

Digital Biomedical *Photojournalism*

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This article describes the strategies used to successfully complete a digitally based biomedical photojournalism assignment. A multi-step approach is suggested which includes project and funding identification, photographic planning, on-site photography and post project follow-up. Practical suggestions for utilizing digital imaging are included.

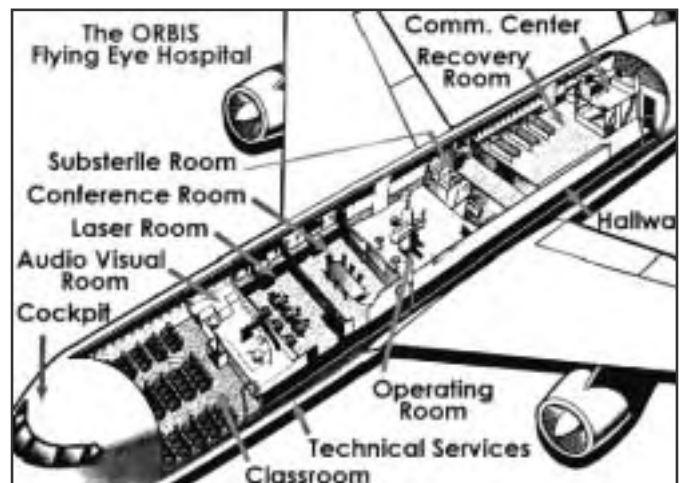
The first sentence of this paper is being typed on a laptop computer in seat 21F of BWIA (British West Indies Airlines) flight number 0427H. Destination? Port of Spain, Trinidad. Purpose? To document the work of Dr. Fredrick, my department's pediatric ophthalmologist, as he teaches on the international flying eye hospital Orbis. The strategies used to plan and complete this digitally based biomedical photojournalism assignment are described in this article. Question: Would you rather be reading this article? Or experiencing it?

Traveling biomedical photojournalism opportunities utilize your photography skills to document medical or biological projects which occur outside of the physical confines of your usual workplace. As a project team member, your visual documentation may be used in subsequent scientific publications, for the promotion of non-profit organizations or to help publicize specific missions. Successful completion requires a multi-step approach which includes project and funding identification, photographic pre-planning, on-site photography and post project follow-up.

Project Identification and Funding

There are many international medical relief and teaching projects that originate in the United States each year. Some projects are mounted by organizations that exist specifically for this purpose. Examples include Doctors without Borders, Doctors of the World, and, in this instance, ORBIS International (Figure 1). Search the Web for specific organizations in which you may be interested. Visit the annual meeting of a medical specialty and

Figure 1. ORBIS (<http://www.orbis.org>) helps save sight in developing countries through hands-on training, public health education and improved access to eye care. They operate a DC-10 flying eye hospital and teaching facility that travels with an international medical team and volunteer doctors who share their skills with eye care professionals from the host nation.



locate the section of the exhibit hall devoted to international medical relief organizations. Introduce yourself and ask how you can help.

Network with members of your social and religious groups, at your hospital, and among the medical staff, letting them know that you are looking for a photojournalism opportunity related to your biomedical interests. Inquire at national and local charities or religious organizations.

You may be surprised with what a little word of mouth can do. Before my first trip to the Dominican Republic, I had spoken with the organizers, letting them know I was interested in documenting their work. Other responsibilities got in the way, and I neglected to follow through. Then, on the day before they were to leave, they called to say that a plane ticket had been donated at the last minute and asked if I would join them. After a quick schedule check, I had less than 24 hours to board the plane.

After identifying a potential project, locating funding is the first hurdle to overcome. Remember that the sponsoring organizations are usually non-profit and limited in their ability to cover any or all of your expenses.

One successful funding strategy is to divide your travel requests between multiple sources. Perhaps the physician you are traveling with (or their department) can help subsidize the plane ticket, while your department or the sponsoring organization provides for accommodations (don't expect the Hilton and be willing to share). Suggest win-win scenarios. Ask your organization's publications—the newsletter, magazine and alumni magazine—if they can offer any support (Figure 2). Query your own biomedical imaging department to see if they will allow you to use equipment or donate film, pro-

cessing or digital media to help meet your goal. If you are documenting a participant from your workplace, you can suggest that work time, as opposed to vacation time, be used.

Grants can be another funding source. Specific options vary, but many larger hospitals and universities have funding sources devoted to completing special projects. The BioCommunications Association itself has the Endowed Fund For Education (EFFE). The stated objec-



Figure 2. Cover of the *Dartmouth Medicine Magazine* in which the article 'A Sight for Sore Eyes' appeared.

tives of the EFFE are to "promote and assist study and research in the field of biological communication by the application of scholarship and grants for such purposes, and to promote the Association as a key source of opportunities for the study and research of visual communication media in the life sciences." Search for other organizations' funding photographic projects on the Internet.

Be forewarned, however. While these projects are rewarding, chal-

lenging and fun, approach them knowing that they are in no way moneymaking or cheap vacation schemes. Besides your photographic expertise, be prepared to sacrifice some vacation time as well as some personal funds for travel expenses. There have been no 'free rides' in the three projects I have participated in. The upside is that there is no better cure for mid-winter or mid-career blues than to help others make the world a better place by using your expertise in photography.

Line up potential publication projects before the trip. Query organizational and local publications. Organize a paper specifically about the project written by members of the group. One such paper appeared in the *Wisconsin Medical Journal* (McCanna et al., 1992). Consider writing a piece about your experiences for the *Journal of Biocommunication*.

Photographic Planning

Most biomedical photography is performed in a limited, well-known geographic area. You are usually not more than a phone call or tube system away from that forgotten lens or roll of film. You know that the power in each outlet is a standard 110V and that your hospital's x-ray department (unlike airport security) has no interest in exposing your film to radiation.

Preparing for a biomedical photojournalism expedition requires planning for systems in the field that are self-sufficient and redundant.

The first, and most important, tool to prepare is your eye. Review any roots you have in photojournalism. Some of my favorite photojournalists are W. Eugene Smith, Eugene Richards and Sebastião Salgado. You may feel a special kinship with Margaret Bourke White, Mary Ellen Mark or Robert Capa. Whoever your photojournalistic heroes are, I encourage you to go to the library

or bookstore and review their bodies of work. Look more closely at the images currently being published in daily papers and weekly news magazines. Question the images: examine the framing, the lighting and the photographer's vantage point. Infuse your mind with the look of classic or contemporary photojournalism; and develop the style in which you yourself will shoot.

This particular project was completed digitally. Currently available digital camera models were evaluated for a number of features. Image resolution for reproduction in a glossy magazine was required. A 3 megapixel camera was selected that would yield a high-quality black and white 5 x 7 image at 300 ppi. Lens choice on this assignment was also important. The setting was surgery aboard a DC-10 jet aircraft. Since space aboard the plane was confined, a wide-angle lens was a must. The Nikon 990 with wide-angle, fisheye and medium telephoto attachments fit my particular

criteria. (Technical update: the Nikon 995 has recently replaced this camera.)

Going digital presented both new and old problems. Instead of film stock, the Nikon 990 uses compact flash memory cards. The camera was furnished from the manufacturer with a single 16MB card; adequate for low-resolution use, but barely enough memory for a single high-resolution image. A 128MB compact flash card could hold 13 high-resolution images. I chose to bring two 128MB cards and a borrowed laptop to download the images as each card became filled.

Digital capture made power an issue. Rechargeable nickel metal hydride AA batteries were chosen for the camera, as well as a separate portable battery pack (Digipower Digital Camera Auxiliary Power Pack <http://www.mizco.com>) that plugged into the camera's external power port. This combination allowed me to shoot all day while recharging the batteries at night.

Minimal flash use extended the life of the batteries and contributed to the available light look. International voltage and plugs were checked—Trinidad uses the U.S. standard. Be sure to check the voltage and adapter standards for your particular location and purchase appropriate adapters and power regulators before you leave. An AC adapter for the camera was packed as a back-up.

Creating the images in a digital format also required rethinking image storage strategies. As opposed to the traditional choice between developing film on site or upon return, my decision was between archiving CDs on site or upon return. Because the borrowed laptop had only a CD reader, not a CD writer, the first day back was spent transferring images from the laptop to archive and making back-up CD-ROMs.

Traditional photographic trip preparation advice that remained valid included:

- Make a shot list. It should contain

Figure 3. A complete story includes photographs of the participants and patients (A, B) in posed and candid situations (C, D). Include images that describe the locale (E, F) and its people (G, H). Focus on events and gestures (I, J) and look beyond the usual (K).



At the screening session, Dr. Fredrick examines Shaquilla, a patient who lost the function of one eye and has scarring in her other eye, following previous surgery for cataract extraction. As he works, he discusses her problem with the local ophthalmologists who are there to observe the visiting specialist.



To demonstrate how easy the eye drops are, ORBIS staffers first medicate Shaquilla's Elmo doll.



C

Dr. Fredrick says the trip was the “highlight of the year” because it allowed him to do the things he loved most about medicine: to teach, to learn and to provide care without worrying about patients’ ability to pay.



D

A view of the operating room through a hallway observation window: the video camera broadcasts the surgery to the lecture hall in the front of the plane.



E

Not an in-flight movie, but live video feed from surgery. Two-way audio facilitates give and take between the visiting and local physicians. During surgery room turnover time, this area is used for lectures.



F

The countryside of Trinidad is lush and tropical: full of mango trees, banana plants and coconut groves.



G

The tradition of school uniforms, photographed on a walk through a middle class neighborhood, is the result of British influence.



H

As in many other countries, not all children have the opportunity to attend school.



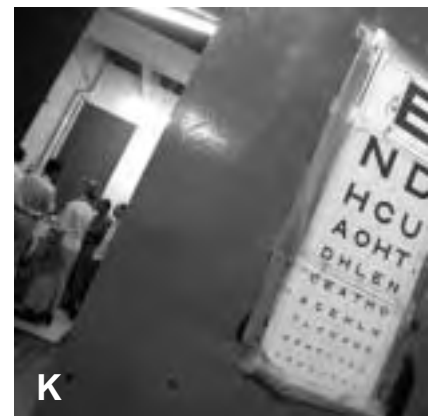
I

Dr. Black demonstrates an adjustable suture procedure as it would be performed without the benefit of the plane’s high-tech operating room.



J

After a day of having her eyes examined, Shaquilla turns the flashlight around. This image was used by ORBIS for a promotional calendar.



K

The familiar vision chart is a basic diagnostic tool. Even without the latest high-tech devices, the visiting specialist can teach the best use of simple tests and careful patient examination.

specific and broad pre-visualized ideas of both your subject and the mission or location.

- Know the capabilities and limitations of your camera and lenses before you leave.
- If you are photographing one particular physician or medical team, get to know them ahead of time. Arrange a lunch or sit in on a few patients to become familiar with their body language and facial expressions.
- Read about your destination: enough to inform, but not so much as to predispose yourself to a predetermined mind set. Good photojournalism requires an informed but unbiased mind.
- Identify the story. In my case, I had to decide if I was there to follow and photograph one physician—or if I was there to obtain images that could be used by ORBIS to promote its mission. I decided that this was a combination assignment.

Remember that no matter how carefully you plan, there will always be something that does not go quite right. For example, on my first trip to the Dominican Republic, I chose to bring my personal Contax RTS camera for color images and the clinic's Nikon F3 for black and white images. I reasoned that it would be easier to know which media I was working with, as the two different brands of cameras felt so different in my hands. What I did not plan for was that the lenses of the Contax focused to infinity by rotating to the right, while the Nikon rotated to the left. This situation did cost me some decisive moments, and I learned to check details like this in future planning.

On Location

The first day you arrive expect to be travel weary and bleary eyed. You will probably be ready to shoot anything that is different from home—no matter how cliched the viewpoint or image may be. I suggest

holding this first day as an immersion day: get to know the crew you will be working with, the locations you will be shooting, and the feeling of the land and people you are visiting. Observe carefully—look below the immediate surface of socioeconomic levels. Be a gracious guest. You may find yourself in a totally unfamiliar culture; do not be judgmental. Remember that you are there to record good works and the interaction of cultures. You are not there to judge, change or impose your culture.

The administration and crew can help you obtain your image goals. They will operate on a schedule that you should become familiar with. Never be late for a meeting, meal or bus call: it shows a lack of respect. Check with experienced crew members about the week's busy and less busy times. Get to know their stories and they will help you with yours.

Photograph a complete story (Figure 3). Record important events using multiple images: close-up, medium and far shots. Vary your timing and your lenses. Zoom with your feet, not just your lens. Vary your shooting location in each room you find yourself in. Look high and look low. Hold the camera above your head and down at your feet. Rotate and tilt your camera often. Leave the main room looking for peripheral action; return to the main action with refreshed eyes.

For me, this type of photography is both an active and passive process. Blend into the background while looking for candid. Alternately, take charge of the situation by posing your subjects. Seek out new angles—as well as finding an interesting setting or situation and watching as it develops into a good photograph. Pounce on the action with a quick trigger finger in addition to lingering patiently, waiting for the moment to clarify itself.

Step back from the situation: hire a local cab driver to bring you to the scenic overlook and to neighbor-

hoods of different socio-economic levels. Walk whenever you can (assuming it is safe), keeping an eye out for images of local flavor. Feel the rhythm of the place: when do people go to work? When does school let out? When is rush hour? Is there siesta?

If you are working digitally, you can use the LCD screen on the back of the camera for the 'polaroid effect.' Take a picture and then show the subject. At most they will be more cooperative if you need additional pictures, at the least they will know that your picture taking is not a negative or threatening situation. The LCD screen was also useful as a viewfinder when the camera was placed in a tight corner, at waist level or overhead.

Work through your shot list and update it each evening. Are there additional situations you need to pose? Are there any image-making opportunities that you have not yet considered?

Since this was my first experience using a digital camera on this type of assignment, there was much to learn. The 'instant edit' capability of the digital camera's built in LCD screen allowed me to work with the situation and achieve a higher yield of acceptable first-edit images. On average, each day yielded 55 images, with 87 being the highest daily take after field editing. I was happy I chose to bring two 128MB compact flash cards, as when full, each took five to seven minutes to download to the laptop's hard drive. I found the USB card and card reader (which derived power from the laptop) worked best when the laptop was plugged in. In the future, I would investigate using the 'Digital Wallet' (Minds@Work <http://www.mindsatwork.com>)—a small, light hard drive only unit that stores—but does not open—computer files. The pace of shooting high-resolution images with this camera model was cumbersome in certain situations. This camera required one full minute to save each 9MB file. If I saw a fatal flaw in

the image being saved on the LCD preview screen, it was easy to begin the erase procedure. If I wanted two versions of a posed photograph however, subjects needed to wait while the camera saved the image. If available, a rapid fire (but expensive) digital SLR would be the best choice for this type of assignment.

A folder for each day's images was created on the laptop's 4-gigabyte hard drive. By the end of the week, a total of 2.4 GB of space was used for 314 items. The laptop allowed me to show the images to the participants. Editing at night, I shared images with interested people the next day and during a physician CE lecture.

Throughout the week, collect contacts while jotting down 'to-dos' on the backs of business cards. Pass out your card and ask people to contact you with a reminder of the information or images you promise.

Follow-up

Send a thank you note to each person who was involved in helping you complete the project. Do not forget the physicians you worked with and the administrators who helped pave the way. Distribute images to appropriate people: the publication contacts you arranged

earlier, the people who were promised an image during the trip and the public relations contact for the organization with whom you visited. All thank you notes and images should be completed within four weeks after the trip.

Conclusion

Biomedical photographers are uniquely suited to using their photojournalism skills to document medically oriented projects throughout the world. This type of work requires training your eye as well as controlling the photographic process. Positive outcomes result when proper planning, on-site work and follow through is completed. This type of assignment is a great way to exercise your biomedical photojournalism muscles. The author is signing out from seat 25A of BWIA return flight number 424.

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