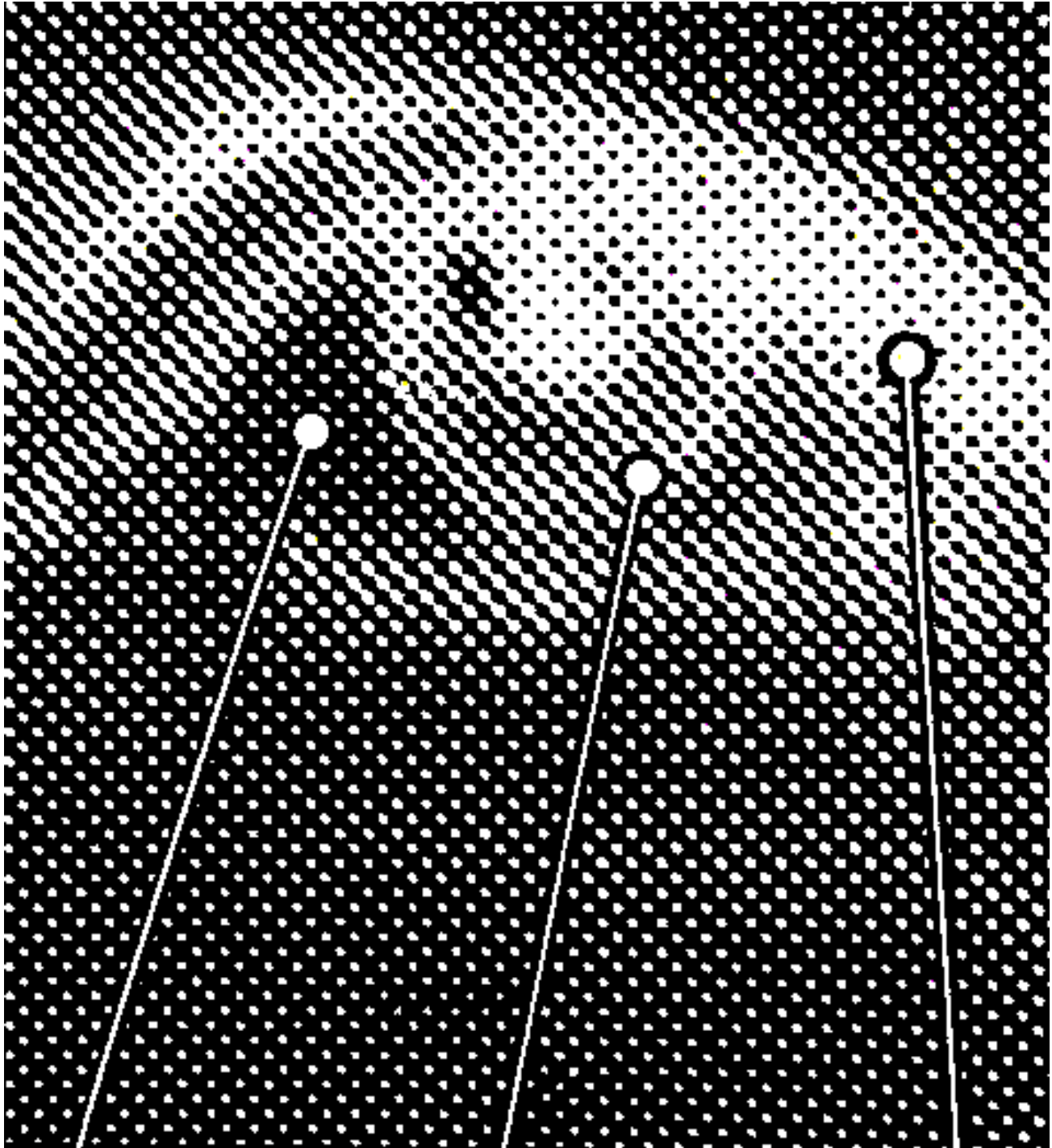


**HIGHLIGHTS**

**MIDTONES**

**SHADOWS**

# THE HALFTONE NEGATIVE

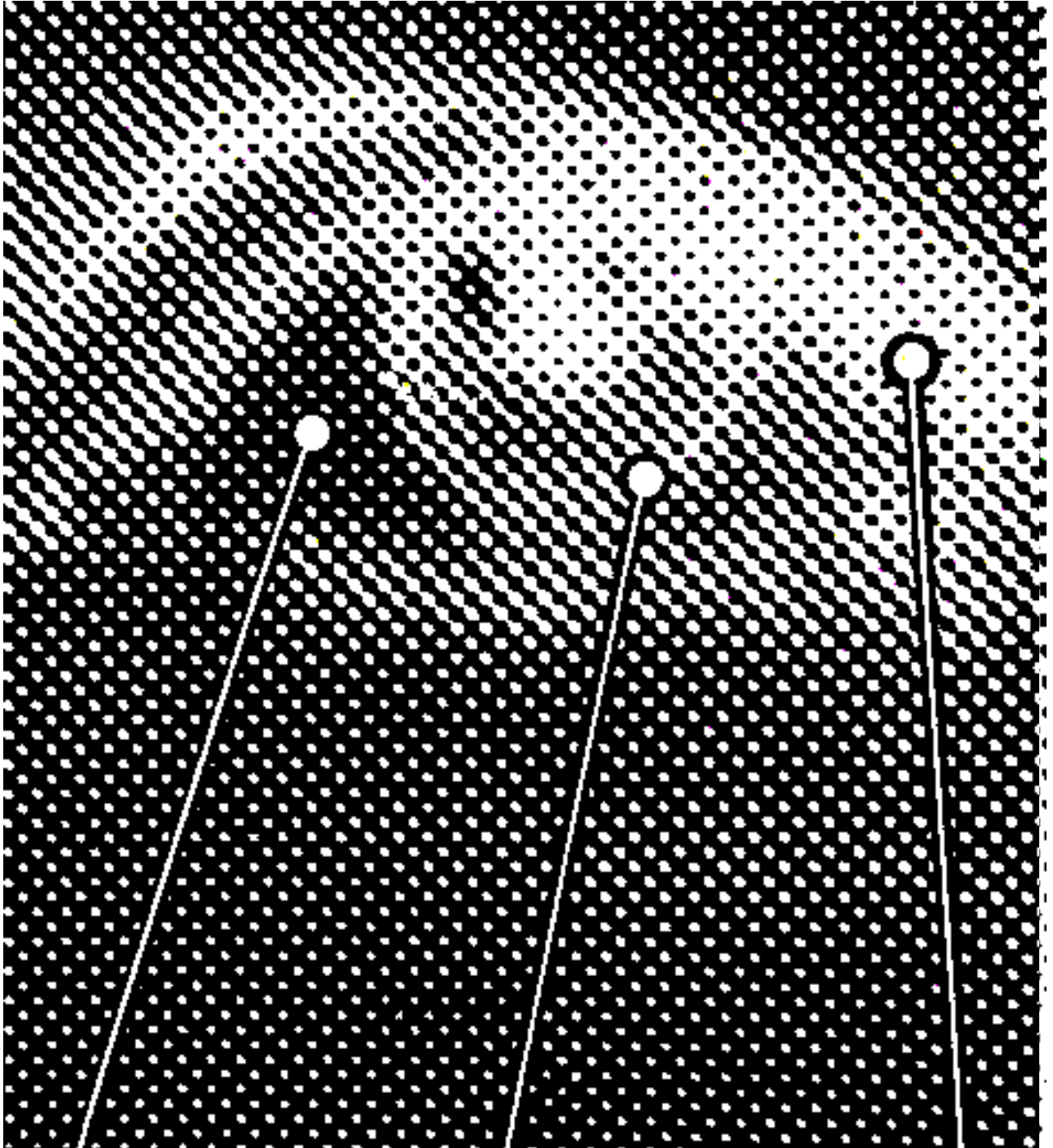


HIGHLIGHTS

MIDTONES

SHADOWS

# COMPARISON OF THE NEGATIVE AND REPRODUCTION



HIGHLIGHTS

MIDTONES

SHADOWS

# The Halftone Process

The halftone process makes it possible for the printing process to visually interpret the full range of tones (b&w or color) which appear in a photograph.

The original photo is photographed through a halftone screen which breaks the image into dots. Each dot or cell aperture in the screen has a vignetted design which has a small clear central opening which becomes increasingly dense as it approaches the cell limit. The clear area easily passes light and the darker outer limits of the halftone dot cell require more exposure to pass light through and expose the film.

As the exposure in the process camera is made, the lighter elements of the original artwork first expose through the clear central opening. As the exposure progresses and the light continues to be reflected from the artwork, larger and larger areas of the vignetted aperture are exposed. At the end of the exposure, a large portion of the vignetted halftone cell has been exposed onto the film.

The darkest areas of the original photo do not reflect as much light. By the end of the exposure they often have reflected only enough light to expose the clear center of the cell.

Middle tones, in direct relationship to their density, reflect varying amounts of light which are interpreted as varying sizes of medium dots on the processed negative.

The total effect is to make a tonal reverse or negative image of the original (positive) photograph; all of the light areas are massive dots, midtones (grays) in the original are interpreted as the various sized medium dots, and the darkest areas of the original have only small pinpoint sized dots.

In subsequent process steps this negative image is contact printed onto the printing plate. The clear areas on the negative allow light to pass and cause exposure on the printing plate. The black areas hold back the light, producing no image to be printed.

The net result is that, when printed, the image will become a series of varying sized dots which are (ideally) small enough to be nearly indistinguishable.

From normal reading distance the eye integrates the white paper areas and the respective amounts of ink, determined by the individual clear areas on the negative. The viewer perceives shades of gray, similar to the original art or photograph.