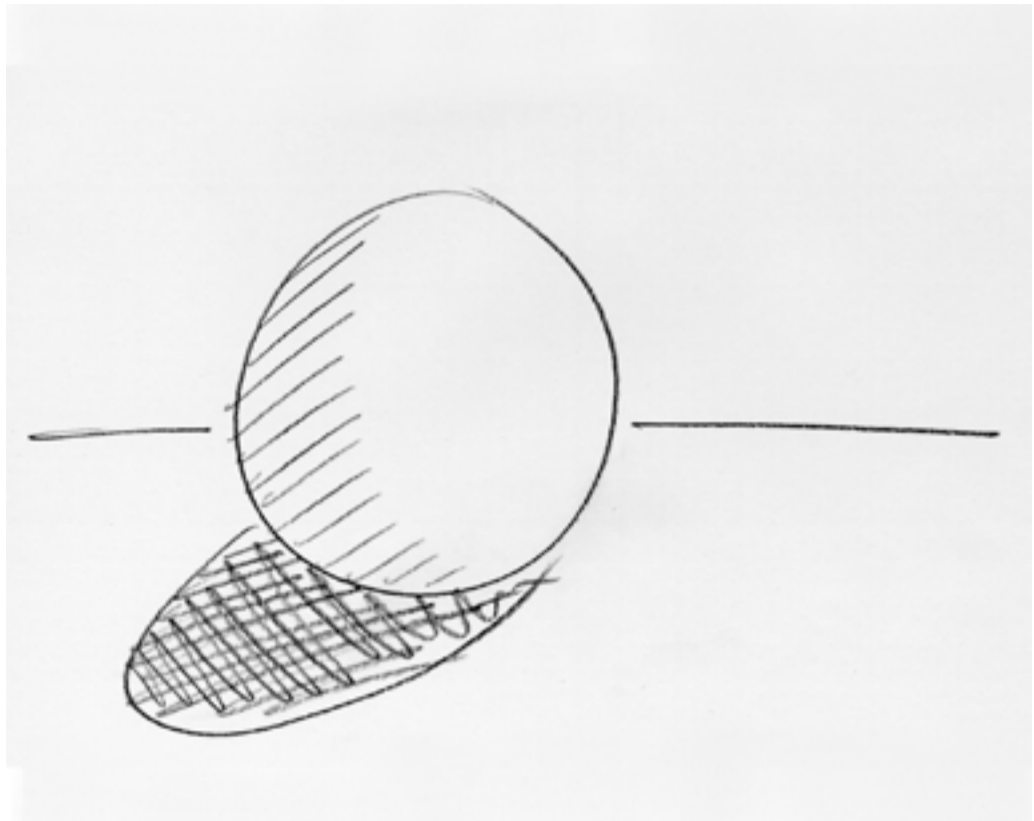


# Pencil Drawing on new Background

A gray pencil drawing has been scanned.

How can we assign a new background like colored paper or even another image ?



The transformation algorithm is very simple:

P is the pencil drawing

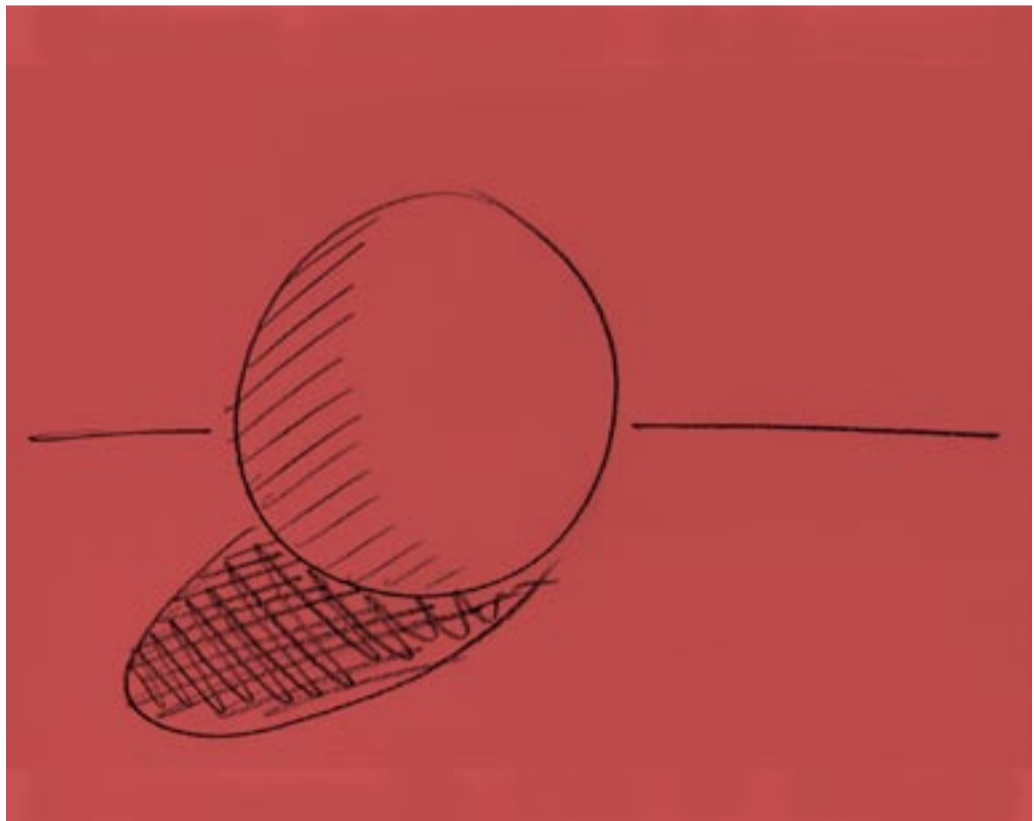
B is the background

N is the new image

Compute the lightness in the range 0...1 from P:

$$L = ( R_p + G_p + B_p ) / 3$$

This is perceptually not very accurate, but good enough.



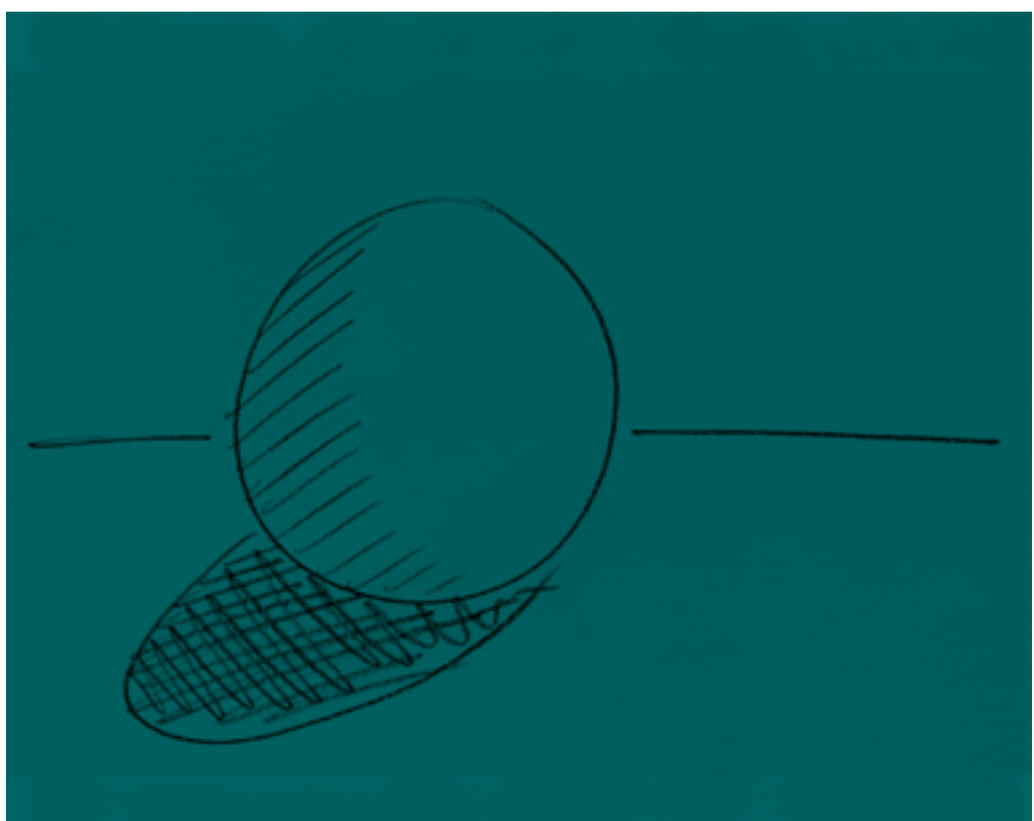
Compute new colors:

$$R_n = L \cdot R_b$$

$$G_n = L \cdot G_b$$

$$B_n = L \cdot B_b$$

This works for any background image.



Gernot Hoffmann  
January 02 / 2001 —  
February 11 / 2013