

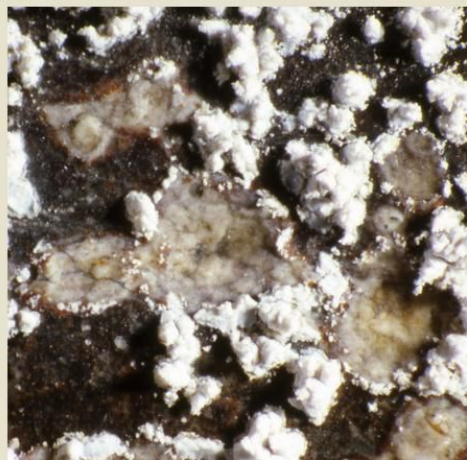
Air pollution in museums is mostly from its own objects and furnishing, and is a very effective cause of damage in closed containers



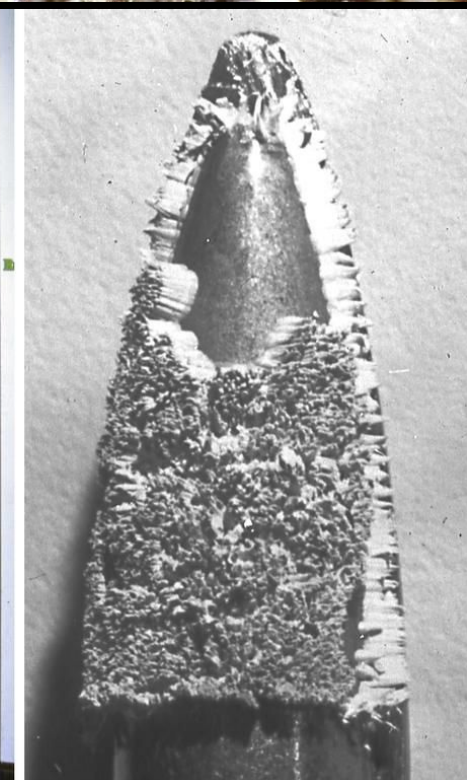
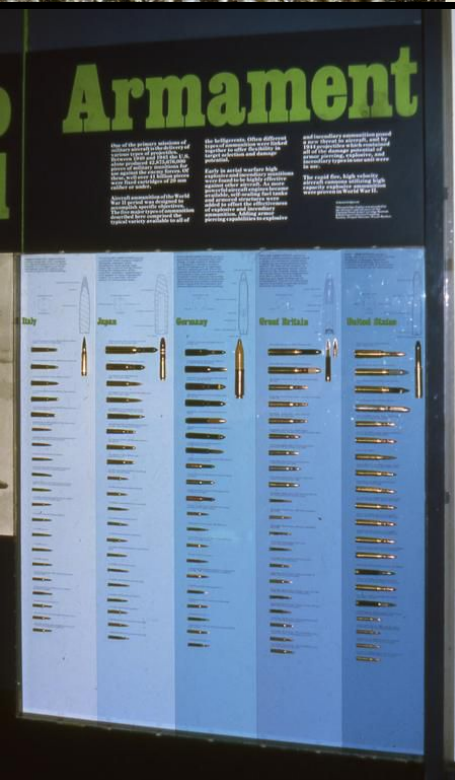
*Lead document from an oak coffin, growing white lead carbonate.*



*Lead bullet growing lead formate in a showcase.*



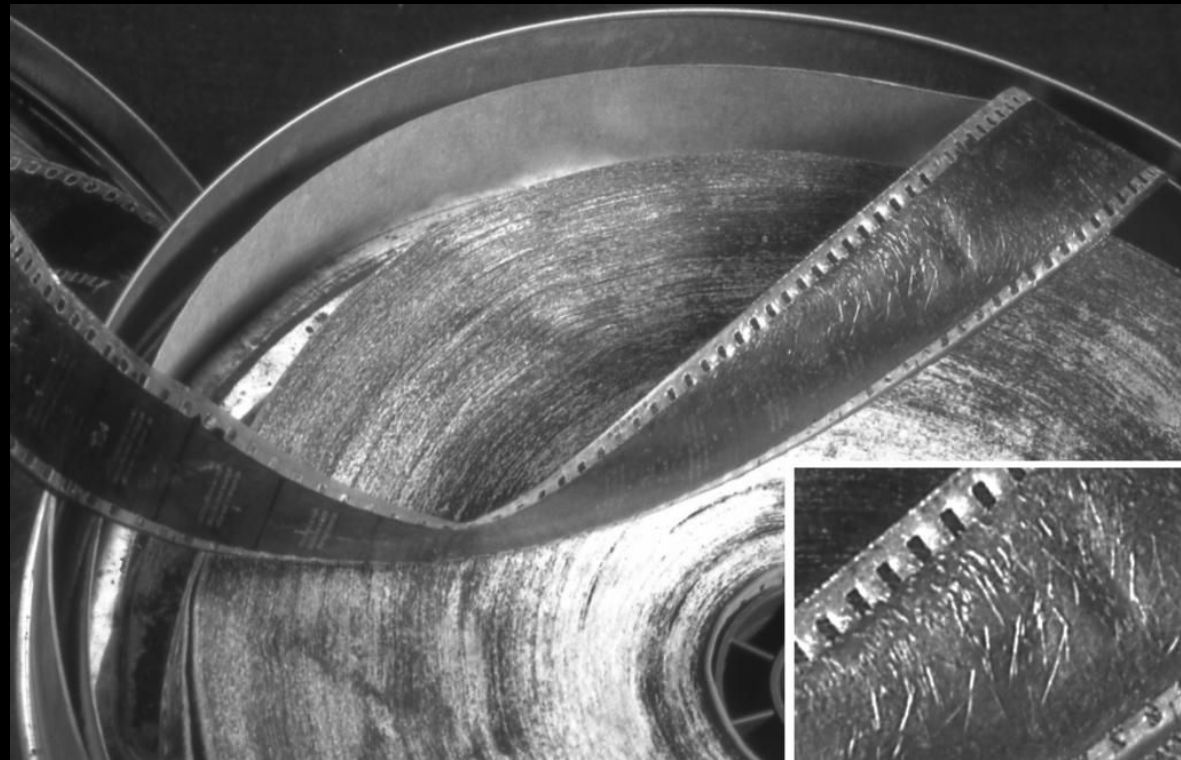
*Celluloid brooch with calcium acetate-nitrate encrustation caused by storage in an oak barrel.*





Some pollution results from housekeeping customs - this is gypsum from the wall mortar being transferred to the glass covering a paper map by rubbing the acrylic glazing

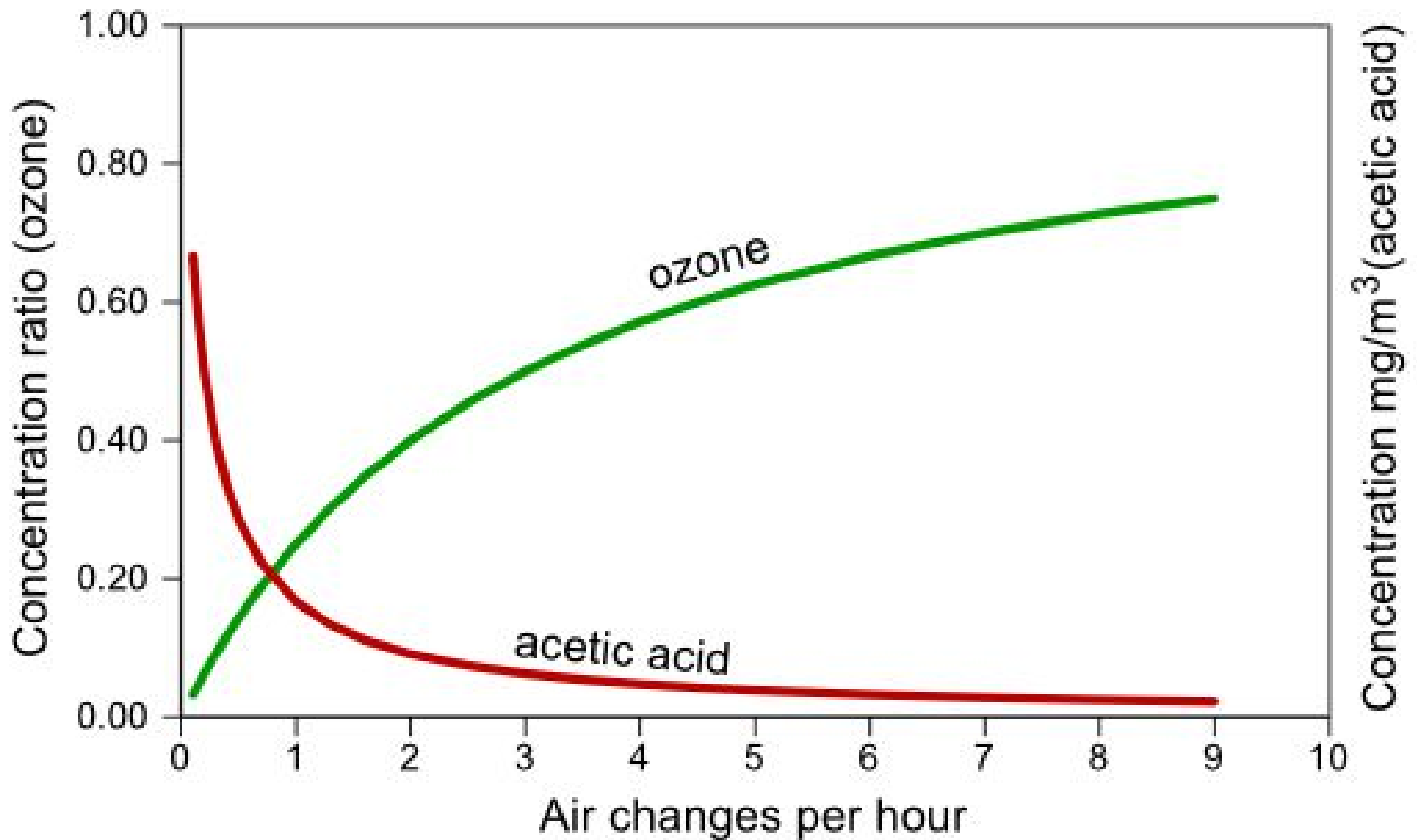
Many pollutants originate in the precious objects themselves - this is microfilm growing crystals of triphenyl phosphate and generating acetic acid.





Some objects protect themselves, partly, from external pollutants. This silver top absorbs hydrogen sulfide, thus preventing it from reaching the interior of the flask.

This image hints at the solution: filter the air through a reactive absorber.



Low energy museums and stores have a low air exchange rate, which protects against external pollutants but allows internal pollutants to accumulate. An air recycling rate through a filter of about 2 air changes per hour gives adequate cleaning of the air.