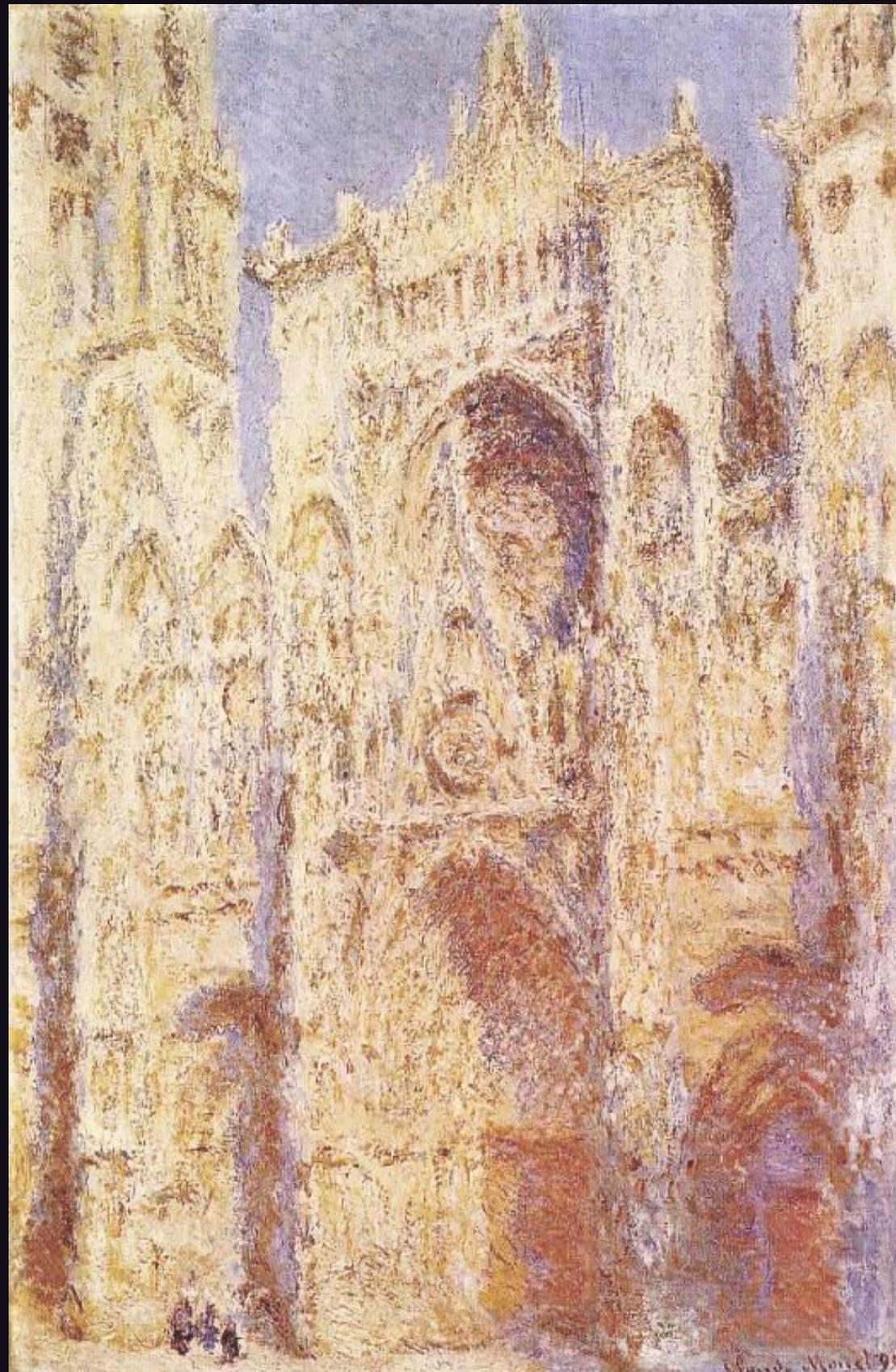


Monet, Bridge at Argenteuil (1874) [Chuang SIGGRAPH 2005]



Animating pictures [Chuang SIGGRAPH 2005]

Monet
Rouen Cathedral
(1894)





Georges Seurat, La Grande Jatte (1884)

calvin and Hobbes

BY WATKINSON

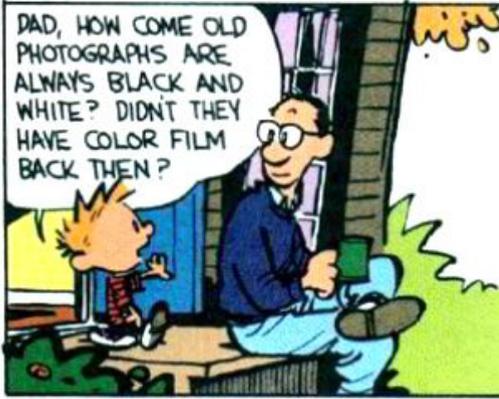
NOW, HONEY, YOU'RE MISSING A BEAUTIFUL SUNSET OUT HERE!



I'LL COUNT TO 10, AND THEN...
POW!



DAD, HOW COME OLD PHOTOGRAPHS ARE ALWAYS BLACK AND WHITE? DIDN'T THEY HAVE COLOR FILM BACK THEN?



SURE THEY DID. IN FACT, THOSE OLD PHOTOGRAPHS ARE IN COLOR. IT'S JUST THE **WORLD** WAS BLACK AND WHITE THEN.



REALLY?

YEP. THE WORLD DIDN'T TURN COLOR UNTIL SOMETIME IN THE 1930s, AND IT WAS PRETTY GRAINY COLOR FOR A WHILE, TOO.



THAT'S REALLY WEIRD.

WELL, TRUTH IS STRANGER THAN FICTION.



BUT THEN WHY ARE OLD **PAINTINGS** IN COLOR? IF THE WORLD WAS BLACK AND WHITE, WOULDN'T ARTISTS HAVE PAINTED IT THAT WAY?

NOT NECESSARILY. A LOT OF GREAT ARTISTS WERE INSANE.



BUT... BUT HOW COULD THEY HAVE PAINTED IN COLOR ANYWAY? WOULDN'T THEIR PAINTS HAVE BEEN SHADES OF GRAY BACK THEN?

OF COURSE, BUT THEY TURNED COLORS LIKE EVERYTHING ELSE DID IN THE '30s.



SO WHY DIDN'T OLD BLACK AND WHITE PHOTOS TURN COLOR TOO?

BECAUSE THEY WERE COLOR PICTURES OF BLACK AND WHITE, REMEMBER?



THE WORLD IS A COMPLICATED PLACE, HOBBS.

WHenever it seems that way, I take a nap in a tree and wait for dinner.

