Basic Image Requirements for HMML Studio Projects

In creating images of manuscript pages for the Hill Museum & Manuscript Library (HMML), certain basic quality control requirements need to be met in order for the images to be qualified for payment by HMML to the technician(s) producing the images.

-**Images need to be in focus.** The technician can choose to use the camera's autofocus system or focus the camera manually, either by sighting through the eyepiece or using the "live view" function of the camera and software. In either case, images that are out of focus will be rejected. It is also crucial to use an appropriate *f*-stop (*f*11 to *f*16 or so) so that there is sufficient depth-of-field to render all parts of a manuscript page in acceptable focus.

-Images must be free of motion blur. With systems lit by electronic flash equipment (strobes), this should not be a problem. The time duration of the strobes we use is around 1/3000th of a second, which will "freeze" any errant motion of the camera or subject. However, if manuscripts are photographed using continuous or available light, it is often necessary to use a shutter speed that is rather slow—this to allow for the *f*-stop of *f*11 or so, which we desire. At slow shutter speeds, special care must be taken to not jar or move anything during exposure and to ensure that the camera stand is mounted on a very sturdy table or workbench.

-**Basic composition must be good.** The framing of photographs is covered in other HMML documents. What HMML does not want is images with lots of empty space around the manuscript page. This wastes pixels in the final image file and limits how large the image file can be when viewed or printed out. It ought to be common sense that vertical shapes fit best in a vertical frame and horizontal shapes fit best in a horizontal frame. In any case, there will usually be some space left over, and this is where the metric-scale/grayscale can be placed.

-No overly crooked shots, no debris. Many manuscript pages are irregular in shape and not particularly rectangular. However, there are ways to center even grossly irregular pages in the camera's rectangular frame to create a pleasing composition.

When photographing manuscripts, dust, crumbs and other debris may accumulate on the copy baseboard. This looks sloppy, and it really complicates things if an image needs to be retouched for publication. The cloth baseboard should be kept as clean as possible.

-Don't cut stuff off. Images often have to be prepared for publication. In this process the page image is often outlined and the existing background replaced. If all of the image isn't there, this becomes a problem. Obviously, if a page is shot as a single recto or verso, one side of the image will run "off the edge." This is natural, but the other edges should all "be there." Creating artificial portions of "cut-off" pages in Photoshop is difficult work. This is also why nothing should overlap or overhang the page image; this sort of stuff has to be erased in Photoshop and the hidden page below artificially recreated. Clear plastic tabs should be used if pages need to be held down; these are relatively easy to erase in Photoshop.

-Use white paper sheet when necessary. Sometimes, a manuscript will be so full of holes (from insect damage, etc.) that it is confusing to read (the reader sees the text from the page behind it along with the text they are trying to read). Or, a manuscript page might be only a partial or half leaf, again allowing the reader to see the page behind it, causing confusion. The solution is to use a blank sheet of white paper (acid-free if it can be obtained, otherwise the finest white paper you can get) placed behind the page being photographed to clarify the situation for the reader.

-**Manuscripts must sort in reading order.** If proper procedures are followed, a folder full of manuscript pages will sort by filename so that the book can be read in the proper order. The manuscript pages sort first; the "additional" photos of the spine, covers, etc. will end up last. With books photographed as two-page spreads, this is pretty easy to accomplish. If the user is photographing books one page at a time (recto and verso), special care must be taken so that when the rectos and versos are finally combined after renaming (outlined in "Foliation and Filenames3") the book will read properly when sorted by filename. Filenames should not have spaces in them; underscore characters are used. There should be no numeric gaps in filename numbering even if all pages are present—if this is the case, use Flash Renamer or Bulk Rename Utility to create a proper unbroken sequencing of files.

HMML recommends photographing books as two-page spreads if at all possible, as this is faster and is far less error-prone. If books need to be photographed a page at a time, it is recommended that the folios be numbered in pencil at the upper corner (as is often the case with manuscripts in collections) so that the filenames can be checked against the images to verify that all is going well. If this can't be done, it may be necessary to photograph the book in order, alternating between recto and verso. This is slower, but will ensure that the files are in order.

-All pages must be present. If technicians neglect to image pages, it creates gaps in the text that will confuse scholars as they try to read to material. Missing pages in manuscripts imaged as two-page spread will cause a single gap in the text. Missing pages in manuscripts images as recto/verso single pages will prevent the proper sorting of pages when the rectos and versos are combined.

Pages imaged twice (for whatever reason) generally won't mess up manuscripts imaged as two-page spreads, but they will mess up the sorting of manuscripts imaged as single page rectos and versos.

HMML generally images all the leaves of a manuscript, even blank folios. In some cases, say, where there are dozens of blank flyleaves at the beginning or end of a book, it may be fine to skip them as long as HMML knows how many blanks there are so that the appropriate metadata can be entered into the manuscript database record. That said, if a "blank" flyleaf contains a signature, note, seal, bookplate, or any other distinguishing feature, it must be imaged. In imaging single pieces of paper with writing on one side, we generally will photograph the other side, if for no other reason other than assuring the viewing scholar that there's nothing there that was missed.

-**Basic exposure and color balance must be good.** The studio setup is generally put together and tested to produce images in accordance with HMML's image standards for color balance and exposure. Images that stray too far from the standards outlines in other HMML documents will need to be re-imaged if possible.

-**Hard drives shipped to HMML need to be structured properly.** "Foliation and Filenames3.pdf" outlines in detail how data needs to be arranged on the external hard disk drives to be sent to HMML. This is important for HMML's archiving and backup activities. Hard drives structured in other ways, such as:

-JPEG and RAW images in the same folder
-JPEG and RAW subfolders under a main manuscript master folder
-Covers, spine, etc. images separated from page images, residing in separate folders
-Any sort of "file cabinet" subfolder arrangement used in place of meaningful metadata

will not be accepted by HMML! Anyone with questions about a particular hard drive folder structure that they may be contemplating is encouraged to contact HMML beforehand to find out if it will work. This will save the field technicians a great deal of trouble.

-Don't "bury" manuscript folders inside of other manuscript folders. We have found a number of these in our processing of images. Without looking through every single manuscript folder, we cannot find these hidden manuscripts except by chance. Since our master inventory lists are created by copying the folder names

using Bulk Rename Utility, the master list doesn't contain listing for these "buried" manuscripts, so we don't know that we even have them until they are discovered by accident.

-Metadata "slate" must be photographed. Whether it is generated by a database program or filled out by hand, HMML needs to have a metadata sheet as part of the manuscript images. A basic metadata form is available on the HMML documents download page at:

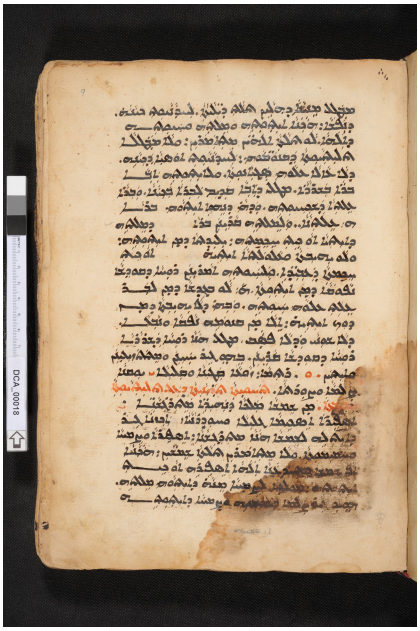
http://www.vhmml.us/Resource/Downloads/

-Images must have grayscale/metric-scale in each photograph. Without this, proper color balance cannot be ascertained and there is no size reference tool in place. **NOTE:** the grayscale should be at nearly the same level as the page photographed so it will have the proper accuracy for measurement. It should be positioned so that it does not cast a shadow on the manuscript page being photographed, nor should it overlap any part of the manuscript page. When photographing something like the spine of a book, which is much higher than the copystand baseboard, holding the metric-scale next to the object using the locking hemostat clamp (supplied) usually is the easiest way to make this work. In other cases, the small "helping arms" devices are most useful in positioning the metric-scale/grayscale.

-The "UP" arrow should be accurately pasted onto a portion of the metric-scale to indicate which way is up. HMML supplies a tacky putty (blue in color) to all its projects for this. Lacking this, the type of sticky wax used in the rings supplied by plumbing supply retailers for sealing the bases of toilets work well. One ring of wax like this will be enough to last a lifetime.

-Also on the metric-scale, a small piece of paper with the HMML project number should likewise be affixed. HMML supplies a scissors with each project to help with this, along with pencils, markers and such. Again, use putty or wax to fix it in place.

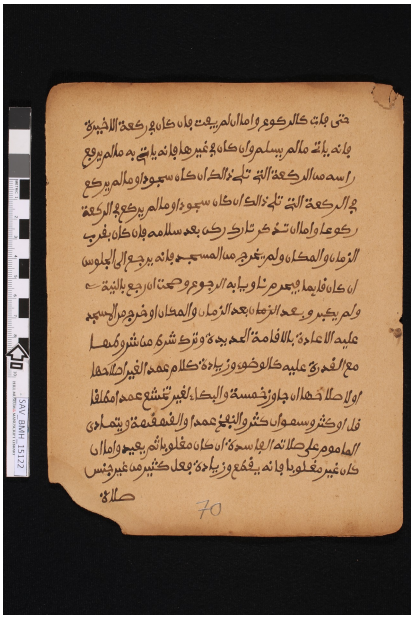
Examples of Well-Done Manuscript Page Imagery



Single recto page in Syriac Manuscript. Good use of space, everything is straight and neat. "Up" arrow and project number tag in place on metric-scale where it won't obstruct anything important.

Two-Page Spread.

Two-Page Spread. This shows the use of clear plastic tabs to hold down pages. These tabs don't obstruct the reader's ability to see what's on the page beneath them. They are also easy to remove if a retouched version of the picture is needed for publication work.



Single Loose Leaf. Nice and straight, the only thing that could improve it would be to put the metric-scale at the top or bottom of the page, making better use of the space that exists there. Image below shows how even a very irregular leaf can be well-framed.