Monday, March 12, 2018

Visible Spectrum Experiment 2

Photos of dark sky whose stars appear (photons)

Digital devices.

These devices capture the image through the lens in the form of photons that more or less fill the well of each photosite according to the amount of light emitted or reflected by the subject.

These photons generate electrons.

The electrons will then be transferred for their treatment,

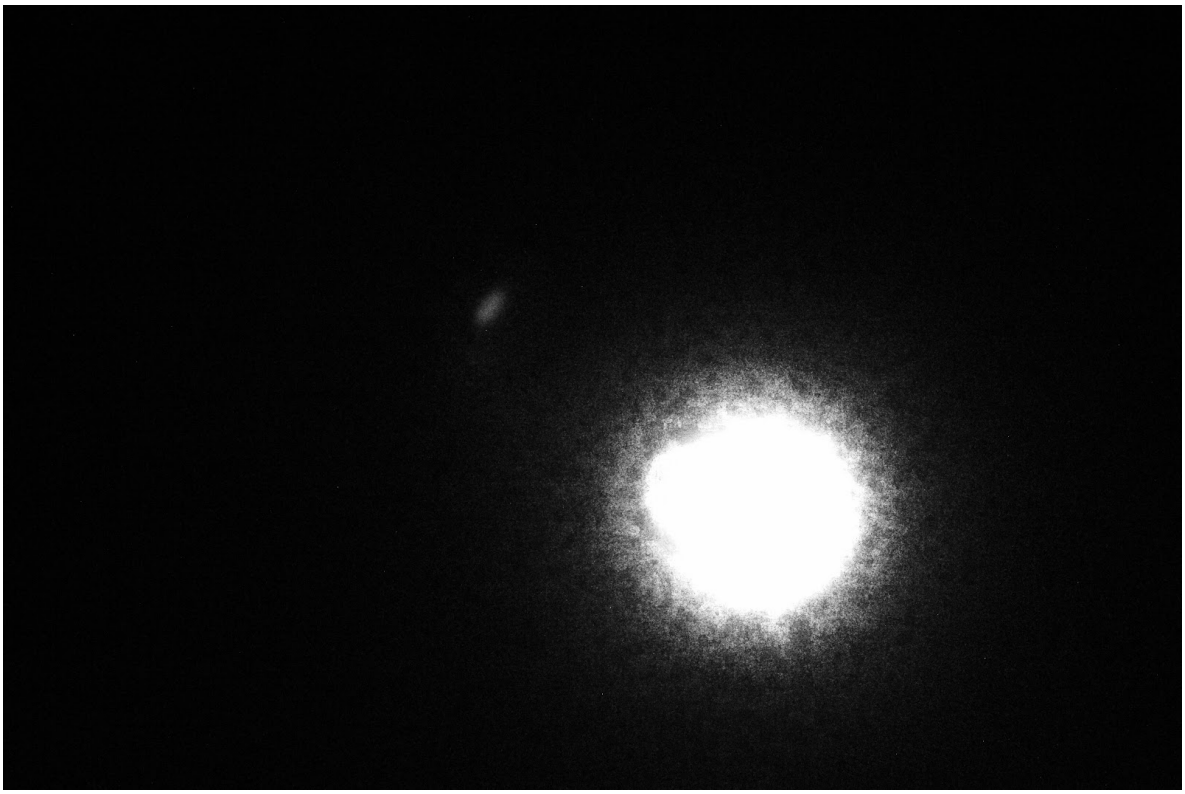
One can always distinguish two main stages of treatment to apply to a raw image (which has just been acquired): preprocessing and treatment by itself.

flic.kr/p/GZHwou

Any raw image contains undesirable effects, inherent to the technology of the system used.

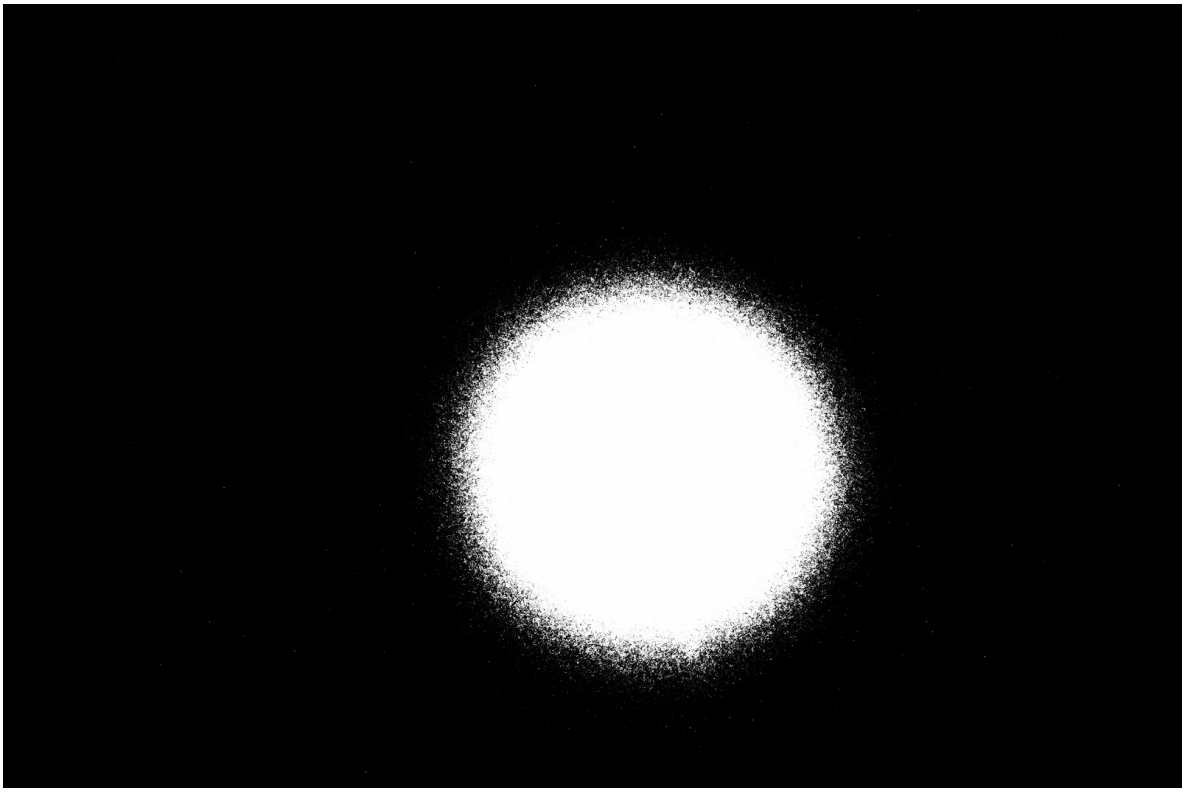
The role of pretreatment is to "clean" the raw image of these effects to extract the value that represents the luminous intensity actually fallen on the pixel.

Image processing applies effectively only to pretreated images 1 & 2



flic.kr/p/GZHwss

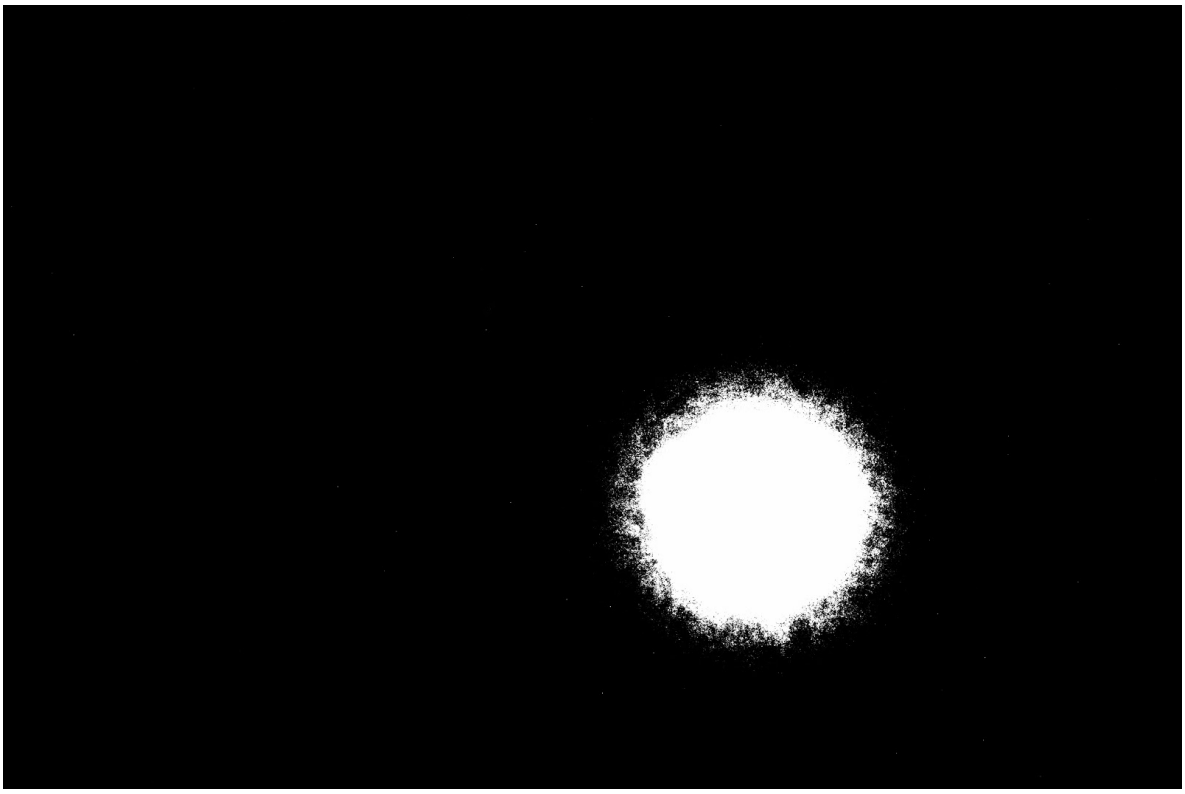
To eliminate the effects, it is necessary to subtract from the raw image an approximation of the additive bias and to divide the result by an image compensating the multiplicative bias.



flic.kr/p/FtbNC2

During each pretreatment operation, the signal quality is improved but a little noise is also added because the calibration images are themselves noisy.

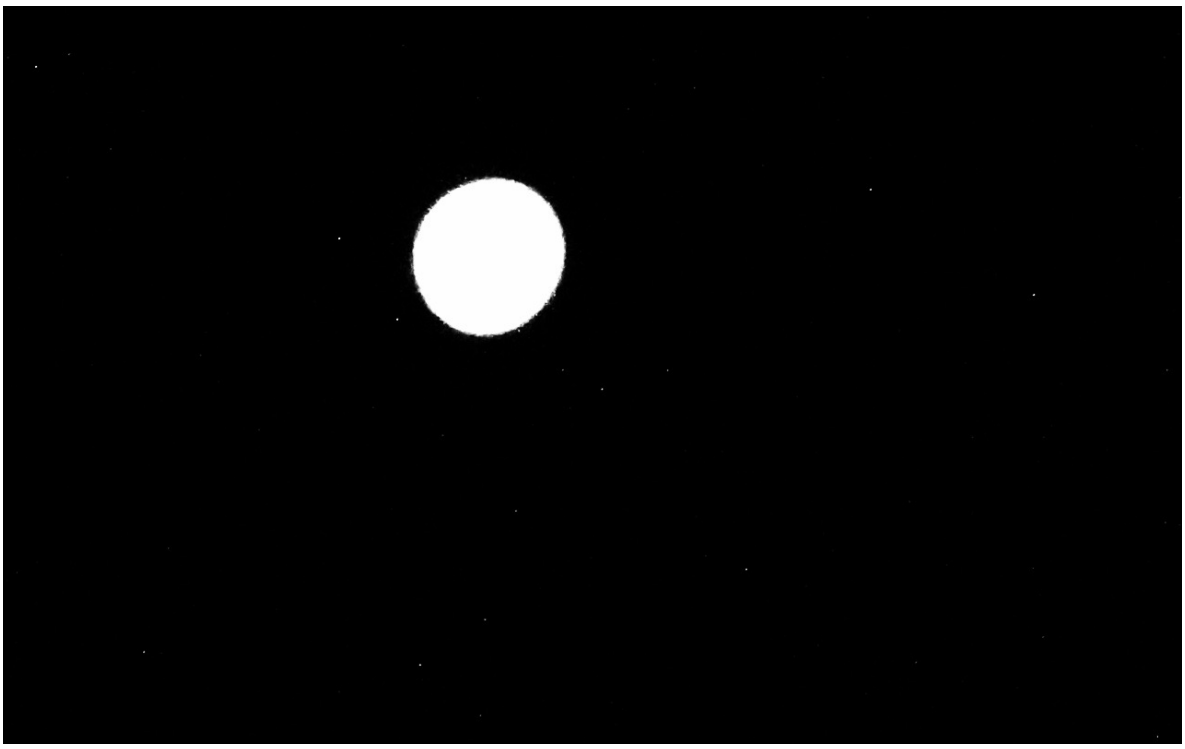
Recall that noise is a random fluctuation of the signal around its mean value.



flic.kr/p/23LdVSB

The processing of images in amateur astronomy

Pretreatment of images of the night: it is necessary to synthesize calibration images as noisy as possible.



flic.kr/p/23LdVVT

Posted by Veronica IN DREAM at 5:36 PM