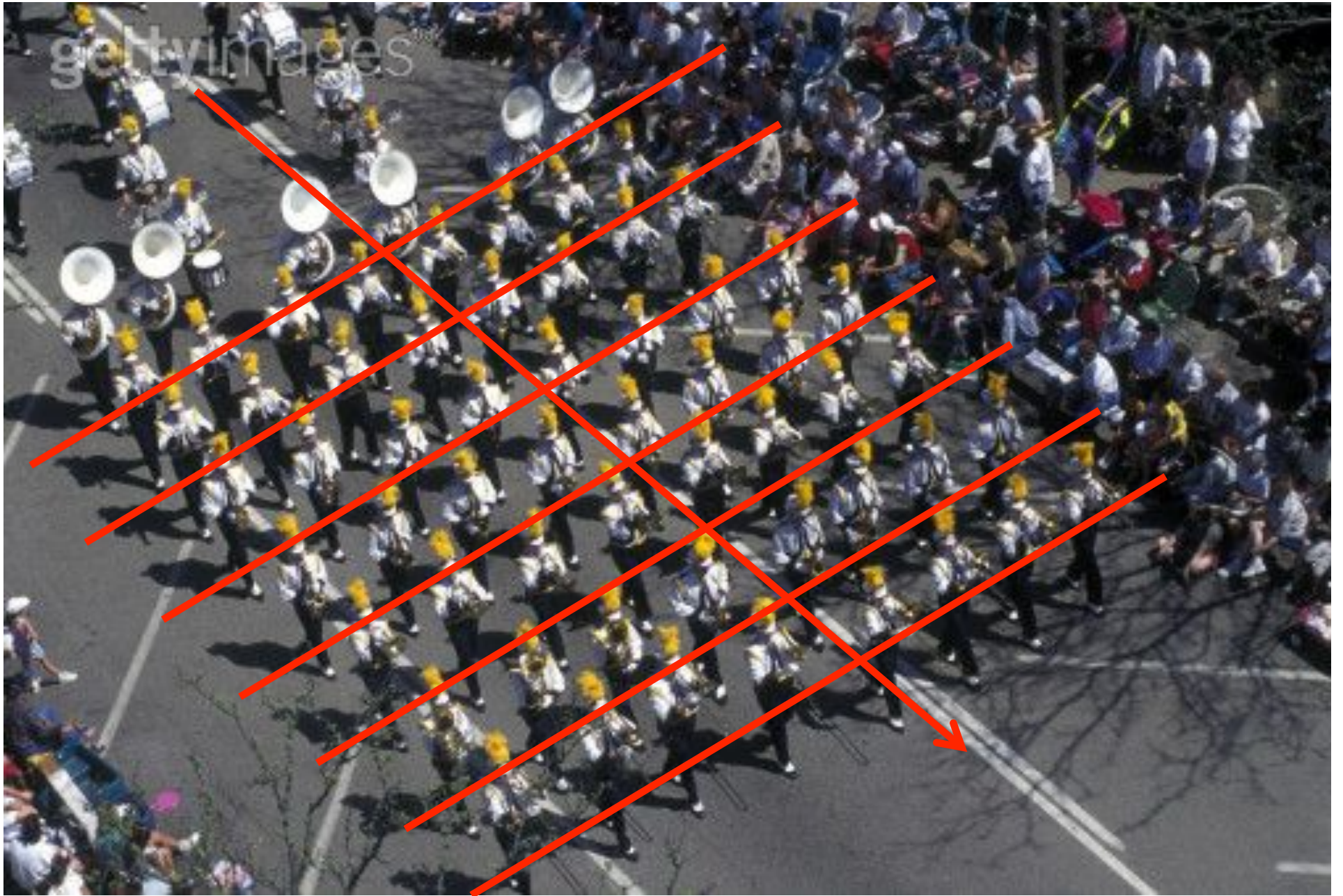


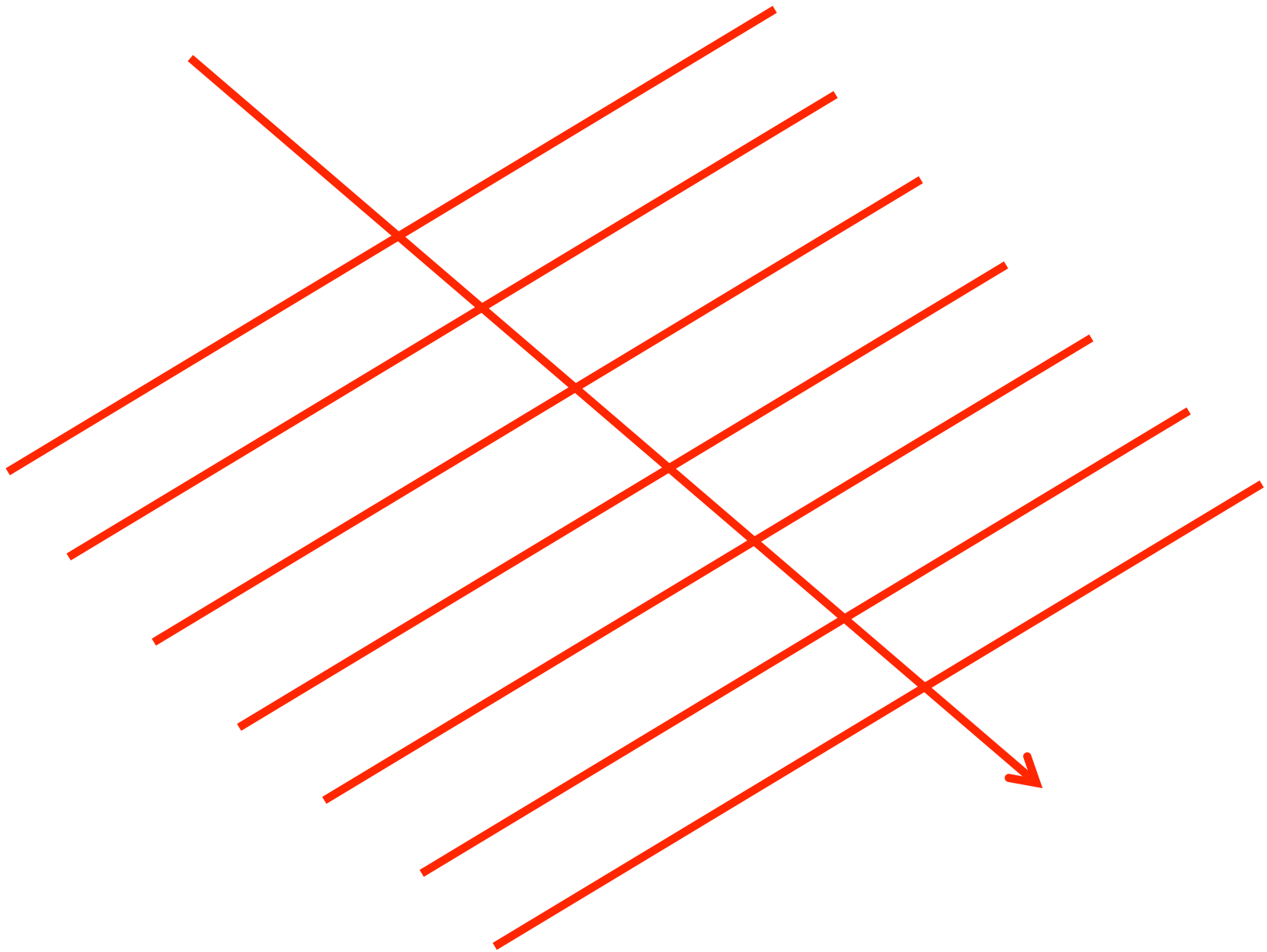
# Imagine...

A beam of light was made up of people walking in formation.....like a marching band!!









# Imagine...

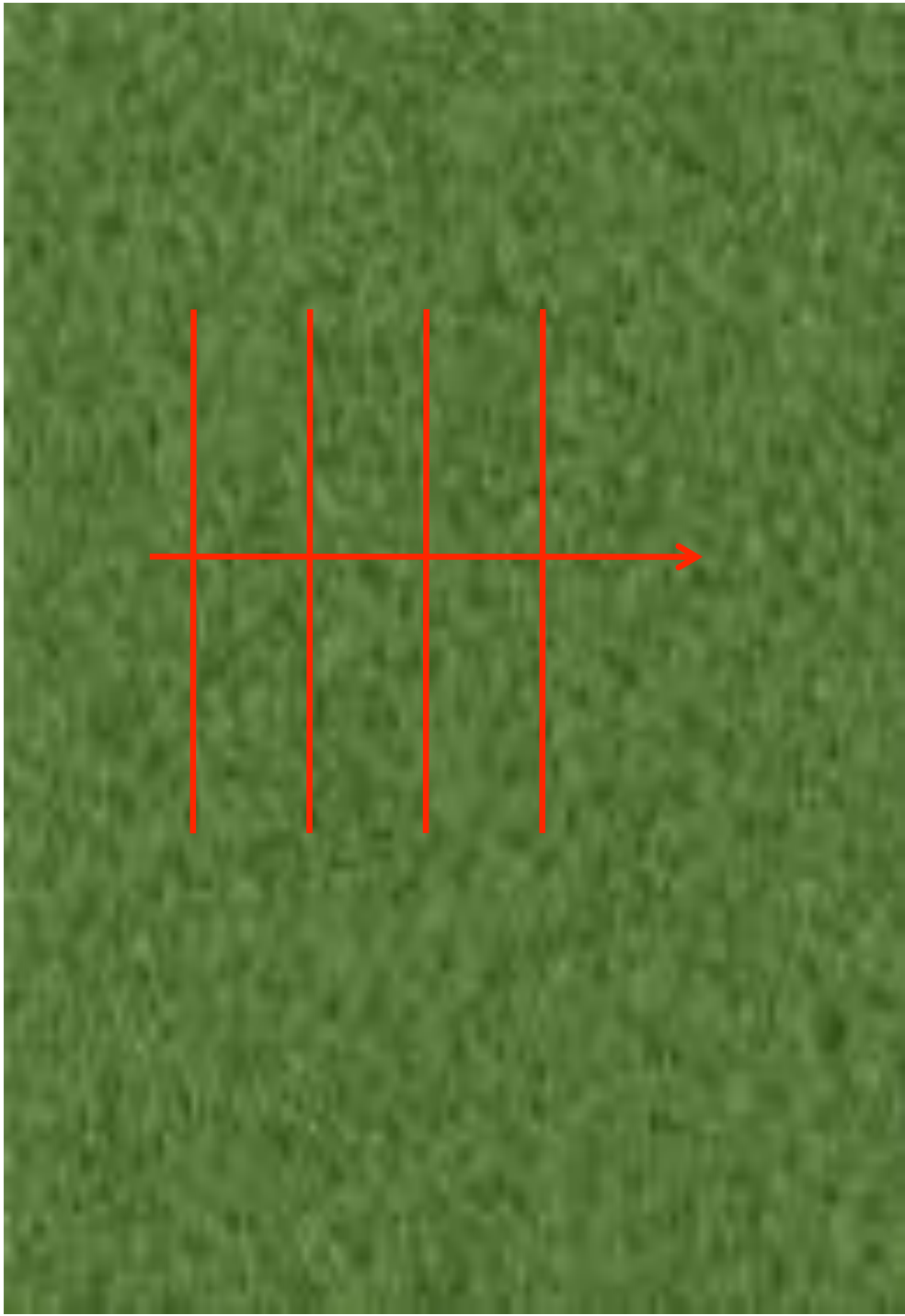
Light traveling in air is like the marching band walking on grass.

Light traveling in glass is like the marching band walking in mud



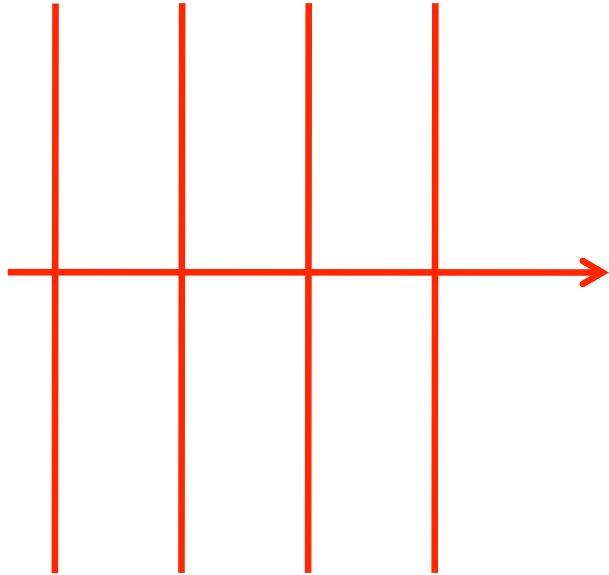




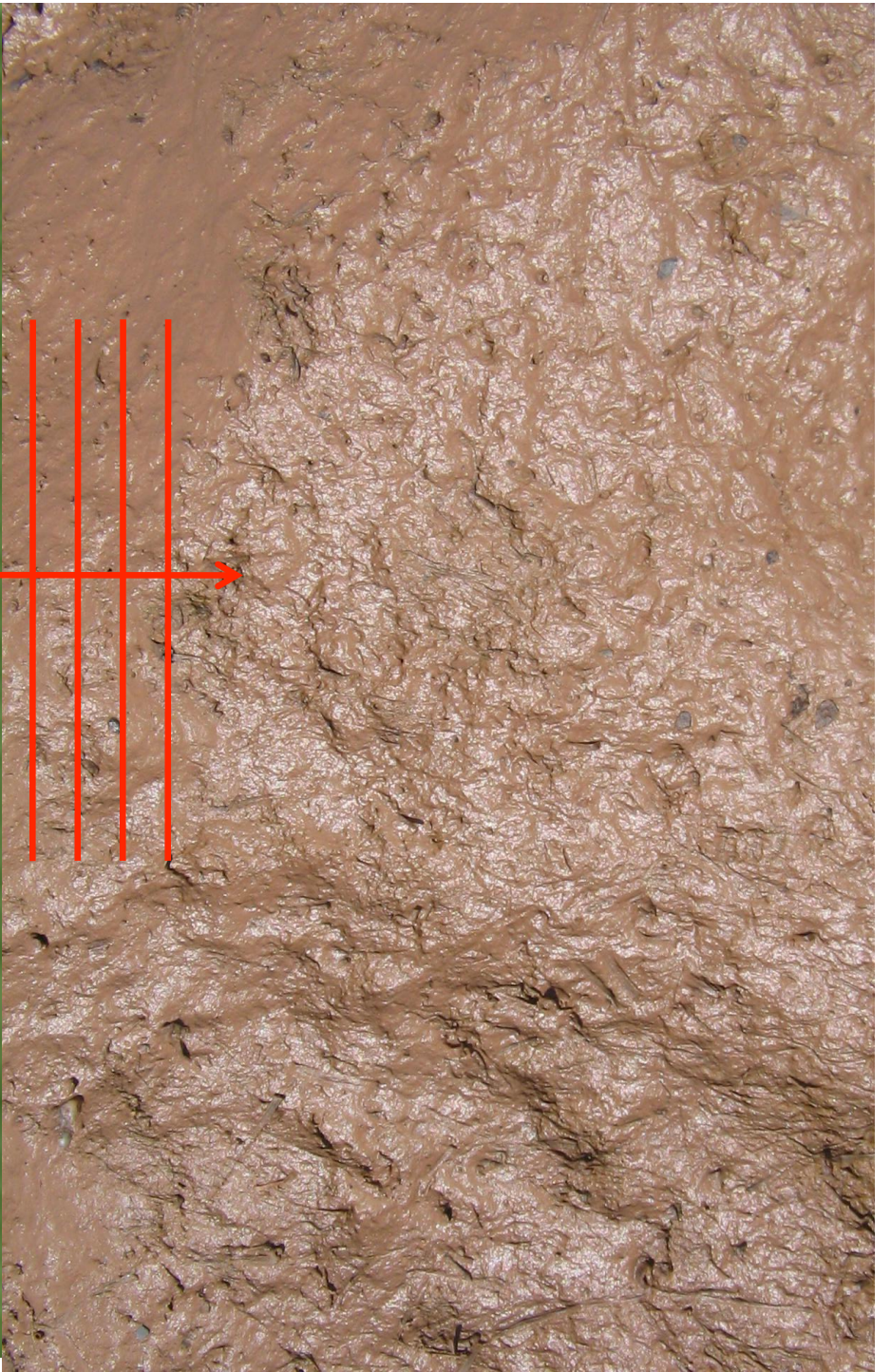


Air

Glass

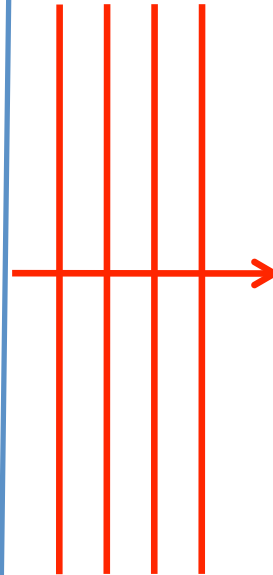






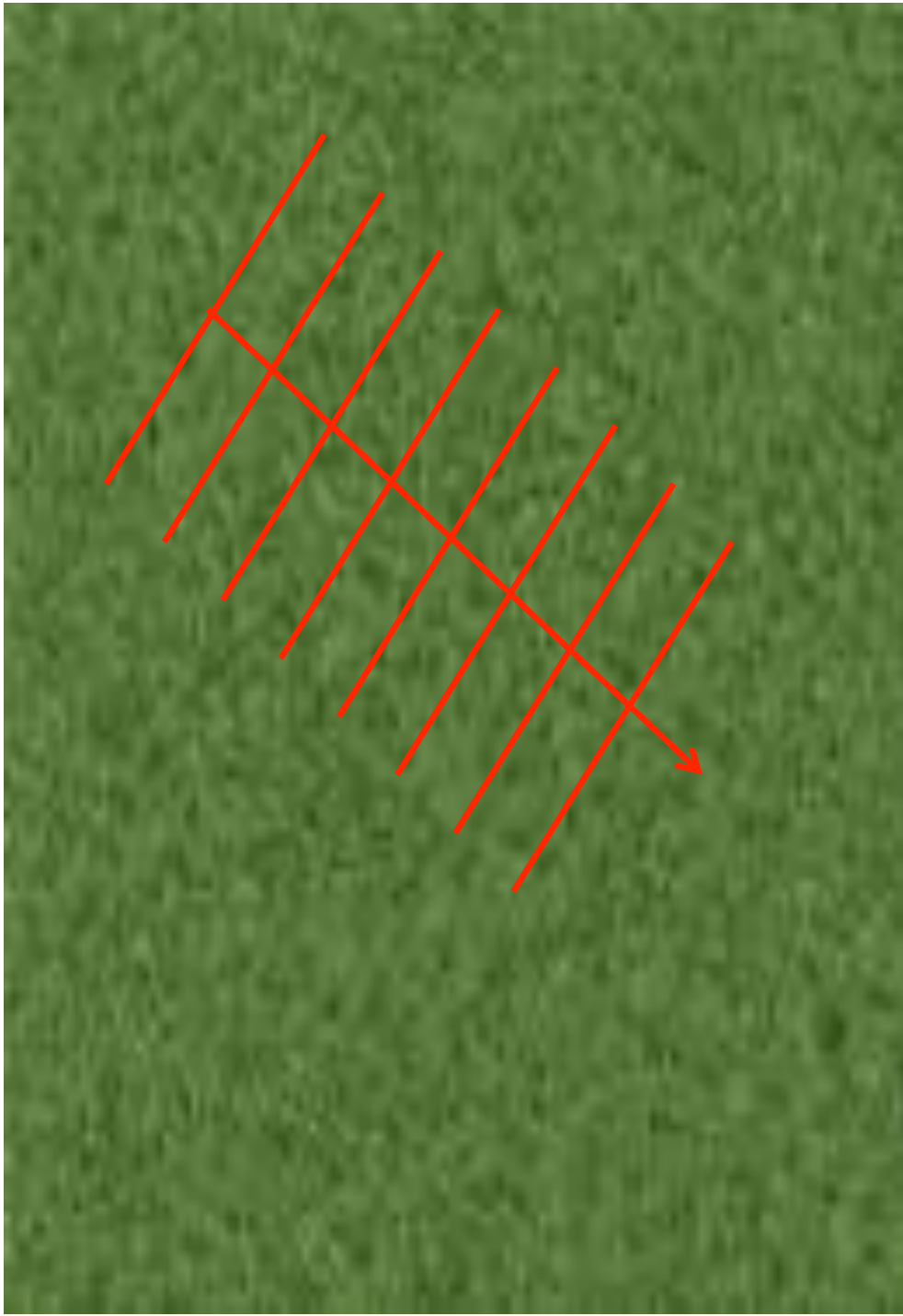
Air

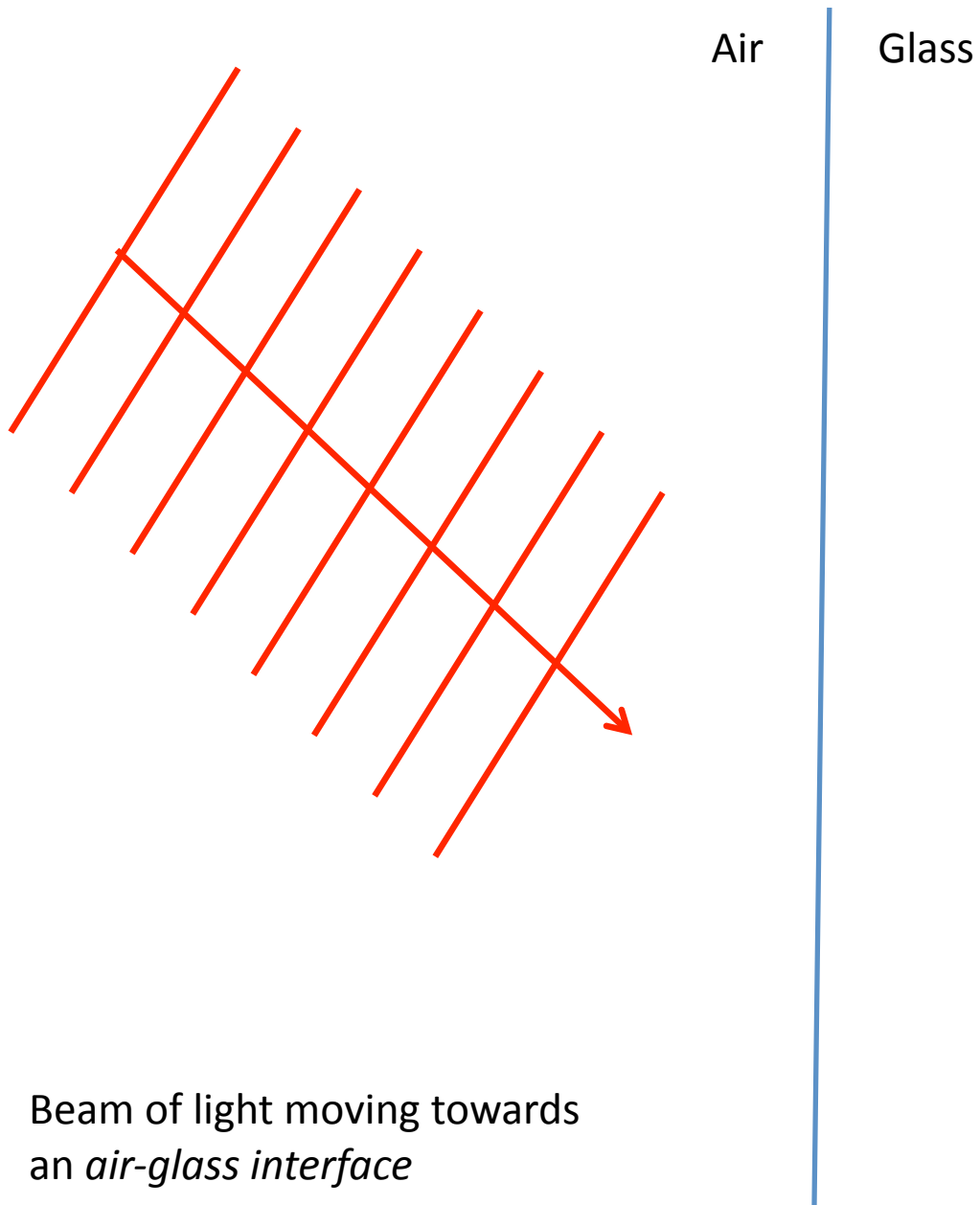
Glass



Entering a more dense *medium*  
causes the light beam to *slow*  
*down*

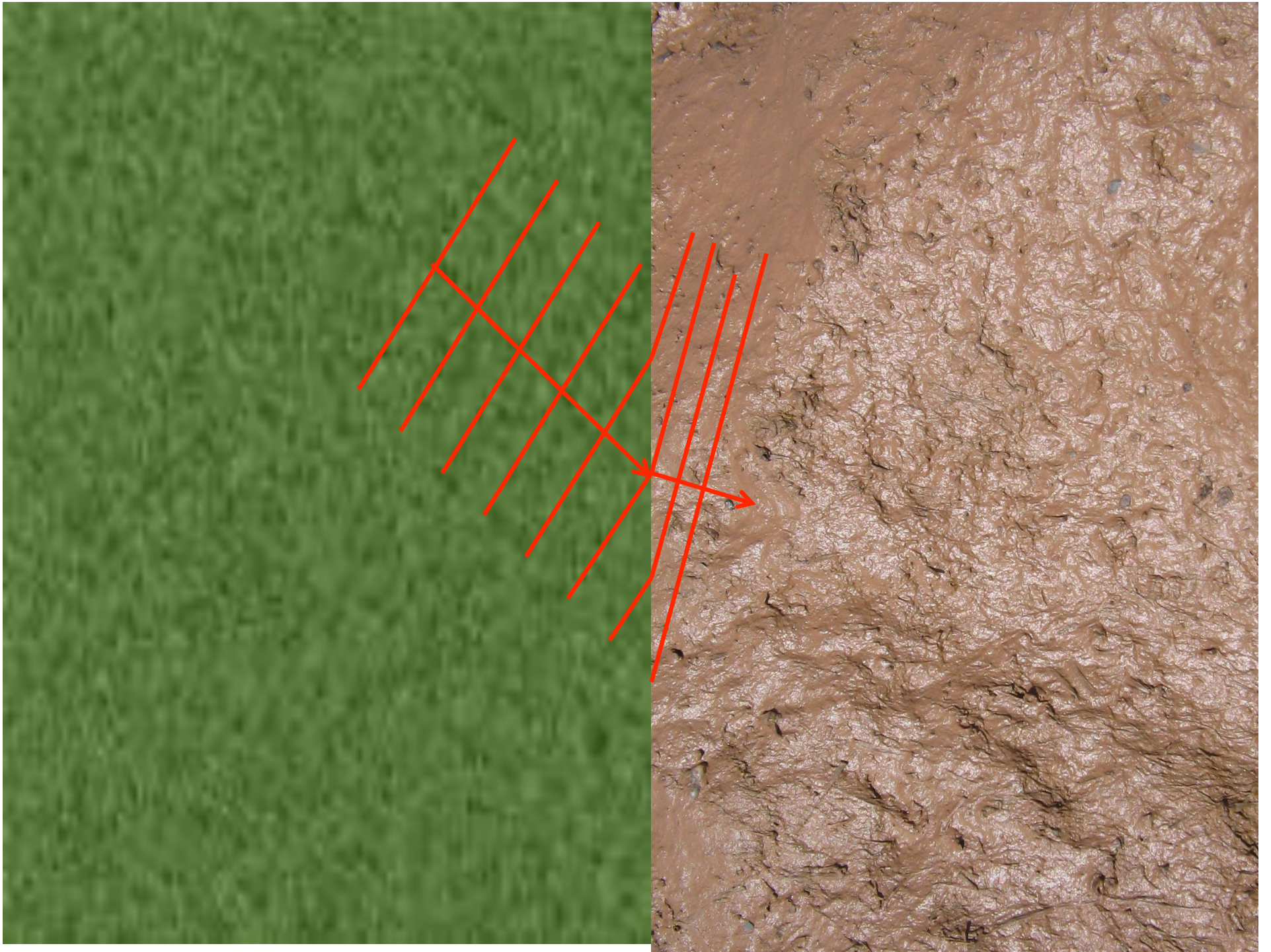


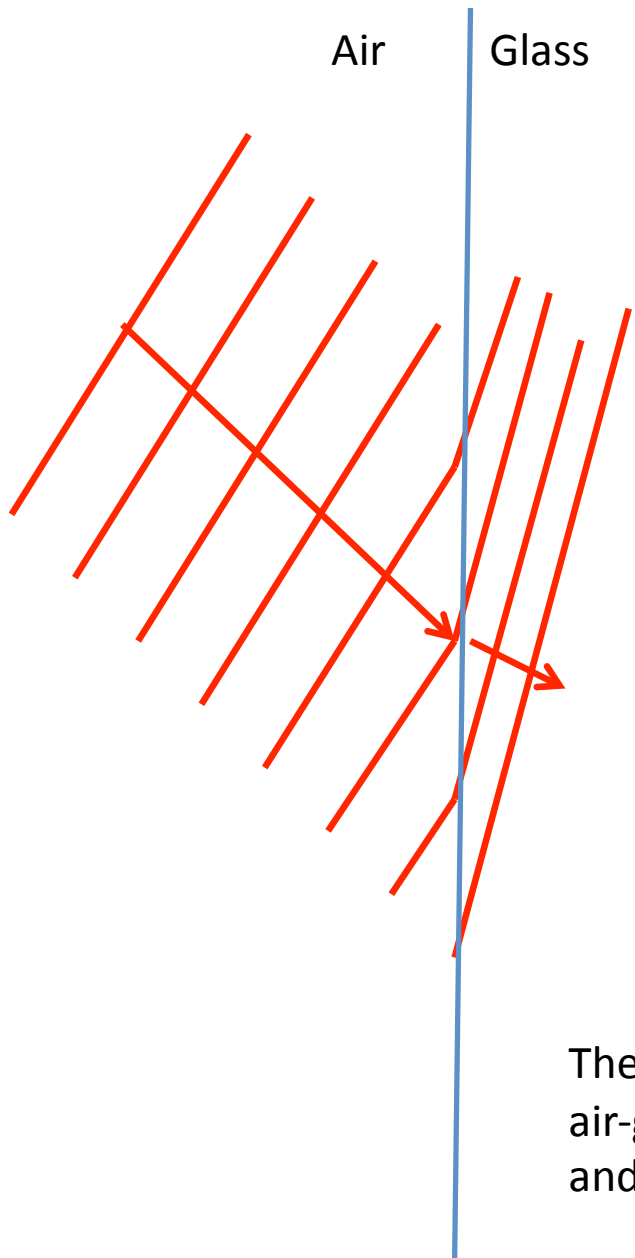




Beam of light moving towards  
an *air-glass interface*

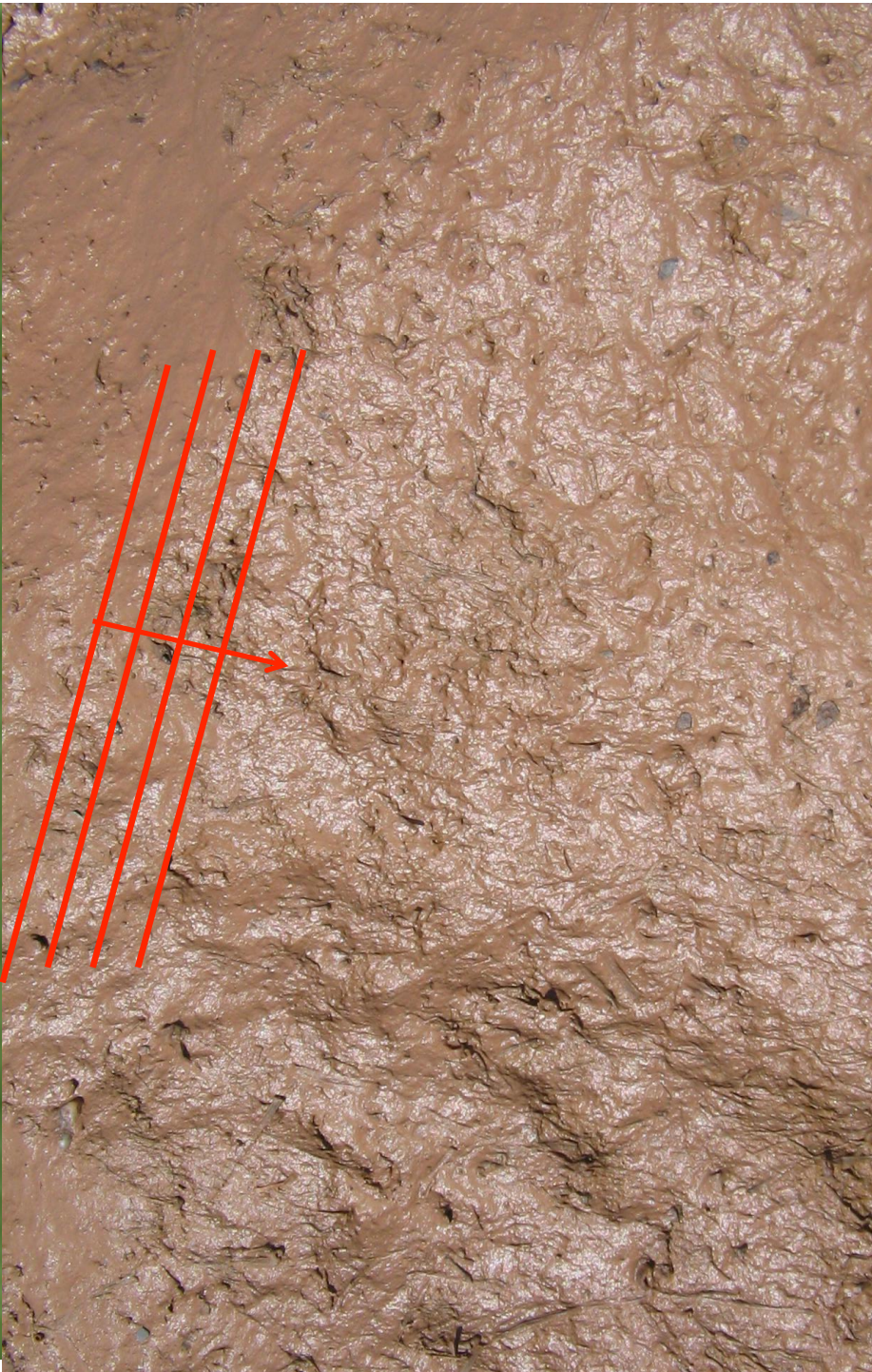






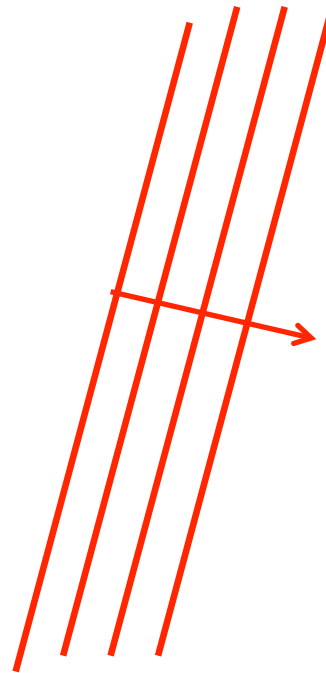
The parts of the light that hit the air-glass interface first slow down and first causing the line to bend.





Air

Glass



The beam of light is now travelling  
in a different direction



What happens if the light travels from a more dense medium to a less dense medium (i.e. glass to air)?

OR

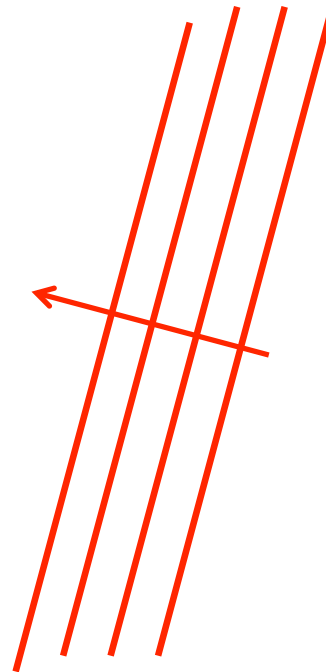
What happens if the marching band walks from mud to grass?



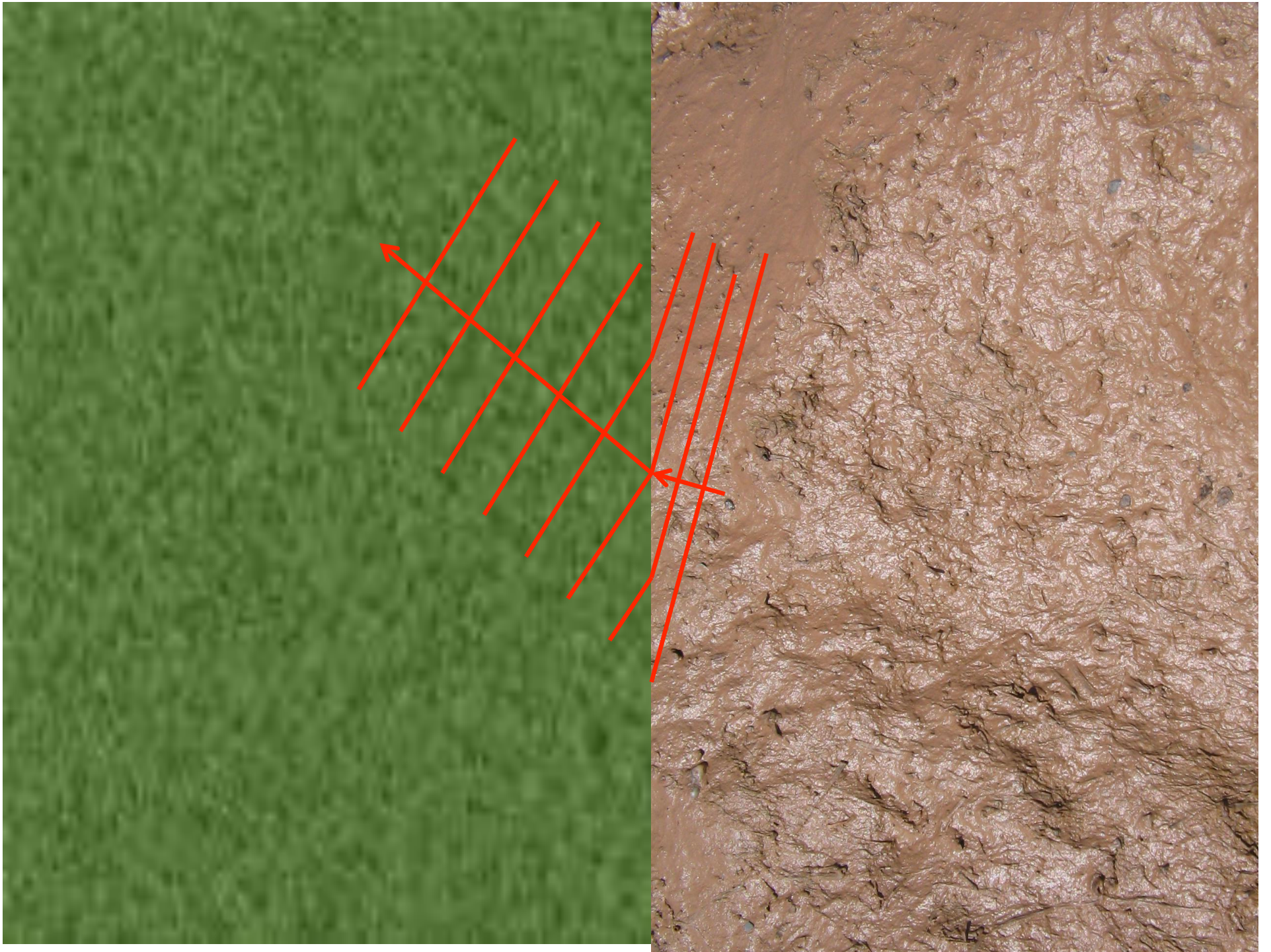


Air

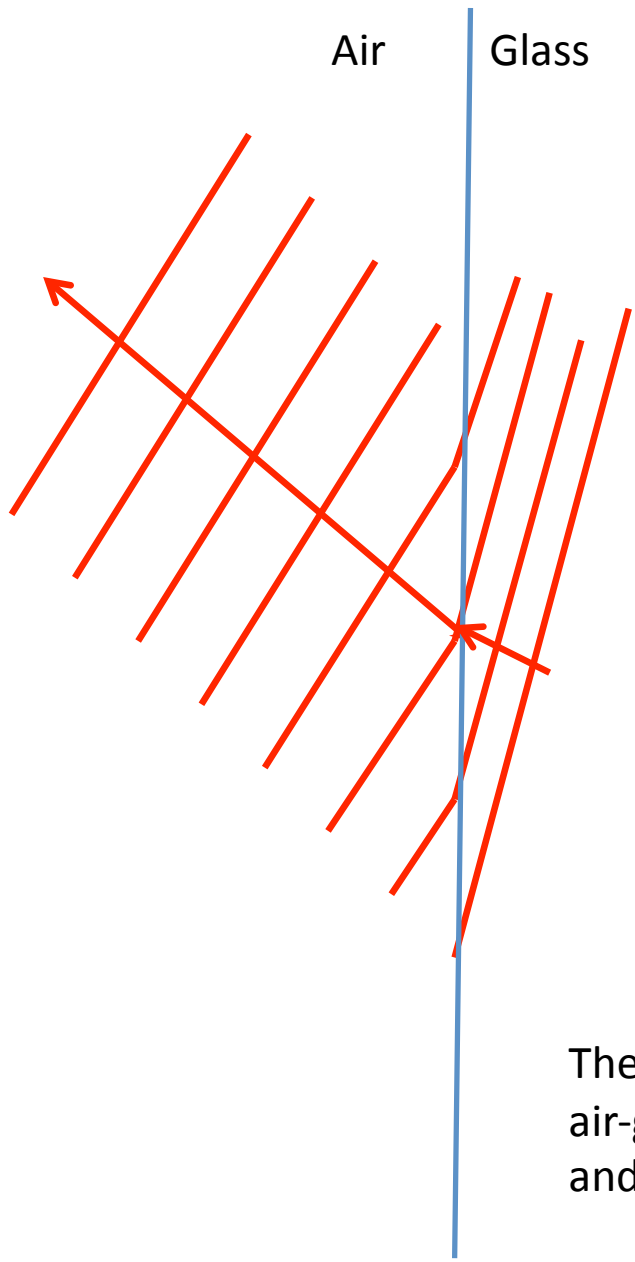
Glass



A beam of light travels  
towards a glass-air interface

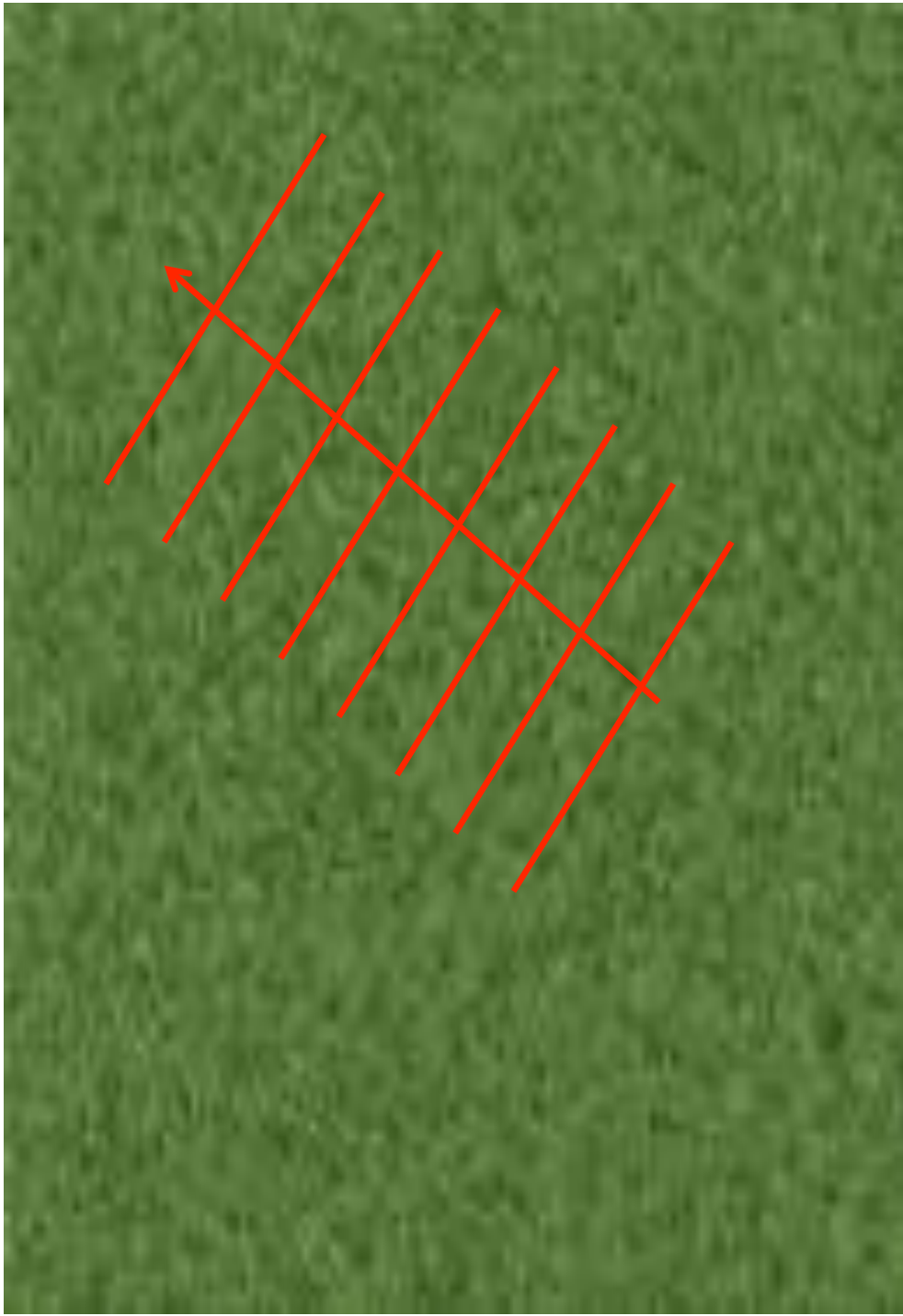




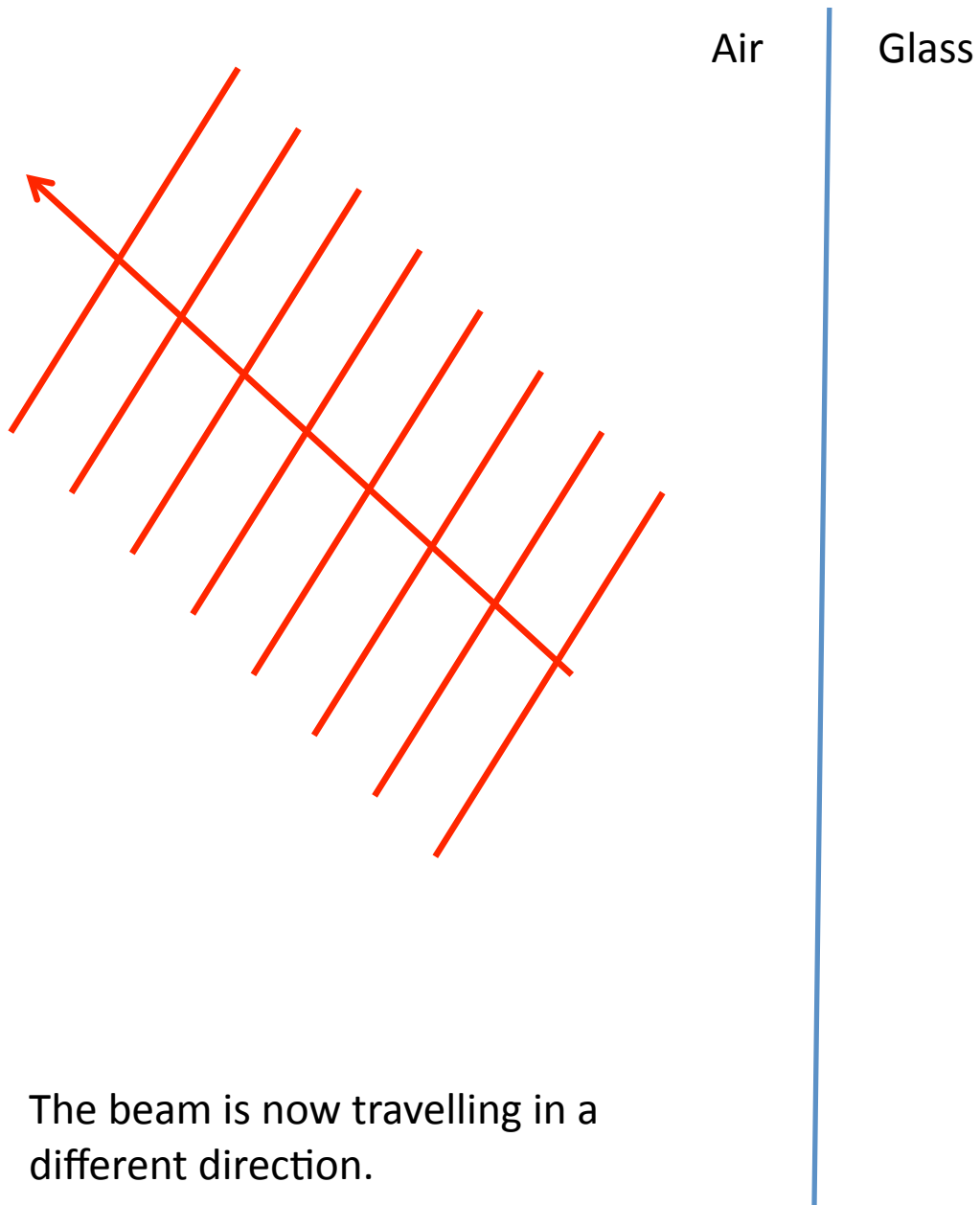


Air Glass

The parts of the light that hit the air-glass interface first speed up and first causing the line to bend.







The beam is now travelling in a different direction.