A different approach to panoramic photography

Andrew Davidhazy
Many years ago I was introduced to the potential for strip cameras to produce startling interpretations of ordinary subjects. This was mostly as a result of George Silk's work. He was a prominent Life photographer who used one of these cameras to photograph the 1960 Tokyo Olympics. After seeing his photographs, I became intrigued with the process and have built and experimented with these cameras ever since.

There is an intriguing aspect to this type of photography. It is the fact that while there actually are many specialties within photography that depend on strip recording principles, usually few of the "specialists" is aware of how this unusual method for making images applies outside of their own area of interest. Strip cameras come in all kinds of designs and are used for a variety of applications. For example, there are racetrack photo finish cameras, peripheral cameras, aerial strip cameras, synchroballistic cameras used in missile photography, document recording "flow" cameras, and finally also, panoramic cameras.

Since all of these are considered special and sophisticated cameras, their price tag is usually quite high. On an "educational" budget I could not afford them so I constructed improvised versions of all of these types. I have been using them for personal research and teaching purposes in classes at the Rochester Institute of Technology for the general topic of photoinstrumentation. Having to work with "homemade" equipment is actually not as limiting as it might sound and a number of benefits have accrued to me and my students as a result of using these experimental cameras.

For one, I have become quite intimately acquainted with the general operating principle of the various systems. For another, I have stumbled on many interesting applications for these cameras that would probably not have happened if I had been able to afford expensive "black-boxes" suited for single applications.

One of these fortuitous accidents came about when the Dansk Corporation asked me to make a roll-out or peripheral photograph of some ceramic-ware. Among the items was a tapered teapot. Making a 360 degree reproduction of this item would have introduced distortion into the reproduction because a normal peripheral camera could only reproduce the top and bottom as equal lengths of film while the teapot itself had a smaller circumference at the top than at the bottom.

To solve this problem I designed a strip camera that moved the film faster at one side of its recording slit than at the other.
This was achieved by moving the film in a circular, rather than in the traditional linear, fashion.

The second accident came about later at a meeting of the International Panoramic Photographers Association. There I became aware of problems that panoramic photographers were having when using the Goldbeck "wedge". This device supposedly allows the tilting of vintage Kodak Cirkut Panoramic Cameras to include lower areas of a scene than would normally be covered by simply using the lens board dropped down to its lowest position. I deduced that this problem was caused by differential image velocity along the exposing slit of the camera induced by the tilt angle. I also made a connection with the camera I built for the tapered teapot. Shortly thereafter I rigged up my camera to make panoramic pictures and I deliberately introduced a significant amount of vertical tilt into the picture.

The theory worked out perfectly in practice and the panoramic photographs showed no blurriness anywhere. Another somewhat unpredicted outcome was that although I already knew that the negatives this camera would produce were circular and that a given panorama would be recorded in a section of circle, it did not occur to me until later that the images created with this improvised camera would also provide me with a new way of seeing and interpreting the world as few others had done before.

The resulting photographs lend themselves for display as flat art or as three dimensional pieces. In this latter fashion they can be used to decorate any object that has a general a conical shape such as sun hats, umbrellas, skirts or even lampshades.

Strip cameras in general have been a great source of inspiration and satisfaction over the years, and I can not help but credit this work with being a significant factor in being chosen for the Kodak Visiting Professor award.

Over the years I have made numerous conventional and circular panoramic and peripheral photographs. I have also made the acquaintances of and developed friendships with people around the world from meetings brought about while my panoramic camera is scanning a scene or while it was presented as part of a lecture on the principles of streak, strip and scanning photography.

END