PHOTOGRAPHS

BLACK-AND-WHITE PHOTOGRAPHS AND SCANS

For reproduction in a book, you may submit either a photographic print, such as an 8" x 10" glossy print, or a professional-quality high-resolution digital photograph or scan. **Do not adjust or re-touch digital images in any way.**

Electronic files must be of a high enough resolution for good reproduction. **Low-resolution images pulled off the web are NOT acceptable for printing.** For best results, we recommend that you have scans made by a graphic arts service bureau or by a facility that routinely provides electronic files for print reproduction. Scans must meet the following requirements:

Scan mode. Scans should be in grayscale or continuous-tone mode. We can, if necessary, convert color scans to grayscale.

Minimum size. Scans must be no smaller than 5" wide for a book with a trim size of $61/_8$ " x $91/_4$ " (this is most common), and no smaller than 8" wide for a book with a larger trim size. If you have questions about your book's size, please contact your acquiring editor.

Resolution. Scans of photographs should be scaled to meet the minimum size above, and should be made with a **minimum resolution of 300 pixels per inch (ppi).**

File type. Scans should be saved as .tif (TIFF) format files. **Do NOT save scans as .jpg files.** The JPEG file format uses "lossy" compression, which means that some image quality is lost and can never be recovered each time a file is saved as a .jpg file. EXCEPTION: If you are acquiring an image from a library, museum, or stock photo agency and JPEGs are the only file format available, send us the original file. Do not edit or re-save the image before submitting it.

SCANS FROM BOOKS AND MAGAZINES

In general, you should avoid using previously printed images such as photos in books and magazines, as they can have an unwanted pattern effect called moiré. If a previously printed image is scanned, it should be done professionally using a descreening technique. Though this will result in a slight softening of detail in the image, it will minimize the moiré effect.

COLOR IMAGES TO BE REPRODUCED IN BLACK AND WHITE

These should be scanned in RGB or grayscale mode or given to us for scanning.

COLOR IMAGES TO BE REPRODUCED IN COLOR

Slides, transparencies, or high-quality color prints should be scanned by our printer. Each printer we work with has unique requirements for color images that are based on the kind of press and paper being used to print the book. Allowing the printer to make the scans will give the best results. However, if images have been professionally scanned in color we should be able to use them.



Fig. 1 A properly scanned grayscale photo at 300 ppi.



Fig. 2 A photo scanned at 72 ppi, resulting in an image that appears blurry or out of focus. Note the pixelated edges and loss of details.



Fig. 3 A low-resolution scan to which resolution has been artificially added. Scanned at 72 ppi with resolution artificially increased to 300 ppi.



Fig. 4 When an image is printed, it is broken into a pattern of dots of varying sizes. It is this dot pattern that causes problems when that image is scanned directly from the printed source.



Fig. 5 A moiré pattern caused by scanning from a published source such as a book, magazine, or newspaper.



Fig. 6 The image has been descreened but the photographic details have been diminished as a result.

Examples are from the digital image standards of the Association of American University Presses, which are based on the standards of the University of Chicago Press. Photograph: *Migrant Mother* by Dorothea Lange. Courtesy of the U.S. Farm Security Administration Collection. Line art: Drawing by R. Dale Guthrie.

pixel: the smallest building block of digital art

continuous-tone or grayscale images are often referred to as **photo**graphs. Each pixel is one of 256 shades of gray, ranging from pure white to solid black. Because each pixel can vary in tonality, transitions from light to dark are smooth and realistic.

bi-tonal or **bitmap images** are often referred to as **line art**. Each pixel can be one of only two values: 100% black or 100% white.

resolution: The number of pixels per unit of measurement to form an image. In the United States image resolution is calculated per inch, hence the abbreviation ppi.

pixelation: A phenomenon that results from insufficient resolution or over-enlargement. Individual pixels become visible, especially on the edges of objects, creating a stair-stepped or jagged look.

moiré: In printing, an undesirable pattern created by the overlapping of halftone screens. Moirés occur when printed images are scanned and not properly descreened.

descreening: A process by which evidence of the original halftone screen pattern is removed. This can be achieved through the use of software filters.

vector: Vector-based drawing applications such as Adobe Illustrator build images by using mathematical formulas to describe points, lines, and shapes. Unlike scans, which depend on proper resolution for realistic rendereing, vector graphics are resolution independent and can be enlarged to any size without loss of quality.

LINE ART

Black-and-white line art should be scanned as black-and-white or bitmapped art (i.e., not grayscale or RGB) at a very high resolution (at least 1200 pp at 5" wide).



Fig. 7 Properly scanned line art at 1200 ppi. Note the smooth curves.



Fig. 8 Line art scanned at 72 ppi, which results in an image that appears pixelated—blocky and sharp-edged.



Fig. 9 Low-resolution scan to which resolution has been artificially added.

MAPS, CHARTS, AND GRAPHS

It is strongly recommended that all maps be prepared by a professional cartographer. Please have the person creating the art send us a sample file in order to identify any problems early in the process. If electronic art is received that is either unusable or not to our standards or specifications, the author will be responsible for correcting all problems. The author will also be responsible for the correction of any errors in electronic files.

PREFERRED PROGRAMS AND PLATFORMS

We prefer Adobe Illustrator files for the Macintosh platform. Because these are vector drawings, they should be saved as .ai. or .pdf files. Do not provide charts, graphs, or maps as .tif or .jpg files. If you do, the type in the image will be fuzzy. **NOTE:** Many of the programs used to create charts and graphs—such as WordPerfect, Word, PowerPoint, and Excel—cannot output valid postscript files. These programs are meant for more limited use in presentations or for output via desktop printers. However, high-quality prints from these applications may be submitted as final art to be scanned.

GUIDELINES FOR CREATING MAPS, CHARTS, AND GRAPHS

Fills. Use tints sparingly and only if you are submitting digital originals. Use solid black and white where possible. Tints for black-and-white figures should be indicated by a screen of black (e.g., 10% black, 30% black, etc.), with at least 20% difference between the screens. Do not use screen values lighter than 10% or darker than 70% as they may not hold up in printing. Pattern fills are often easier to distinguish than tints.

Colors. Do not use colors in a graphic that will be printed in black and white. If your project is being printed in full color the graphics should use process (CMYK) colors, not spot colors.

Line weights and borders. Line weights should be at least .3 pt. in order to reproduce at high resolution. Do not use the software's "hairline" setting. If a line reverses to white, the line weight should be at least .75 pt. If there is a box rule around the artwork it should be a solid .5 pt rule. One consistent line weight is preferred, but use no more than two rule sizes.

Final size. The width of the graphic should fit the text width for your project. For a standard 6" x 9" book a single-page graphic should not exceed a maximum size of 5" x 7". A 2-page graphic should not exceed 10" x 7". Keep in mind that a 2-page graphic will be split down the middle, so avoid putting type or important information in that area.

Type. Use one font point size throughout the figure. If two sizes are used, they should vary from each other only slightly—for instance, 10 pt. and 12 pt. as opposed to 10 pt. and 18 pt. Do not use type smaller than 6 pt. If the graphic will need to be reduced in size, use a point size that will not be smaller than 6 pt. at its final size. Font styles should be used sparingly. In most cases, there is no reason to use bold or italic. Do not use all caps as this decreases overall legibility.

WORKING WITH US

We want your publishing experience to be pleasant. If at any time you have questions or concerns or want to send a sample for evaluation, please contact your acquiring editor or the design and production manager, Christine Brooks, at 330-672-8092 or cbrooks@kent.edu.