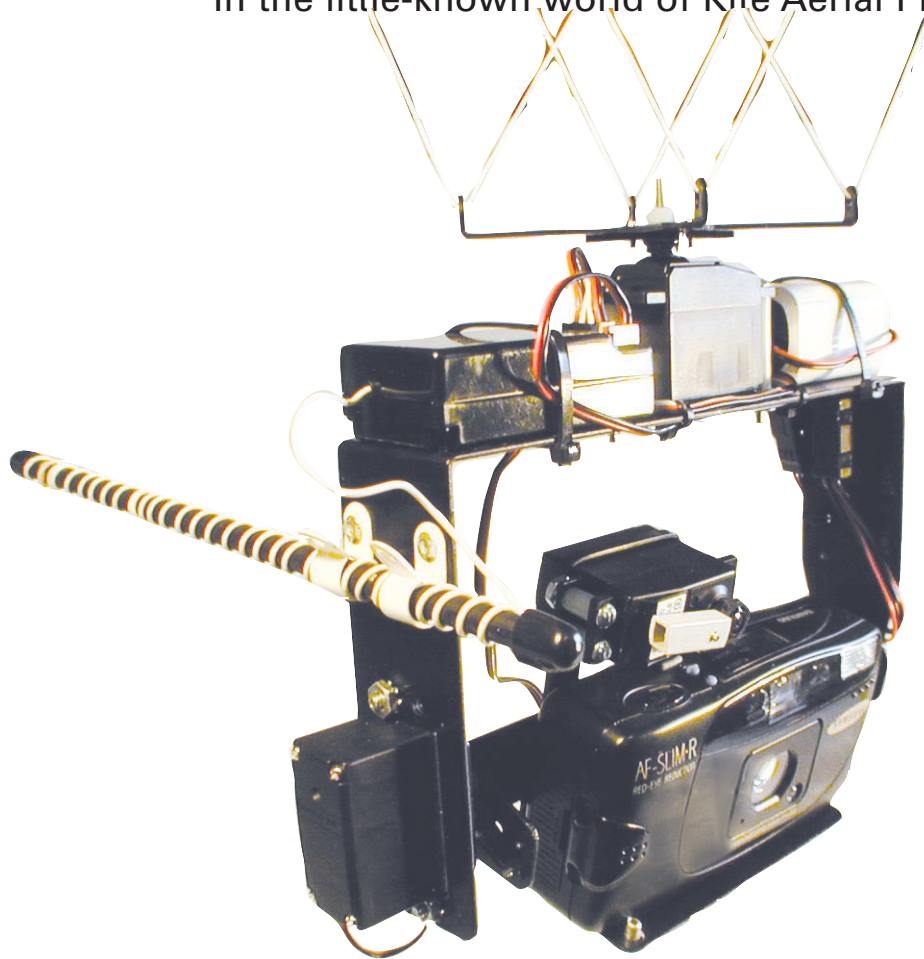


An aerial photograph showing a coastal town with buildings, a baseball field, and a beach. The ocean is visible on the right side of the image.

Eye in the Sky

CHARLES BENTON

In the little-known world of Kite Aerial Photography, the sky's the limit | by Bruce Willey



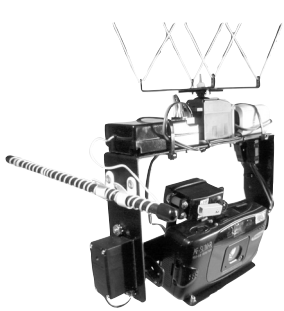
More than a 100 feet above Lighthouse Field is a panorama that only the pelicans, seagulls and low-flying pilots defying FAA regulations are familiar with. It's a perspective that we mortals can only dream about in deep sleep when earthly reality floats away on the wind. But Glenn Nelson is intent on capturing this scene on film on a windy March afternoon with a kite.

If you've never heard of kite aerial photography (KAP) or the aficionados (kappers), who prefer to sever their earthly ties via a camera attached to a kite, you're not alone. Though it's hard to estimate such things, most kappers will tell you there are only 200 or so of their kind spread out over the globe. Nevertheless, their small numbers belie the fact that they are capturing some of the most remarkable and exciting images to be found in landscape photography. All this while implementing the same basic KAP principles used before the invention of the airplane.

Everything Nelson needs fits in a duffle bag that he keeps in his car should the KAP mood strike, or more importantly, if the wind conditions are just right. The apparatus include: two Sutton Flow Form kites (an airfoil kite and the preferred kite for West Coast kappers where coastal winds blow steady); a line winder and 500 feet of 220-pound test line; an Olympus Stylus camera (another preference of kite photographers for its simplicity and durability); an anemometer to measure wind speed; a lightweight handmade frame that holds the camera and is outfitted with servos to tilt, pan and press the shutter of the camera; a radio control transmitter most often used for model airplanes; and gloves to keep the line from cutting into his hands. To get a camera airborne it costs from \$500-\$700, including kites and camera—considerably cheaper than an airplane, blimp or hot air balloon.

Nelson checks the wind with the anemometer to determine what size kite to use. The wind's fairly steady at 10-15 miles per hour from the north, so he chooses the Sutton 16, as in 16 square feet of nylon. If he can, he'd like to get a picture of the surfers surfing the waves at Steamer Lane, the wind throwing spindrift off the back of the waves in shimmering water showers. With the wind blowing offshore, angling the kite over the surf break is going to be tricky though.

The kite goes up without a hitch and floats up and away, its colorful nylon punctuating the cloudless, sky. Nelson doles out the line until the kite reaches an altitude where the wind is smoother and less turbulent. Then, at about 100 feet, he attaches the camera rig to the line. Some kite photographers use what's



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called a picavet (pronounced *pick a vay* and rhyming with way), a homemade set of strings on a crossbar that looks like the controls for a puppet, to keep the camera level. Nelson says the picavet is too much bother; the many lines are apt to tangle. Instead, he's rigged a foot-long piece of wood with two cleats to which he's tied the line.

But just as the kite lifts the rig into the air, Aeolus, the Greek God of the wind, stops blowing and the camera droops dangerously close to the bluff's edge. Nelson reels in the line for all it's worth to save his camera and rig from spilling into the sea or thumping a person on the head. Time to break out a bigger kite, he says, unraveling the Sutton Airform 30, a kite that is almost twice as big.

"There's a delicate balance between just enough and too much wind," he says.

Nelson has been KAPing for about five years. He built his current setup by looking at other kite photographer's rigs, figuring "Ah ha, that's how it's done." Though he says he isn't mechanically inclined, Nelson does hold a graduate degree in geophysics from UC Santa Cruz and currently works for Nokia as a senior software engineer. Most rigs, he says, follow the same design. The rig needs to provide a relatively stable platform for the camera and it needs to be able to turn the camera up, down and sideways, not to mention press the shutter.

Kite photographers come from all walks of life, including an Alaskan ferry boat captain that flies his kite off the back of his ferry. There's also a UPS driver, an architect, teachers, and, of course, one Nokia employee. But it isn't just all fun, film and wind. Scientists have also discovered kite photography as an inexpensive tool to document faults and soil erosion, and archeologists have used KAP to document digs from the air. There's even one kapper, Nicolas Chorier in France, who makes a living at it, mostly taking pictures with a medium format camera of building sites and then selling the pictures to architects, town planners and property developers. "We're a little bit like ham radio enthusiasts," says Nelson, "but not quite so geeky."

High as a Kite

The Golden Age of aerial photography, if there was one, was the late 19th and early 20th centuries. Before the invention of fixed-wing aircraft, the only way you could get a camera in the air was by balloon, kites or primitive rockets shot into the sky. Before that, artists, using principles of perspective, attempted to render what the earth looked like from the point of view of soaring birds and the Good Lord looking down on his minions. "There was an innate desire to have this kind of view," says Charles Benton, an experienced kapper, host of an extensive Web site about kite photography and professor of architecture at UC Berkeley.

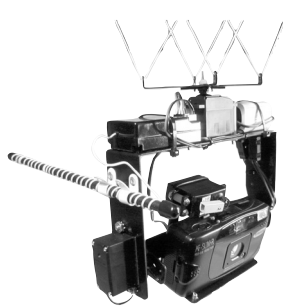
Benton finds a commonality with early photographers that sought to explore the natural world through freezing it on film. He cites Eadweard Muybridge, for instance, who took high-speed, sequenced photographs of running horses, proving that at full gallop all four of a horse's legs leave the ground. "Muybridge employed photography that allowed us to go beyond our native senses," Benton says. "I think low altitude aerial photography does that too. It allows us to engage a scene but from a vantage point that we can't naturally occupy."

A French gentleman farmer and inventor, Arthur Batut, is credited as the first to attach a camera to a kite in 1887, when the Wright Brothers were just teenagers. Batut used a slow-burning fuse to trip the shutter, after which a small flag fell from the kite to indicate the shutter had been released.

Although the technology has been upgraded from wicks to music box time releases to radio-controlled servos, Benton says the basic principles are the same and that modern day kappers struggle with the same problems and techniques as Batut did. "I have profound respect for the early efforts," he says. "People like Batut were simply ingenious."

One early American kite aerial photographer, in particular, commands a lot of respect for modern-day enthusiasts. Just 20 years after Batut's pains, labors and wicks, George Lawrence launched an epic kite flight over a devastated San Francisco after the 1906 earthquake. Using a train of nine large





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San Francisco after the 1906 Earthquake.



GEORGE LAWRENCE

kites to lift a 49-pound wooden panoramic camera that he built specifically for the project, he managed to lift the camera to more than 2,000 feet above the burned city, and took some of the most poignant pictures of the city’s smoking ruins. He had to anchor the kites to a navy ship docked in the bay, and somehow he was able to bring the contraption down without the camera dunking into the water. In KAP circles, it’s still considered a worthy achievement in KAP history.

But with the invention of the airplane, kite photography fell to earth and fell out of favor. Aside from an article in *Popular Mechanics* in the 1950s and the few people who had reinvented KAP in isolation using switches and rotisserie motors from automobiles, KAP was mostly thought to be in the windless doldrums, a quirky aside in the annals of photography and technological inventions. Then, in the mid-’80s there was a resurgence thanks in part to the efforts of Michel Dusariez who founded Kite Aerial Photography Worldwide Association (KAPWA) and co-wrote a book on the subject that is now out of print. Before KAPWA dissolved in 1995 it counted 400 members to its name.

Ironically, it was a new and very unrelated technology that was to blame for kite photography’s resurrection. The Internet unexpectedly connected the rare few whom were already flying kites with cameras, and allowed for an exchange of ideas and pictures. During the early ’90s modern-day kite photography experienced a renaissance of sorts and continues to grow as the technology gets smaller and lighter, and as many kappers begin to trust their digital cameras to the unpredictable nature of wind. (Read: the very real possibility of a crash landing.)

Benton says he originally got into KAP to “decompress,” but it’s been more than 10 years since he first flew a camera on a kite and now he doesn’t leave home or go on vacation without his rig and kite. In fact, KAP has informed the way he thinks about architecture—he jokingly refers to himself as an architectural aerial dynamiscist. He often flies kites and cameras around buildings, including the Berkeley landmark Sather Campanile bell tower on the Berkeley campus, to see what it reveals about a buildings airflow pattern in a complex, three-dimensional environment.

But Benton’s real passion is capturing the unexpected results from flying a camera overhead.

“One of the lovely things about this pursuit is comparing what you think you’ll get to what you actually get,” he says. “Going through this process, where you compose (the picture) in absentia, watching the attitude and altitude of this object as it floats around, and trying to project yourself up there and wondering what you’ll see, what relationships will emerge, is very much at the heart of kite aerial photography. It’s the process of reconciling the mind’s eye during composition and the actual artifact that causes me to learn a lot.”

Blow Wind, Blow

Mind’s eye. It’s an idea you hear a lot when hanging around the rarified, sometimes windy air of a kapper.

“Mind’s eye helps to bridge the gap between pure conscious effort and sheer sloppy luck,” says Brooks Leffler, a Pacific Grove kite aerial photographer and former editor of *The Aerial Eye*, a now defunct kite photography journal that is now on CD ROM.

The wind is dead calm when I arrive at Leffler’s house situated on a sand dune overlooking the ocean. Leffler sports an Ansel

Adams-like white beard and has done more for advancing kite photography in the last decade than a roomful of kite photographers put together. In fact, such a room of kappers took place in 2002 and 2003 when kite photographers held their convention in Asilomar, near Leffler’s home. More than 50 kappers showed up from around the world to attend the conference that featured lectures, demonstrations and KAP field trips.

“It was a smashing success,” Leffler says. “There’s a lot of standing on each other’s shoulders and people are really intrigued when someone comes up with a new idea. New ideas spread like wildfire.”

He takes me into his shop where some of these new ideas are germinated and where he makes rigs and kites. Last month, Leffler began offering prefabricated rigs for sale but says he isn’t going to push or market them.

“I don’t want a bunch of dilettantes who are just going to dabble in it and not take the time to learn how to fly a kite safely,” he says. “Most people think that a blustery March or April day is a perfect day to fly a kite and it’s just not. If you want to do kite photography, you need to have the kite flying so ingrained that it’s second nature. There’s plenty to keep your mind on just taking the pictures.”

Leffler has heard enough kite horror stories in his day—kites flying into high power lines and knocking out power to an entire city, people dragged along the ground by a big kite in too powerful winds, etc.—that he often tries to warn KAP newbies about some of the intrinsic hazards.

And there are artistic perils to consider as well. The beginner is happy just to get a kite and camera in the air and to get it down with the camera in one piece. However, the thrill soon wears off. Sooner or later the nuance of the aerial landscape starts to take shape in the mind of a good kapper.

“Most beginning kappers are so delighted to get a camera in the air that they take pictures of anything and most [pictures] are not particularly interesting,” says Leffler. “The city park, the soccer field, an expanse of grass, a high school campus, doesn’t cut it. It is the artistic talent that separates the really competent people from those that are just also-rans.”

One of those really competent kite photographers, and a young upstart admired by some of the older, more experienced kappers, is Scott Haefner. Haefner’s only been at it for just over two years but has already come up with a radical idea: creating bubble panoramas or a 360-degree perspective of the landscape by taking a picture straight up and straight down. He uses a fish-eye lens and a picture stitching software to achieve a final product that allows the viewer to spin around the picture as if she or he were actually suspended from the kite line. He’s also interested in taking virtual reality 3-D pictures in the future after he works out some of the kinks.

“Anywhere I go I’m always checking things out for a possible location to do kite aerial photography and make mental notes and logs in my computer on where I might shoot in the future,” says Haefner. He also uses real-time wind maps produced by the United States Geological Survey (USGS), where he happens to work as a geologist. “In fact I have a window open on my browser and I’m watching the wind right now,” he says. “What’s the wind like right now in Santa Cruz?”

Up, Up and Away

Back at Lighthouse Point, Glenn Nelson has the Sutton 30 in the air. Nobody pays him any attention; it’s just another kite

The coastline of Pacific Grove.



“Mind’s eye helps to bridge the gap between pure conscious effort and sheer sloppy luck.” -Brooks Leffler

BROOKS LEFFLER

until he attaches the camera to the line and it becomes something out of the ordinary. Then, suddenly, everyone is intrigued, craning their neck up to the sky at this contraption. Nelson does his best to accommodate the questions from the curious onlookers but he’s multitasking and his hands are full, quite literally. “Is that a camera?” asks a tourist with an Irish accent. “Yes,” Nelson answers. “Did you invent it?” asks another. “No, a guy in France did,” Nelson says as the wind picks up and pulls forcefully on the line.

These questions are so common that Brooks Leffler made a T-shirt for kappers with anticipatory answers to the ubiquitous questions on the back.

Yes

Taking Pictures

Of You and Me and the Scenery

No, A guy in France did in 1887

I control it by Radio

As High as the String will let me

I Can’t, I just Guess

Thanks

“What are you filming?” says another man joining the curious group assembled around Nelson.

“You, me and everything around here,” says Nelson.

“Just for fun?” enquires another.

“Just for fun,” says Nelson as he tries to maneuver the kite over the water. In about five minutes he whips through a roll of film, capturing the green lawns and winding pathways of lighthouse point contrasted by the foamy, kelp-tainted waters of the ocean. In about the time it takes to set up a camera on a tripod, take a light reading, compose a picture and put the camera back into the bag,

Nelson has attached a camera to the kite line, taken a whole roll of film and brought the camera and kite back down to earth.

As he rolls up his kite and packs away the camera and rig I ask him what he most likes about kite photography.

"It's thrilling and beautiful to see our habitat from the bird's-eye perspective. KAP is a multi-faceted hobby: there's the pleasure of flying a kite, the thrill of the unexpected images, the enjoyment of a garage hobby that requires a small shop, and the camaraderie of this small, yet international community of kappers."

More of Glenn Nelson's Kite Aerial Photography can be seen at Jill Judd's State Farm Insurance Agency, 820 Bay Ave., Suite 103. Office Gallery hours are 9 a.m. – 5 p.m. 462-1666.

For more information on kite aerial photography visit:

Charles Benton's KAP Web site:
www.arch.ced.berkeley.edu/kap/

Peter Bults' KAP Web site:
www.kiteaerialphotography.net

Scott Haefner's Web site:
www.thehaefners.com/kap/

Glenn Nelson's Web site:
www.64.166.9.254/aerial.htm



Cargill Salt Ponds, Bayfront Park, Menlo Park.

SCOTT HAEFNER

...trying to project yourself up there and **wondering what you'll see, what relationships will emerge,** is very much at the heart of kite aerial photography. -Charles Benton