

Up, Up and Away...

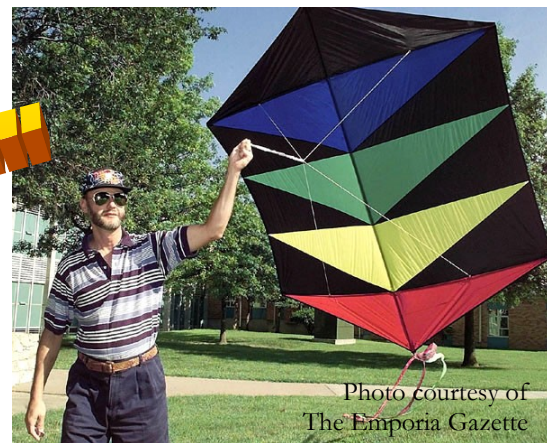


Photo courtesy of
The Emporia Gazette

James Aber's interest in science came naturally to him as a kid growing up in Kansas City, Missouri.

He was a collector. "Everybody I knew collected everything—insects, rocks, seashells," he says. When his family went on vacations to the Appalachian Mountains or the Gulf of Mexico, he was curious about the different types of terrain. He wondered why they were different and how they got that way.

In college, Aber thought about oceanography. "When I got seasick that fell from favor," he laughs. A course on geology set him on his way. Geology is the study of the origin and structure of the earth, including the physical forces that have shaped it and its physical history. Studying rocks and rock formations is an important part of geology.

For more than 25 years, Professor Aber has been a researcher and teacher in the Earth Science Department at Emporia State University. He has done a lot of field work in Kansas and around the world. Field work is a basic tool of a geologist. It means a lot of driving, walking, observing, taking samples, making maps, measuring and describing landmarks and recording information.

Aber's work in earth science led him into remote sensing, which uses satellite imagery and aerial photos as another way to look at the Earth's landscape. He has studied space photos and data at NASA's Johnson Space Center in Texas, Goddard Space Center in Maryland and Stennis Space Center in Mississippi.

"A scientist is always looking for new ways of gathering data," he says.

That's how he came up with the idea of using a giant kite with a remote control camera for taking aerial shots of some of the same landscapes as satellites do. Satellite images, which can be of a whole continent or even the Earth itself, do not look the same as photos taken with a camera. For one thing, they are taken from too far away. Also, because they often track things invisible to us, like global temperature, computers take the information and color code it to provide map-like images. For example, yellows and reds would be warm climates; blue and purple, cold ones.

See the need for Professor Aber's kite aerial photography? His closer photos help scientists understand in as much detail as possible the far-away images satellites send back to them. Aber has used his kite aerial photography in Denmark, Canada and Iceland to study how glaciers molded and shaped land during the Ice Age, some 10,000 to one million years ago. Understanding this adds another piece to the puzzle of Earth's history and can be useful in looking ahead to Earth changes.

Aber's research also helps in the present. His photography is helping Kansas biologists and Earth scientists to monitor the reclamation of Cheyenne Bottoms, an important bird migration site in central Kansas. He recently co-authored a book published by the Kansas Geological Survey, "Kansas Physiographic Regions: Bird's Eye Views" which is part of an educational series.

As Professor Aber's work shows, he finds new geology-related interests all the time, and he has a suggestion for students. "Follow your interest. Investigate it. Explore it. It will lead you somewhere!" says Aber.