

KiteLines

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FALL 1980

quarterly journal of the worldwide kite community

**Ahhh...Scheveningen! Holland's Highest Day
Kites as Art: a major survey by Tal Streeter
World Records in Kiting — Definitive Review
Superbly Zany Asymmetrical Kites**



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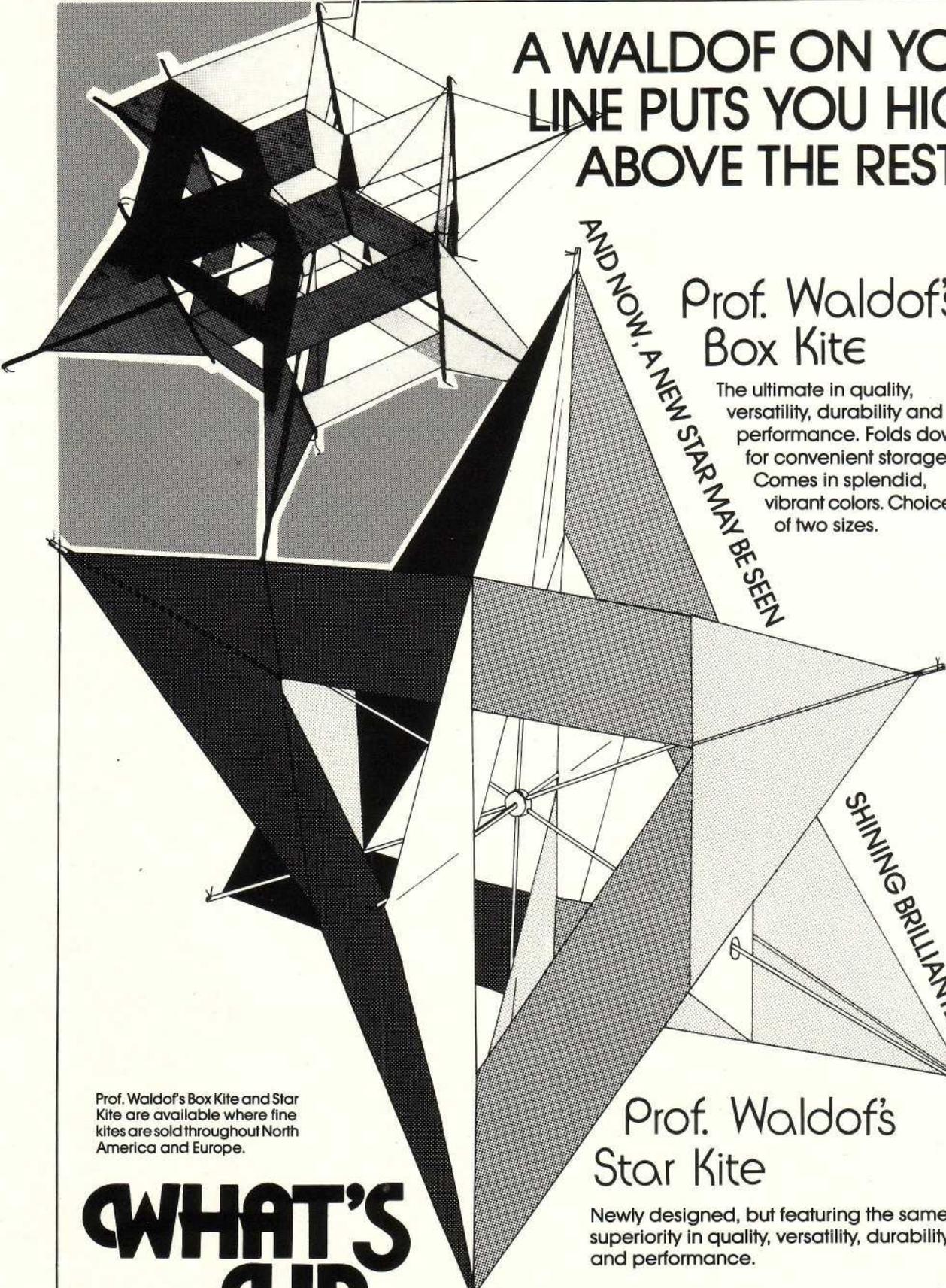


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Contents

Volume 3, Number 3, Fall 1980

Tal Streeter on Kites as Art / 19

Q. It's a kite but is it Art? A. Yes! Q. It's art but is it a Kite? A. Yes!
An authority suggests it's time we granted the eye freedom to see the beauty in all kites. A large portfolio of photographs illustrates. With bibliography of recent kite/art articles.

Postscripts: Kites as Art / 26

Paris: Exhibit at Passage Verdeau, reported by Andre Mignard.
England: Kites of Frank Holterman, reported by John Spendlove.
Lists of past and future kite exhibitions.

Of Termites and Kitefliers / 29

By Wood Ellis. Pheromones in one man's philosophy.

Ahhh. . .Scheveningen! / 31

One of Europe's most spectacular kite days enjoyed.

World Records in Kiting: Questions, Answers & Challenges / 33

By Valerie Govig. How to Document Your Record; Definitions & Rules to be Observed in Seeking Any World Kiting Record; Currently Recognized Categories of World Kite Records; and New Categories of World Kite Records which *Kite Lines* Recognizes.

The International Exposition of Asymmetrical Kites / 37

Story by William A. Rutiser, Photographs by Theodore L. Manekin.
Twenty-one officially entered kites go through a rigorously zany process.

The Convertible Cubics of Takaji Kuroda / 40

Story and Photographs by Larry Hoffman. An eye-filling visit to the home of a man whose kites are quite appropriately called "Magic Kites."

Departments

Letter from the Editor / 6

With pictures from the AKA kite convention in Seattle.

Letters / 11

What's New / 14

Reviews of the Snowflake/Facet Kite, the Sutton Flow Form, the Waldof Star Kite, the new 15-disk centipede, the Newport Boat and the new nylon-model Skynasaur. In the reading section, we look at some useful, inexpensive booklets from manufacturers.

Innovations / 16

The 14-d Box Kite by John Spendlove. A triangle-in-a-triangle to puzzle all eyes. Comment by Curtis Marshall.

Design Workshop / 42

The Piney Mountain Air Force and the Hornbeam Sled-Kite, Mark I.
By Guy D. Aydlott. Includes a challenge to all sled-kite fanciers.

News from Here & There: Stateside / 44

News from Here & There: International / 48

Directory of Outlets / 46

Classifieds / 52

Swap Shop / 52

Cover

The scene is Scheveningen beach in Holland, outside The Hague, where one of the most sensational kite festivals of the summer has been happening for the last three years. In 1980, one of the star attractions was Nick Morse and his marvelously crafted Cody man-lifting kites from England. The sight is captured on film by photographer Eric Schoevers.

KiteLines

(USPS 363-090)
succeeding *Kite Tales*

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Publisher: Aeolus Press, Inc.

Editor: Valerie Govig

Associate Editor: Richard F. Kinnaird, Jr.

Business Consultant: Kalman Illyefalvi

Circulation/Reader Services: Judith Faecher

Design and Mechanicals: Weston Phipps

and Cathy Pasquale

International Correspondents: Jacques and

Laurence Fissier; *British Correspondents:*

Ron Moulton and Clive C. O. Rawlinson

Editorial Advisory Panel:

Guy D. Aydlott

William R. Bigge

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Kite associations and clubs are located around the U.S. and the world. *Kite Lines* works for and with all of them and maintains an updated file on them. Write for information about your nearest group.

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Letter from the Editor

This issue's letter might better be called "Travels with the Editor." Kites have, literally, taken me away!

Our destination in October was Seattle, Washington, for the third annual meeting and festival of the American Kitefliers Association. A total of 151 kitefliers registered for the events as conducted by the hard-working Washington Kitefliers Association. We had a delightful time meeting old and new friends and relishing the magnificent scenery and weather. . .well, we *could* have had wind! But kites did get pulled up and shown off briefly. A few light-wind airplane kites floated steadily and some fighters flown by Vic Heredia and by Grandmaster Kites darted about in the sunshine. But the camaraderie of the occasion, the sharing of kite ideas

with fellow grounded fliers, was as good a compensation as one could wish for.

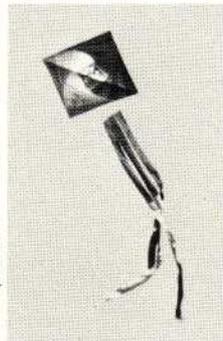
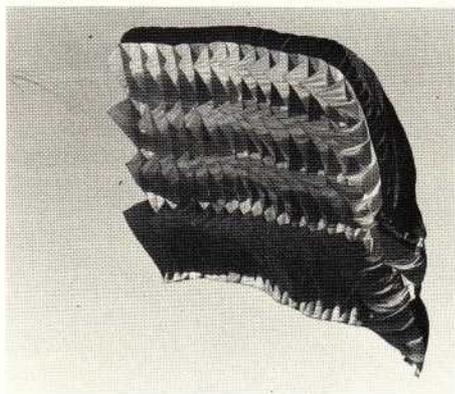
A slight dose of indigestion during the weekend was brought on by the meeting proper. The president's report (though no motion to accept it was made) was read with little background reporting to explain the decision of the board to hire an "association management company" to handle the awesome tasks of mailing a newsletter to 800-some listings. Time prevented public discussion and those attending were left with an unfortunate sense that accountability to the members had been violated. It is hoped that future dialogue will be opened by the new president, Bevan Brown. We all know that democracy is both precious and difficult. *Kite Lines* wishes good luck to AKA and hopes its

struggles are resolved in favor of sharing responsibility with the members. When *Kite Lines* established AKA in 1978, our whole purpose was to make that kind of sharing possible.

Meantime, kites are not letting problems like this hold them or their kites down. The really BIG news at Seattle was the Edmonds Community College Kite Team's effort to outdo the Shirone Kite Association (Japan) in flying the world's largest kite. After months of work constructing a Parafoil, the team was assisted by Domina Jalbert, designer of the kite, and George Ham, Parafoil expert. Launch took place at Magnuson Park (a former Naval airstrip) with Federal Aviation Administration clearance on October 3, 1980, at about 6:15 p.m. The kite was estimated



Left and below, the Edmonds Community College Kite Team prepares its gigantic Parafoil for flight—and flies it! (Left, white-haired Domina Jalbert and hatted George Ham lend expertise.) A few of the sights from the Seattle festival, including: (inset) Curtis Marshall's lobster Spectators' Choice; and (below it) Fay disguise, judged the Most Beautiful. Takeshi Nishibayashi singing with Weathers competing with his Star kite on Edo-type plan with handsome motif cover; Margaret Greger's rainbow-Steve Edeiken's Nagasaki-inspired train figures to applause for his legpower!



to have 10,000 pounds of pulling power and was anchored by a dump truck filled with 24 tons of gravel.

Specifications were supplied to *Kite Lines* only by Harry Osborne of the Needle Trades department of the college and through clippings from local newspapers, and are as follows:

Dimensions of kite: 50 x 70 ft (3500 sq ft)
 Wind: 15 to 18 mph
 Weight and materials: 300 lbs of rip-stop nylon
 Flying line: 3300-lb test
 Duration of flight: 2 min. 47 sec. (timed video tape only)
 Altitude above ground: 300 ft
 Flight crew: about 10 people, students of Edmonds Community College, Lynnwood, Washington.

Osborne has said the team intends to add to the kite and fly a larger version, breaking their own record, each year. In view of the brevity of the flight, it is hoped the team will fly the kite again with third-party clocking and observation to clinch their record unequivocally. (See pages 33-

36 for a review of world records generally.)

The celebration over the E.C.C. achievement raised the pitch of the enthusiasm in Seattle to an ultra-high level and put the weekend on the books as one of the really Big ones in recent kiting history.

Geneva, Switzerland, was the next stop for your editor on a visit occurring just before press-time. I want to share it with you briefly.

Can you imagine a major international nonprofit educational and conservational organization choosing *kiteflying* as a way to raise funds and increase public awareness for itself? It really makes great sense when done right, done imaginatively, done on the grand scale.

Kite Lines has assisted and will be further involved in the planning of just such a project. It is too early to give details, but the effort is underway and will be building up toward a grand finale about two years down the road. Excitement certainly fills the air—especially when breathed in beautiful Switzerland! V.G.

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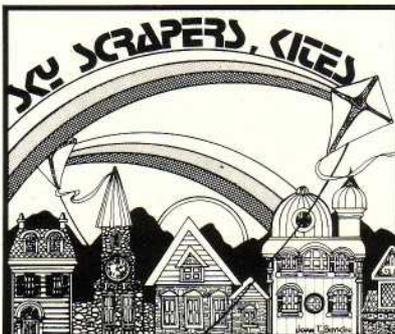
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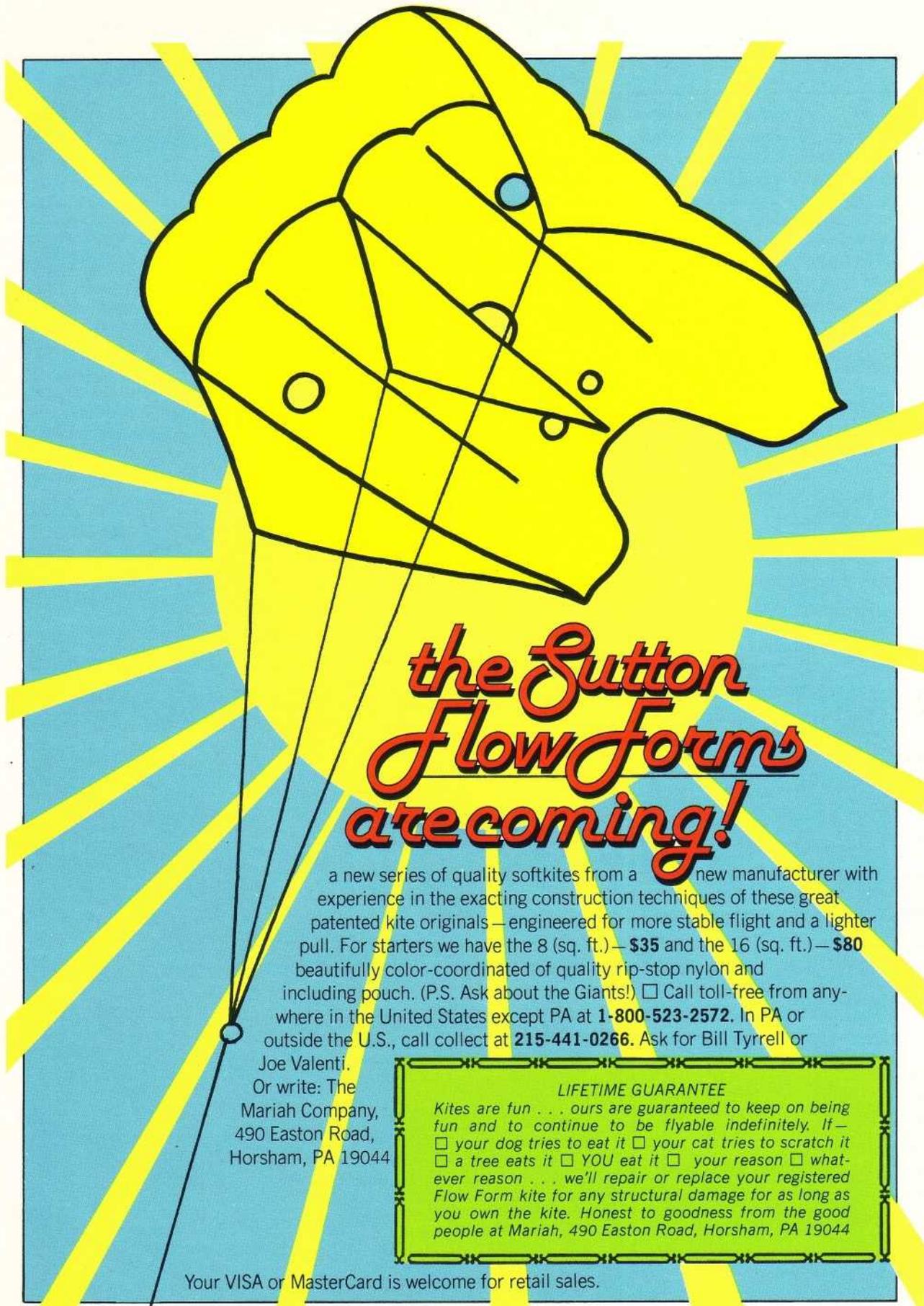
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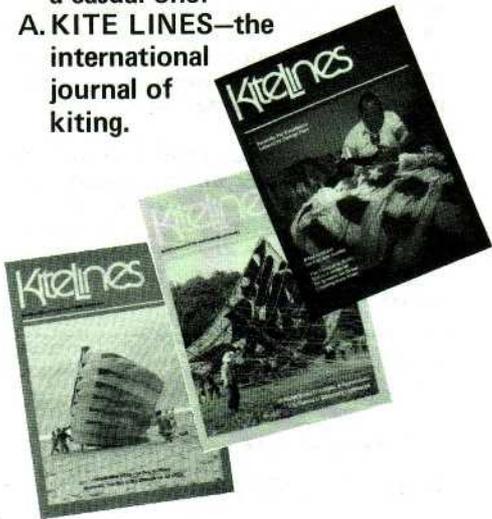
a little puff:

Q. What distinguishes a kite from other aircraft?

A. The line.

Q. What distinguishes an all-out kiter from a casual one?

A. KITE LINES—the international journal of kiting.



Put some kite aficionados together and listen to them talk. Sooner or later they'll mention *Kite Lines*, the singular quarterly journal devoted entirely to kites.

The growing worldwide community of adult kites draws not only most of its new information but much of its sense of kinship from this rare gem of a magazine.

Throughout the United States and around the globe, more people are becoming kites all the time and *Kite Lines* is opening up new skies to all of them. Kiting's multiple layers of appeal as science, art, craft and sport give it enduring fascination. Kite clubs (about 40) and kite shops (over 100) are now active worldwide. These varied groups have one thing in common—*Kite Lines*, kiting's standard of reference since 1977 (and preceded by *Kite Tales* since 1964).

Here you'll read about everything from dual-line stunting and air ballet to oriental fighter kites and inventive designs in space-age synthetics—all in this respected, exciting quarterly, *the* source of international kite news. Plans, techniques, reviews of kites and books, profiles of kiting personalities, in-depth feature articles—and unusual advertisements, too—fill the pages of *Kite Lines*. Noted for its fine photography, design and printing, in a generously visual 8½x11" format, *Kite Lines* is fit for your coffee table—if you can stand to leave it there. But it's likely to become dog-eared, used, saved and cherished for its authoritative information, available nowhere else.

You can expand your knowledge of kites and find friends in the field—by reading *Kite Lines*.

Kitelines

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Letters

GOOD-AS-GOLD TAILS

I won a contest for the "longest kite" with a dime store two-stick to which I attached a 150-foot Mylar[®] tail. The tail was a two-inch-wide 150-foot-long piece of gold Mylar which was used by a printing company to hot stamp foil seals on Indiana University diplomas. Printing companies that do "hot foil stamping" throw thousands of feet of it away, sometimes one or two feet wide, so if you don't mind the stamped insignias or business logos this is a good source of very thin Mylar—and it's free!

Gary L. Romine
Columbus, IN

KITES BY FRACTIONS

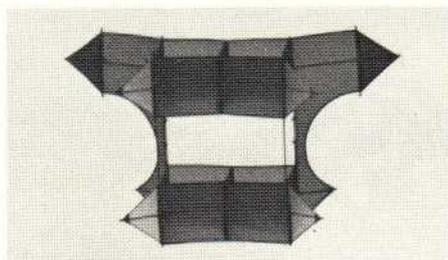
Although I am 51 years old, my interest in kites started only 2½ years ago through a chance remark by a disk jockey on our local radio station, "Capitol." During these last 2½ years I have acquired a selection of 20½ kites—yes, 20½; the last one, a 15-foot delta, is just about half finished.

I thought you may like to see some pictures of two from my kite collection, both homemade.

My home workshop has also seen the creation of several kite reels and numerous accessories for getting them up and down. Other bits and pieces are messenger devices and "dropnik" gadgets; needless to say, we attend all the kite festivals we can.

My other avocations are woodworking and more recently photography. Maybe sometime I may get to visit some brother and sister fanatics on your side of the big pond.

David Wightman
Epsom, Surrey, England



Above are examples of David Wightman's work.

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OF FOXES, KITES AND MASCARA

This is the only picture in the world showing how a wild fox feels about a big red oriental kite:



Art Foran

Untethered fox looking at tethered kite.

The fox has a peculiar power. All eyes. Must be the same force that keeps the mascara people in business. A force looking for a name. I think Foxy's mascara is designed to improve his vision like a camera's sunshade or the black paint inside field glasses. It is also useful to toss the fear of death into a mouse perhaps; but the real reason is cosmetic. He simply looks better that way. I'll bet that must be the reason the industry sells so much of the stuff.

Art Foran
Clancy, MT

CARE AND FEEDING OF CENTIPEDES

How does one fly the spectacular undulating centipede? A Boston area kite dealer and I both brought centipede kites back from Japan sans directions. The centipedes consist of a dozen disks, each connected to the disk ahead of it by equal-length strings from top, bottom and each side. Whiskers of straw or feathers grow out from either side of each disk. We both have flown nearly everything, but embarrassingly fail to put the centipedes under control. How are they bridled? Are they flown with one, two or four lines?

Donald L. Underwood
Holliston, MA

Our reply:

A few years ago we asked Paul Garber the same question. His answer was that you hold the kite in your hands, folded down into a stack of disks, and back away smartly, feeding out the kites one disk at a time. Well, no one we know can back that smartly. He did suggest using 10-mile-per-hour wind. Try this.

First, check to see that all the lines from cell to cell are the same length. This keeps all the cells parallel in flight. Check the feathers on the outriggers, since they contribute balance. Next, lay out the kite on the ground, face up, with the front cell toward the wind and the kite in line with

Letters . . . Continued

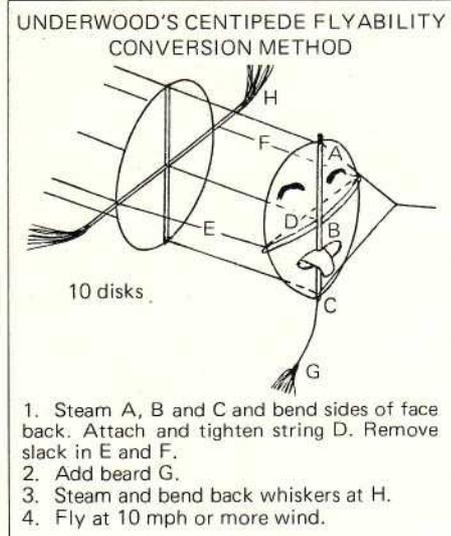
the wind direction. Experienced centipede-ist Stephen Bernstein recommends a two-leg bridle, one at the top and one at the bottom, to allow for natural dihedral in the wind. Fasten the flying line to the bridle, back off 30 or 40 feet and pull on the line. The first disk will rise, then the rest will follow like the reverse of a row of dominoes. If there is much ground turbulence, you will still have your hands full controlling the centipede until it gets above the turbulence. The same rules apply to centipedes and trains as to single kites: pull to make them rise when they are pointed up; slack off to let them stabilize. If you have one of the small, relatively heavy imported centipedes, they are difficult to fly—and perhaps more popular as wall decorations than as kites. If this is what you have, it's no disgrace if you haven't been able to fly it. Good luck!

Underwood's answer:

The oriental centipede now flies, undulates and thrills; but only after: (1) steaming the bamboo frame on the front disk along the center line and bending back the sides, stretching a line between the two sides to firm up this "dihedral," then removing the slack in the strings that

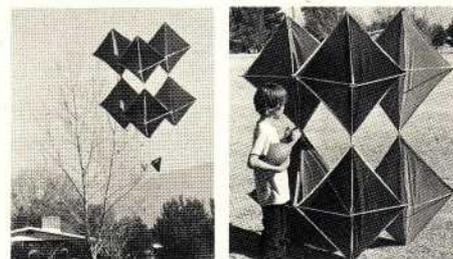
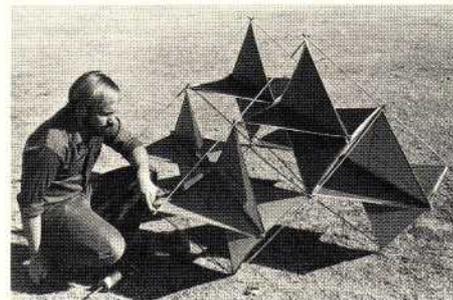
go back to the second disk at each side; (2) dangling a one-foot straw beard from the chin; (3) steaming and bending back the straw whiskers that grow out from the sides of each of the 10 disks that are behind the face; and (4) putting one's back to nine-mile-per-hour or more wind (measured velocity; a lighter version could get you up in much less wind).

To avoid launching damage, I prefer a helper holding the entire centipede upright off the ground by holding the last disk until "Ready: 1, 2, 3—GO, UNDULATE."



TRIPLED CORNER KITES

I built a Rogallo Corner Kite according to the instructions in the Spring-Summer 1978 *Kite Lines*. Ed Grauel was precise in his instructions and I had little trouble putting the first one together. However, I went a couple of steps further and combined three Rogallo kites—two red and a



Top, Bruce Mitton and his tripled Corner Kites. Below, the construction in flight and at rest.

navy blue. It flies quite well in a pyramid shape or as three in a row. Two Rogallo

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Loft, Harborplace, Baltimore.

*Storyed in the columns of *Life*, *Look*, *Associated Press*, *Reuters*, *Ford Times*, *Kite Lines*, *The New York Herald Tribune*, *The Miami Herald*, *The Baltimore Sun* and elsewhere.

†See story in *Kite Lines*, Spring-Summer 1980.

Based on the Brazilian papagaio, the kite that's the flying puppet of Rio's beaches. The kites duel and maneuver in the sky—or swoop down on the crowd and, using fishhooks on the wingtips, pick up a piece of paper off the beach hundreds of feet away—and then soar back up overhead.

The beautiful, precision-built cloth Falcon as patented by Hanrahan incorporates a number of improvements—an adjustable bridle, roll fold and modern durable struts. Flown regularly at the annual

Delaware duel for the Mid-Atlantic Championship and a favorite of many great kite enthusiasts, such as John F. Kennedy and other luminaries you might least suspect. After exclusive outlet's (Abercrombie & Fitch) bankruptcy, and subsequently sold only by Hanrahan personally, the Falcon is now, at last, released to fly everywhere—for as long as the limited supply lasts.

These limited edition Falcon kites are numbered and signed by Hanrahan himself. Each kite includes 200 feet of braided invisible line and complete instructions. Order red or yellow with black print or wicked solid black. Prices include surface shipping. Single Falcon kite, **\$14.95**; dueling pair, **\$25**. Replacement cord and struts available at nominal cost. Falcons last for years!



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Corner Kites fly as well as three. If I ever catch up in my work, I'm going to add three more kites to what I already have. I'm sure it will have to be tied to a tree when I fly it.

When sitting on the ground, the triple Rogallo is a great attention-getter. People stop by to ask if it's a sculpture I'm working on and I have to explain, "It flies."

I've been flying regularly for the last three years in Tucson and kiting is starting to catch on. Another local kite builder-and-flyer joins me in the afternoons and we send up six or seven kites each. The unusual collection of kites in the sky generally pulls a group of spectators, and I pass around a worn issue of *Kite Lines* in an attempt to stimulate spectator interest.

In summer I go night flying with chemi-

cal "Lite-Ups" attached to the kites. One night last summer I had 35 spectators and the local police helicopter stop by to find out what the dancing green lights were. Shortly thereafter the park's sprinkler system went on and I found myself holding the lines to six kites and getting a late night shower.

Bruce H. Mitton
Tucson, AZ

Bruce Mitton is the author of a nice introductory book Kites, Kites, Kites: The Ups and Downs of Making and Flying Them.

START OF A GREAT DEBATE?

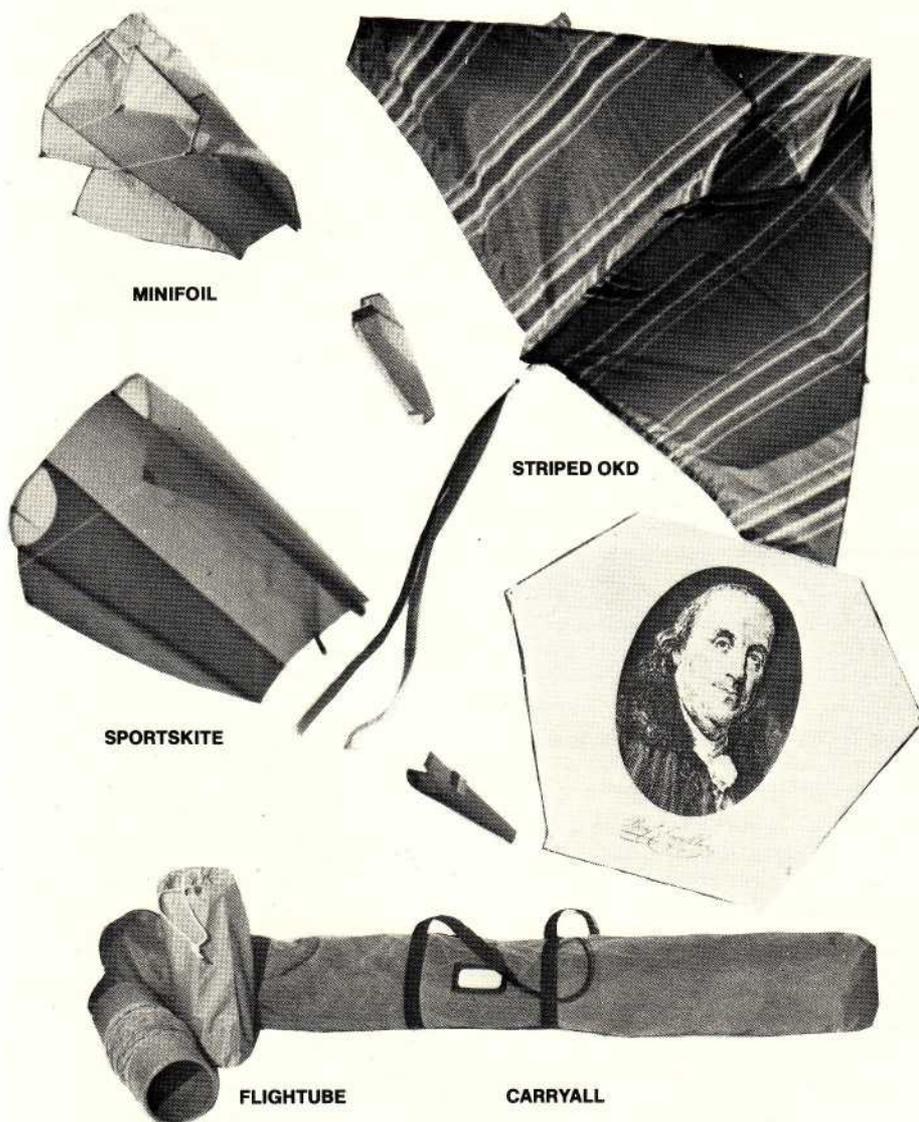
I have flown kites in Bar Harbor, ME, Cape Cod, MA, Montauk, NY, Atlantic City, NJ, Delaware City, DE, Ocean City

and Chesapeake City, MD, Virginia Beach, VA, Nags Head, NC, Brunswick, GA and every beach on Florida's East Coast from St. Augustine to Key West.

Do you know where I found the most consistent wind? Right here in my backyard on Sanibel Island, FL. I thought your readers may appreciate this information.

Kenny Rynarzewski
Cape Coral, FL

Readers are encouraged to write letters and reply to them and we will route them to appropriate parties whenever possible. Address your letters to Kite Lines, 7106 Campfield Road, Baltimore, MD 21207, USA. All letters become the property of Kite Lines. The editor reserves the right to edit letters for publication.



MINIFOIL, original vest pocket version of the "soft" kite, packed with line in its own drogue/pouch, ideal for backpackers and sailors. Kite itself weighs less than an ounce, folds to 7" x 2" in pouch, colorful ripstop nylon . . . **17.50**

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What's New: Kites, Books, Sundries

Kites

By Mel Govig, assisted by Curtis Marshall and Bill Kocher

THE SNOWFLAKE/FACET KITE

There was a time when I would have said that over \$100 was a lot to pay for a kite, and even though more and more kites are pushing the century mark, I still look long and hard at the value offered.

Sallie Van Sant of Kites of the Four Winds now makes a six-sided "Summer Snowflake" adapted from Stephen Robinson's Facet Kite which first appeared in *Kite Lines* (Winter 1979-80). Now, it is true that you can make your own Facet Kite using about 75 square feet of rip-stop nylon, several hundred feet of seams sewn and a week or two of your spare time. You can also make a fine raincoat or leather jacket using the proper materials and a good pattern. If you can, do! If you can't, go to a clothier for a good coat or to Sallie for an excellent Facet Kite.

The six-sided Snowflake/Facet Kite from Kites of the Four Winds is more rigid, though not heavier than the four-sided version that appeared in the journal. It gains in both grace and stability from its more rigid structure.

In flight, the kite responds like the Professor Waldof Box, with a fairly fast rate of climb and exceptional "wind-seeking" self-correction to changes in air conditions. It flies on a wind of about 5 miles per hour and from its behavior seems capable of winds over 20. It maintains a good angle of about 60 degrees in a moderate wind.

Besides flying steadily and reliably, the Summer Snowflake in the air presents interesting and unpredictable changes of personality in response to differences in wind, sun and viewing angle. The colors in our sample were chosen with a good eye and the workmanship was excellent. I believe the kite is well worth the price—or the effort—whichever you choose to spend.

NEW SUTTON FLOW FORM

Clearly a derivative of the Jalbert Parafoil, the Sutton Flow Form was patented on July 9, 1974, under patent number 3,822,844. It is now being produced commercially. Like its flexible father, the Jalbert, Sutton's kite is completely soft, with no stiffening but the wind. However,

unlike the Parafoil, it flies light on the line, without the arm-pulling tug of a similar-size Parafoil. If I were to sum up in a few words: the Parafoil was born to work, to lift, to pull, at whatever cost in complex bridles and gloved caution at the line; the Sutton was built for fun and easy handling, with simple bridling and stable, predictable light-pulling flight.

The model tested was the smaller of two and was approximately the size of a J7.5 Jalbert. The larger is approximately 16 square feet. Unlike the Jalbert, the Sutton has only three bridle lines and three fins. The test model inflated easily in a light wind and was launched and flown without assistance. It attained an angle of about 65 degrees in 10 m.p.h. winds. The most notable thing about the Flow Form, even with winds of 10 m.p.h. or more, was that the pull on the line was less than a pound.

Many of us know Bill Tyrrell, one of the partners in Mariah, the company manufacturing the Sutton under agreement with the designer. Tyrrell's showmanship with his large Parafoil (see the *Kite Lines* cover for Summer 1979) or two-line flying of his 30-foot-long Sutton have thrilled many viewers. Buying a Sutton from this company implies buying a lot of experience behind the kite. We didn't have any printed instructions with our early-model sample—but we didn't need any. The kite inherently requires no adjustments or assembly.

Like the Snowflake/Facet Kite, the Flow Form design appeared in *Kite Lines* not long ago. Again, you can take your choice whether to buy it or make it. But with prices at about \$35 for the 7.5 and \$80 for the 15, a lot more of us will take the easy route and buy. Easy is the word for the Flow Form, yet in the air it rewards its flier with all the glamour of the latest technology.

PROFESSOR WALDOF'S NEW STAR

The Star from Prof. Waldof is an interesting and novel new kite, but—to these eyes—not quite as exciting as the original Prof. Waldof hexagonal box. The Star shares the tensioning system of the original, a central tinker-toy-like boss with spokes to the eight corners of the kite. Visually, it is very distinctive in the air. Dead on, up the string, the kite looks like the Star of David. As the viewing angle changes, the perspectives challenge your sense of up and down. I would hate to be an artist charged with drawing the Star for an advertisement.

There were two drawbacks to the kite, more in the way of warnings than real discredits to the Star. First, the fiberglass spars of two models tested left fine glass splinters in the fingers during the assembly process. The second problem is probably an outgrowth of pushing a design too far for aesthetic reasons; the Star comes supplied with a ponytail drogue and seems to really need it in winds over 7 or

DATA CHART

	Dimensions	Weight	Materials	P	AT	ED	EWV	AF	SL
Snowflake	54x47"	20 oz.	rip-stop nylon, graphlex tube	E	2 min.	E	7-25	70°	N
Flow Form	42x31"	4.5 oz.	rip-stop nylon	E	0	E	4-25	55°	N
Waldof Star	54x48"	11.5 oz.	rip-stop nylon, fiberglass tube	E	2 min.	E	6-20	60°	I
Centipede	6"x30"x16½'	5 oz.	bamboo, polyethylene, feathers	F	1 min.	G	10-15	45°	I
Newport Boat	36x72"	9 oz.	rip-stop nylon, dowels	E	1 min.	G	5-20	45-70°	N
Skynasaur	36x60"	7.5 oz.	rip-stop nylon, fiberglass rod	E	3 min.	E	7-30	70°	I

Code: P=Portability; AT=Assembly Time (on field); ED=Est. Durability; EWV=Est. Wind Velocity (min.-max. m.p.h.); AF=Angle of Flight; Skill Level: N=Novice, I=Intermediate, S=Skilled
Ratings: P=Poor, F=Fair, G=Good, VG=Very Good, E=Excellent

8 miles per hour.

Assembly instructions are clear and the plan (as with the original Box) is well thought out though complicated. Craftsmanship is superior. The color choices of the two models we tested were not much to our taste in a kite that would seem to lend itself to riveting color effects. At a price of about \$85, including carrying bag, the Prof. Waldof Star Kite is a very interesting piece of sky sculpture. Some will want the Star for its unique design. Unique it is and a credible kite.

THE NEWPORT BOAT

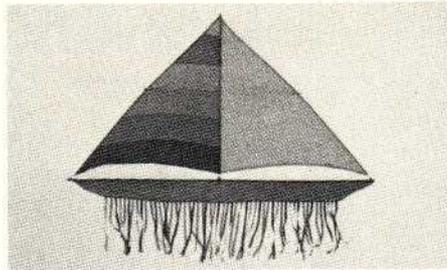
Here's a good, basic six-foot delta—with a difference. It flies well, neither better nor worse than most good rip-stop-nylon deltas. But it is made to sail across the sky like a yacht on its own bit of briny blue. The effect is surprising and fun.

The trailing section that makes up the "hull" and the ribbon tails that suggest "water" seem to degrade the flight only slightly in light winds and are stabilizing in heavier ones.

The Newport Boat is only one of several in the new line of cloth kites from Go Fly a Kite and speaks well of them if it is representative. The craftsmanship is good and a matching carrying bag is included in the \$50-or-so tab. That's close to what other large deltas are bringing these days—and with this kite you also buy the fanciful visual effect of this Winkin', Blinkin' and Nod kite.

THE 15-DISK CENTIPEDE

You have seen them and envied—oh, yes, envied—the makers: Dave Checkley, Prof. Hiroi, Tom Van Sant, Steve Bernstein, J.C.



The Newport Boat sails over the waves.

Young, Tyrus Wong. Well, you might not be able to make one yet, but you can now get a dramatic centipede kite of your own for about \$65. Seeing it and flying it, you might feel inspired to build one.

New from Great Winds in Seattle is a well-crafted 15-section centipede with a three-dimensional head and whirling eyes. The bright red and yellow disks of the body are an up-to-date combination of bamboo with polyethylene cover and real feathers lashed on with red plastic cord.

In the air, the bright colors and the fierce face add to the classic undulating motion of this beautiful kite.

Information supplied by Great Winds sheds some light on the origin over 100 years ago in China of the centipede (also known as the dragon or caterpillar). Perhaps devised out of a flier's wish to fly more than one kite, "the design was refined to a masklike head followed by a series of connected disks, each disk with a feathered balancing arm similar in function to a tightrope walker's balancing pole. This kite came to be known as *wu kung*, the centipede, thought to bring good luck."

The master kitemaker who supplies

Great Winds learned his skills from an elder kitebuilder and long experience. He test flies each kite and adjusts it as necessary. "A flyable centipede can be no less than perfect," says the company. "It can be flown as high as desired—but it's almost more enjoyable to keep it close and watch the spirited motions of the centipede in detail." From our experience with the kite, we confirm that suggestion.

At times I have struggled with centipedes and given up in despair. With this one, I soon found I didn't need my launching assistant; I could easily pull the kite up off the ground and into the air. After some minor adjustment to the bridle (well-described in the good instructions), the kite flew nicely at about 45 degrees. It was a rare pleasure to fly this kite in a light wind and see it respond to pulling in and letting out of line with its special body language.

SKYNASAUR UPDATE

It's refreshing to know that people read what you write. It's truly gratifying to know that they pay attention. In our review of the Skynasaur in *Kite Lines* Spring-Summer 1980, we noted that the weight of the kite made it difficult to find strong enough winds to fly it. Well, a new Skynasaur is out now and, by means of new fittings and a rip-stop cover that replaces the rubberized cover of the original, it has come down to a very respectable 7.5 ounces or one ounce per square foot. It will now fly in winds of 6 or 7 m.p.h. It retains the toughness and agility of the first Skynasaur, though, and it is the only Rogallo wing among the stunt kites on the current U.S. market.

Books

By Valerie Govig

GOOD-VALUE READING

Occasionally kite stores and manufacturers print for their customers instructional materials that offer more that is helpful and accurate than some of the books you plunk down dollars for. These nice pieces come to you as a bonus for buying a kite or being a customer.

We've noted in passing some especially good instruction sheets from Grandmaster Kites, Great Winds, Skynasaur, Vic's Fighter Kites and Wind Mill Kites, to name only a few. (And, of course, *Kite Lines* publishes the useful "Brief Guide to Safe and Sure Kiting," available for a stamped envelope.)

In addition, a few businesses have recently put out some fine booklets that deserve mention in this space, as follows:

A Guide to Frustrationless Flying (Seattle: Great Winds Kites, 1980), 6 page leaflet, free to customers.

Nicely printed tips on choosing and flying kites. A special feature is the Beaufort wind scale indexed to kite selection. Good bridle adjustment and knot drawings are included plus sections on kite etiquette, rescues and safety. There's even a bit of copy about Great Winds.

Tips on Buying and Flying Kites, by Walter Leuzinger (Ultra Kite Co., Pittsburgh, PA, 1980), 28 pages, \$1.00.

More than "tips," this compact book is best on types of commercial kites and their flying behavior—a quick briefing for new kite salespeople. Errors are slight (such as a poorly proportioned drawing

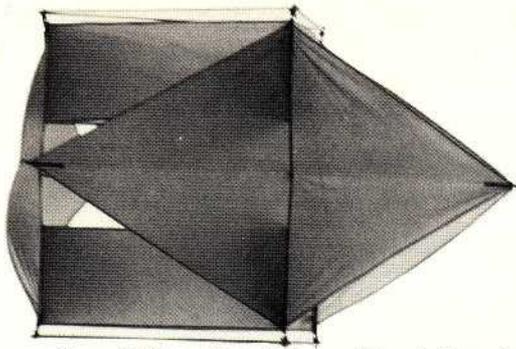
of a fighter kite). Has up-to-date detail on coverings, framing materials and properties of flying line, a good section on flying and safety—even an index! The author understandably plugs his own Firebird kite.

How to Get the Most out of Your Fishing Line, by Paul C. Johnson (Berkley and Co., Spirit Lake, IA 51360, 1980), 35 pages, \$1.00.

Over half of this booklet intended for fishers is applicable to monofilament kite-flying. Comparisons are made of different kinds of monofilament by break, tensile and knot strength and by uniformity, stretch, stiffening and abrasion resistance. Discusses spooling up and knot making, shows eight knots suitable for mono and explains care of line and troubleshooting. ♦

Innovations: 14-d Box Kite

by John Spendlove



Dear Editor: "14-d" is an abbreviation of "tetracaidekadeltahedral," a solid having 14 faces, each an equilateral triangle.

The kite has a unit length of three feet; that is the length of side of the equilateral triangular sails and the span and length of the central cell structure. Longerons use 1/4-inch dowel and other struts are 1/2" x 1/4" strip. Cover is rip-stop nylon.

Flying line of about 100-lb. test is used and a wind speed of perhaps 15 to 20 miles per hour is suggested; the kite is too heavy for much lighter winds and the soft-wood frame too weak for stronger ones.

The one I have was made for me to my design by Alan Gibbs of SkyView for the Kite & Balloon Company, London.

John Spendlove

10 Higher Bank Road, Fulwood

Preston, Lancashire PR2 4PD, England

DATE OF DELINEATION: APRIL 21, 1979



John Spendlove flies his 14-d Box Kite, a sort of triangle-in-a-triangle, at Old Warden meet, England.

Photos: Ron Moulton

Comment by Curtis Marshall

This pretty three-dimensional geometric kite, John Spendlove's 14-d, offers itself admirably to kite builders who have an eye to masses of color, which change as varying hues interpose themselves during flight—a great potential for a relatively modest outlay of effort and expense.

With the appearance of Peter Waldron's Prof. Waldof box kite, a whole family of kite possibilities was implanted within the conscious and subconscious of susceptible kite designers. Although Spendlove's kite is not an offshoot of the Waldof, it is related by the thought processes which gave it birth. In any kite, but especially in this particular family of kites, flight success

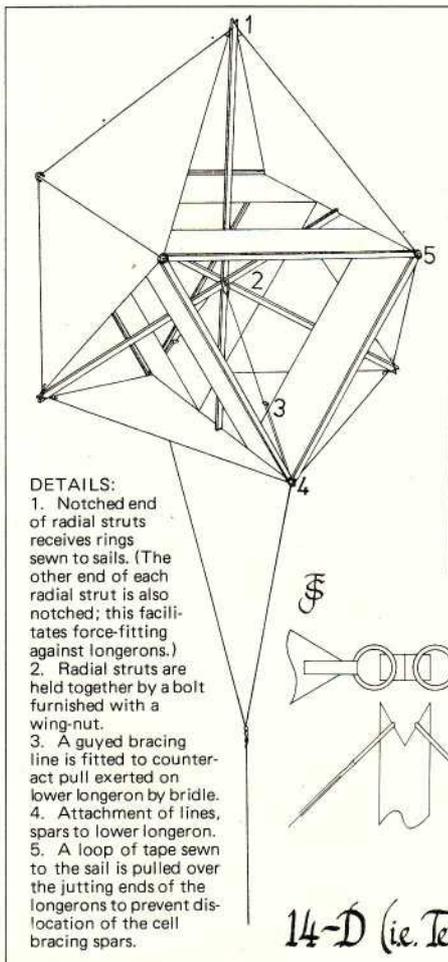
depends largely on the ratio of effective sail area to weight of supporting frame. However, the amount of drag is not to be ignored. Alexander Graham Bell's highly inefficient, but nonetheless successful design falls near the lower end of the scale.

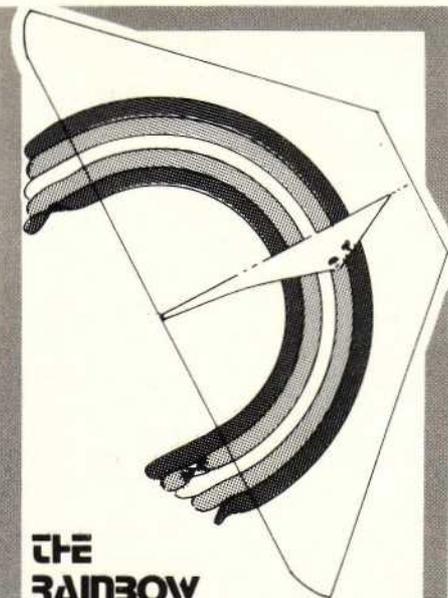
To achieve a certain degree of "geometric beauty," one must be willing to accept a lowered area-to-weight ratio, as there is little freedom in this family of kites to dramatically alter aerodynamic efficiency. However, some juggling of frame concept of the 14-d kite could reduce the amount of frame by perhaps 30 percent. In turn, this might well reduce the required windspeed from the "15 to 20 miles per hour" quoted by the designer to perhaps 8 to 12 m.p.h.

Each kite crafter has his or her own specially developed interests and methods of construction. The 14-d is sufficiently open with regard to details that crafters of divergent techniques and interest will be able to adapt this design enjoyably.

Submit your new ideas for a kite design or a construction method along with your name and address. These will be published in KITE LINES along with the date of postmark to document current developments as well as to imply originality. Address your suggestions to the Innovations Editor, c/o KITE LINES, 7106 Campfield Road, Baltimore, MD 21207, USA.

Curtis Marshall, M.D.
Innovations Editor





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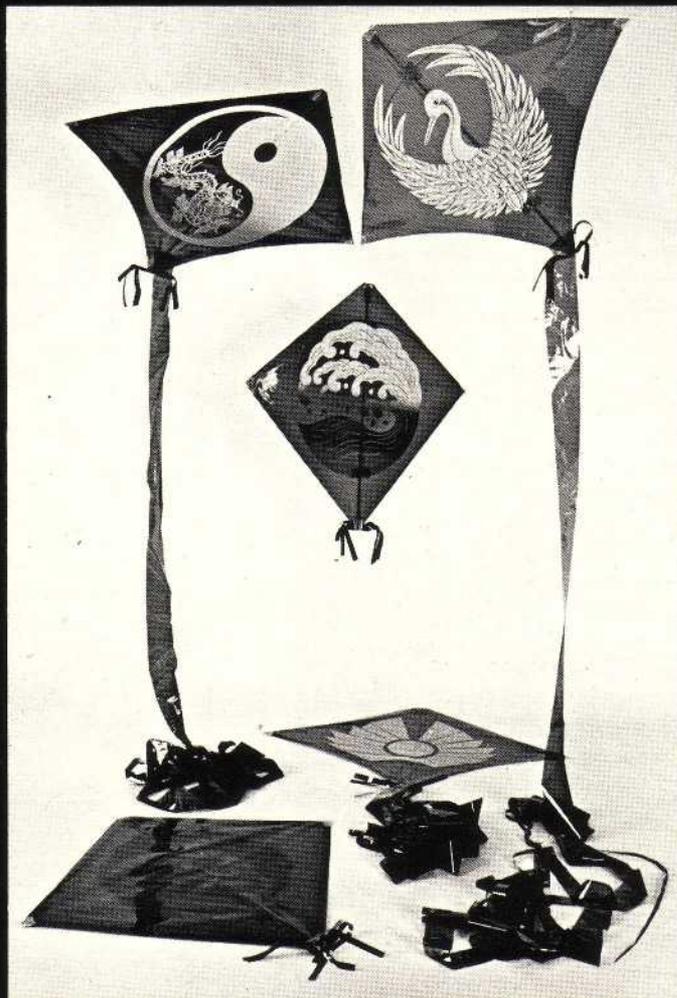
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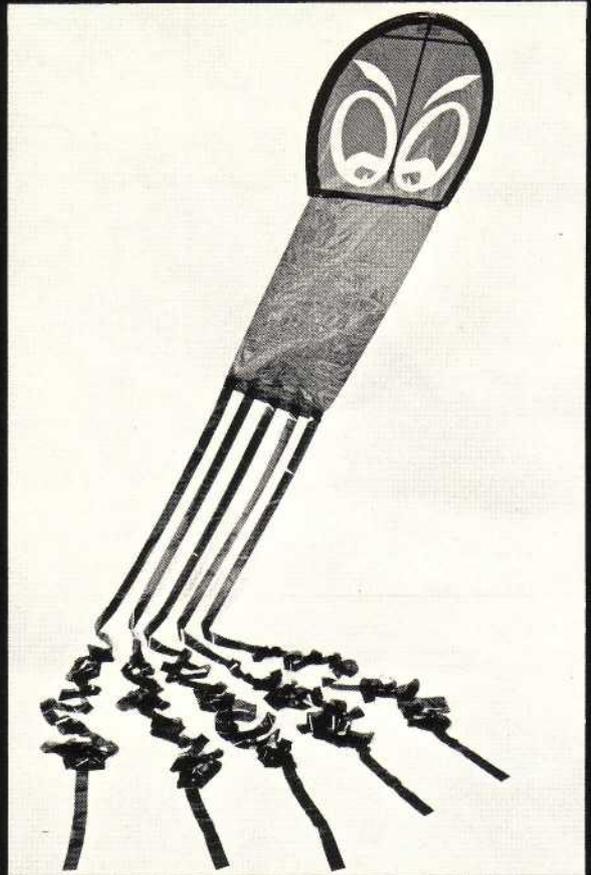
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WHOLESALE PRICES ON REQUEST

Artist/kitemaker **TAL STREETER** evolves his kite/art philosophy in the light of the many kites he enjoys and his extensive participation in kite festivals and exhibitions. As kites more and more frequently fill museum spaces, questions of beauty and art come to the forefront in kite design. Though Tal forgets to mention his own name in his article, readers will not forget his international prominence.

The provocative qualities which are distinctive to the domain of flight attract us to everything that flies—or becomes air-

borne: birds, insects, airplanes, balloons, the planets, stars, moon and sun, dancers, baseballs, boomerangs and kites.

by any other generic kite. These two masters deserve a whole essay to themselves, but for this article I am simply stating their preeminence categorically.

Box kites and tetrahedral kites occupy a special niche among kites as art. They are flying three-dimensional structures—in other words, flying sculptures. Australian Lawrence Hargrave's invention of the box kite in 1893 set the stage for magnificent wire, wood and doped-fabric flying machines. They seem perfect complements to bustles, bowler hats and walrus mustaches of yesteryear. In more modern

TAL STREETER ON KITES AS ART

Q. It's art but is it a kite? A. Yes! Q. It's a kite but is it Art? A. Yes!

The kite has its own special characteristics. It is a generally modest, sometimes languorous object capable of drifting steadily, darting about or soaring gracefully far off into the clouds. Unlike a bird, it can be controlled by a human hand from the ground, but like the bird, its economy of mass and flexibility, its very form gives it the power of flight. The purity of a kite, if it is to fly at all, is almost inviolable.

A kite is a kind of pottery for the wind. If it is designed and made well, the wind will pour into and out of this vessel and simultaneously—magically it seems—lift it off to fly away into the sky. There is a great deal of pleasure to be had in working to this measure.

A synthesis of form and function is one of the paramount principles of all great usable objects (pottery, furniture, automobiles, architecture, etc.) The sparse minimalism of the kite is a given of the functional requirements of flight. Perfection of form is an absolute. Visible handcraft may all but disappear. The kite entity itself, flying, free of the distractions of craft and decoration, the fact of its very existence, is a great wonder—transcending art. The art of the kite, in other words, need not rely on applied art or decoration but may be an inherent characteristic of the kite itself.

Domina Jalbert's and Francis Rogallo's inventions are marvels of this kind of functional design purity. The Jalbert Parafoil and the delta wing which evolved out of Rogallo's flexible kite represent a synthesis of form/function virtually unmatched

times, it is only the box kite which allows us to see fully three-dimensional rectangular forms, boxes, which we expect to sit squarely on the ground, tilting off into the sky, defying gravity. Strangeness, one of the qualities that defines Art, is present in every flight of a box kite.

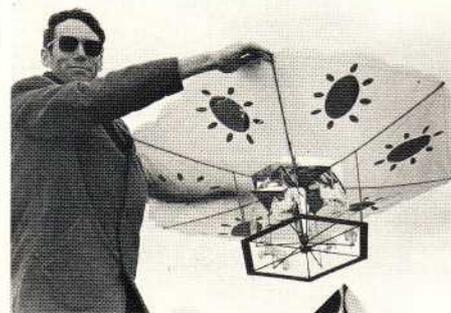
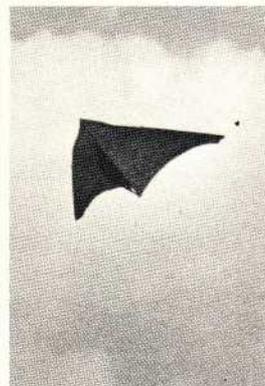
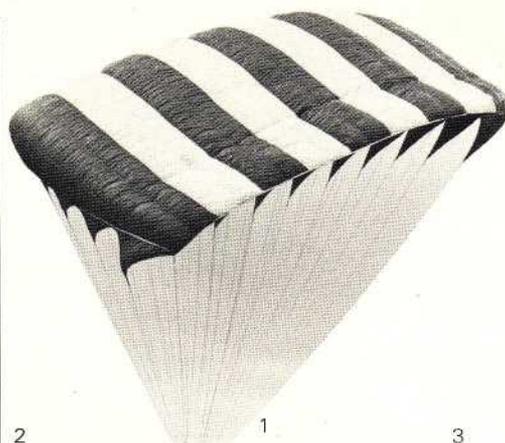
Alexander Graham Bell's behemoth tetrahedrons, though not notably successful as kites, nonetheless provide an extraordinary sight flying in the sky. The originals on display at the Bell Museum, Baddeck, Nova Scotia (and occasionally on loan to other museums) are quite beautiful. I am particularly appreciative of the deep maroon-colored fabric coverings, so refined in contrast to the blatant carnival colors we tend to favor for today's kites. The tetrahedron form has consistently appealed to the engineer/artist/architect. Its adaptation as a kite is visually striking.

One might briefly mention the kites with spinning effects, such as the eyes of oriental dragon and insect kites and the purer revolving rotor kite. Here is a kite which must be seen spinning in the sky for us to realize its kinetic uniqueness. The rotor in its static state seems to resist the notion of inherent beauty of form evolving from function.

ARTISTS WHO MAKE KITES

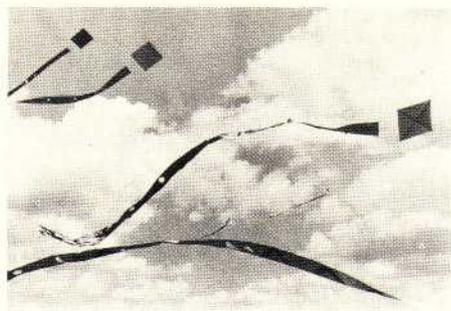
A number of artists are attracted to a variety of kite forms as a means to artistic expression. What art values might we deduce from artists' kites? Pure form as in the Parafoil, delta wing, box, tetra, etc., is not every artist's cup of tea.

The diversity of these kites in itself is important. The fact that each artist can



1. Jalbert Parafoil in flight.
2. Flying Red Line by Tal Streeter shown in Allentown (PA) Art Museum exhibit.
3. A classic delta wing kite, Rogallo derived, made by the Nantucket Kiteman 'n Lady.
4. Poem Kite by Tal Streeter and Willem van Hettinger, Charleston, SC.
5. A Naval Barrage Kite (Harry Sauls design) as crafted in spare style by Gary Hinze.
6. Bevan Brown's carousel kite, with the kinetic wit of whirling styrofoam horses.
7. Large tetrahedral kite by Peter Lynn of New Zealand is strikingly designed, internally braced and made collapsible for easy portability.

Photos: 1, Bill Kocher; 2, 4, Tal Streeter; 3, 5, 6, Anneke Davis; 7, Theodore L. Manekin.



1. Groups of Jacqueline Monnier kites paint the sky in a pale palette on cellophane, crepe paper or nylon.
2. Monnier at work.
3. Snail, Paw Print, Jellyfish and Bicycle at rest against Curt Asker's studio wall.
4. Peter Travis kite in poplin, the hexagon in black, tail assembly multicolor, flown in Seattle.
5. Travis's Nebulae kite, 12 feet in diameter, hanging in 1977 exhibition in Seattle, WA.
6. Tom Van Sant kiting on a California beach.
7. Peter Travis preparing one of his kites.
8. Tom Van Sant's Ghost Kite, 16 feet long.
9. A Van Sant bird form kite, 12 foot span.

Photos: 4, 5, 7, Dave Checkley; 6, Jasmine.

adapt kites to a personal imprint gives repeating proof that kites are an authentic art medium. And the variety of expression is indeed fascinating, ranging over every material and technique available to the modern kitemaker and showing inventiveness of both structure and surface treatment. One does not choose among these; I bear in mind Lewis Carroll's wise rejoinder: "There are a lot of truths."

The following list, therefore, is in no significant order and in addition is almost certainly incomplete. Total safety in regard to completeness could only be obtained by not writing this article! I begin:

Jacqueline Monnier's kites exist quite subserviently to carry long, long tails up onto her sky canvas. Monnier, an expatriate American living in France, was raised in the families of two of the greatest artists of modern times. Her maternal grandfather was Henri Matisse, her stepfather Marcel Duchamp. Color and pattern are her primary concerns. Organic forms loosely organized on the background field reflect Matisse. This informal organization is refreshing, differing markedly from the geometric patterning often characteristic of kites in general. One would profit from a study of Matisse's late designs in paper collage, books and ecclesiastical garments to better understand his art's compatibility with applied kite designs. Monnier's unshakable faith in the absolute appropriateness of making kinetic paintings in the sky rather than painted canvas firmly attached to the wall is an insight fitting to the legacies of her stepfather, Duchamp. Noted for having integrated art into his everyday life, Duchamp left a heritage which we can all share. One of the finest results is the fact of a Monnier sky painting, a fact of art.

Swedish artist Curt Asker eschews "pure structure" and "pure art" entirely in favor of content. He sends wit, surrealism and *trompe l'oeil* realism into the sky on the back of his kites. The quality of his imagination astonishes us—even more so as we are predisposed to accept the poor art and imagination which normally attends the commercially produced kite, virtually all of the mass-produced pictorial and comic kites that sell in the millions. (We are as prone to commercial litter in the sky as on the ground.) Curt Asker raises the comic to the level of an art form, derived from surrealism, the art of the imagination and unexpected juxtapositions. His kites take many forms: bicyclists pedal vigorously over the clouds, a woman trails a real scarf, an enormous animal leaves clawed pawprints on the sky, a dump truck drawn in perspective drives away while several timbers (fas-

tened to invisible net tails hanging down from the kite) spill out of an open tailgate. . . and many other kites that challenge description. To come upon one of Asker's kites unexpectedly is to have a pleasure impressed on your mind forever.

Peter Travis is well known in Australia as a potter and teacher of textile design at the Shillito School of Design in Sydney. Having traveled widely under the auspices of the Australia Council, he is known around the world as a maker of extraordinary kites. His kites are large, brightly colored cloth eight-to-twelve feet in diameter with 200-foot-long tails of open-form, cobweb-like configuration which ripple and flow in the air currents. His Australian government commission to the tune of \$8,000 surely qualifies as the most expensive kite purchase of recent times. Regardless of price, the Travis cathedral-sized, stained-glass-patterned kites are an impressive sight.

Tom Van Sant is a Los Angeles sculptor whose cast cement reliefs may be seen on a great many buildings in that city. Several years ago, Van Sant veered off to just about the opposite pole from cement—to the making of elaborate kites of his own design. The film featuring his kites, *Flight Forms: The Improbable Flying Sculpture of Tom Van Sant*, captures the almost otherworldly beauty of his kites flying out over the Pacific from a California beach. Van Sant does not sell these kites, making them instead, he says, for the pure pleasure they give him and his friends.

Canadian Skye Morrison (whose namesake is Scotland's Isle of Skye) couples a lifelong love of British and Celtic traditional song and dance with her training as a textile designer and a love of kites. She was a featured artist/kitemaker at the First World Craft Exhibition held in 1974 in Toronto (it moves around among leading cities). This first gathering and exhibition was known for a distinguished catalog,

A kite is a kind of pottery for the wind.

In Praise of Hands. Morrison's French dye resist paintings on silk are unparalleled as illustrative design. One may find her playing the concertina or flying a 20-foot-long concertina kite—and either will make you skip with pleasure.

Tsutomu Hiroi is well known through *The Art of the Japanese Kite* as well as his own kite books and writings. His kite designs demonstrate a talent, wit and inventiveness which is combined with the traditional Japan of Kabuki and the modern Japan of plastics and transistors. His "cubic" kites are modern in the context of the virtual exclusivity of planar

forms in traditional Japanese kites.

Artist **Tyrus Wong** is not as well known as he should be outside his adopted home state of California. His flocks (20-plus kites flown on their own lines branching out from a main line) of realistically shaped and painted swallows and butterflies and his 50- to 150-foot-long centipedes are fantastic sky art. Wong came to California from Guangzhou (Canton), China, as a nine-year-old. Trained as an artist at Otis Art Institute in Los Angeles, he enjoyed a career that moved through Disney Studios (four years as pre-production illustrator on Disney's classic *Bambi*), Warner Brothers, RKO and Republic. In the 50s, Wong designed bestseller greeting cards for the California Artists line marketed through Hallmark and other firms. Now, at 69, Wong fills the California skies with darting swallows and writhing centipedes.

English artists **Andrew W. Jones** and **Ray Merry's** Flexifoil kites in train are a powerful sky image of sight and sound, a vigorous kinetic sculpture. "Train," as in kite trains, kites flown in series, is an apt metaphor for the surging horsepower of the Jones and Merry Flexifoil.*

I hope I don't offend too many kite purists when I suggest the example of **Fumio Yoshimura**, a Japanese-born long-time resident of New York City whose nonflying kitelike forms realize the spirit of kites in earthbound objects. Yoshimura's abstract insect forms made of finely split and curved bamboo covered with rice paper are exquisite in design and material craftsmanship. Needless to say, they are very Japanese, drawing as much from the Japanese *shoji* sliding door and paper-and-bamboo lanterns as from Chinese and Japanese kite forms. Yoshimura no longer makes these kite sculptures. He now carves wood in seemingly perfect imitation of things such as bicycles, sewing machines and house plants.

KITEMAKERS WHO MAKE ART

Not everyone is an artist nor even claims to be. And some people may indeed have tin eyes or appear to be totally tasteless in matters of art and design. But more people than we are wont to give credit have made, out of talent and circumstances at some point in their lives, objects of great beauty. A number of contemporary kitemakers and designers for commercial manufacturers bring a high level of

*For a full appreciation, see "Andrew Jones, Ray Merry and the Flexifoil" (first article in a series on *The Great Contemporary Kites and their Inventors*, by Tal Streeter) in *Kite Lines*, Winter 1979-80, pages 26-30.

art to their kites.

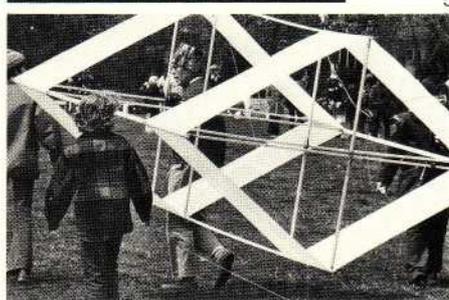
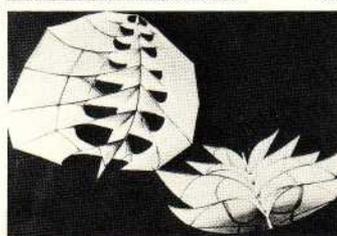
Japan's kite artists are well known through books such as my own *The Art of the Japanese Kite*. My work was certainly not encyclopedic; if I returned to Japan today I would search out many other kitemakers there, such as **Takaji Kuroda** and his incredible cubic kites [the subject of a separate article in this issue]. Another Japanese I did not know earlier is **Takeshi Nishibayashi**, an artist very close to Hiroi in his synthesis of traditional Japanese kite designs and modern materials and techniques. His kites are fresh, apparently simple—yet profuse! And the man never repeats himself. His sophistication is less obvious in his person than in his kites, whereas Hiroi's scholarly reputation as a sculptor-educator precedes his kites and validates them as art.

Less recognized, perhaps, are the kitemaker artists in our own country.

Physicist **Robert S. Price** of Maryland makes notable versions of Hargrave-type box kites. Because it must carry greater weight by virtue of the number of spars required to give it form, the box kite evidences great craft. Price's kites employ hollow spars to minimize weight and ingenious machined fittings to allow breakdown and assembly for transportation. Finishing touch: each kite is certified with a brass plate bearing its maker's name. It is easy for even an undiscerning eye to recognize the great care and love Price lavishes on his kites.

Frank Rodriguez once flew delicate 20-mil "silvered" Mylar® kites in New York City's Sheep Meadow in Central Park, a favorite flying area. For too brief a while in the late 60s and early 70s, Rodriguez reigned as New York's greatest and only living professional, full-time kitemaker—and among the best fighter fliers anywhere, in my opinion. I miss his lithe silver Indian fighters and cobras—and all silvered Mylar kites, I might add. It was a wonderful material for kites, flashing in a burst of reflected sunlight, suddenly disappearing then reappearing in the sky. I persist in believing that metallized Mylar is still appropriate for small-scale kites flown in carefully selected areas free of electrical line fire danger. Rodriguez was a master of this material. The subsequent safety concern that its use evoked has contributed to his spending more time on wind machine energy sources and less on kites. The only professional kitemaker of New York City—and now none.

James Lambrakis once told me that it was he who had started the silver Mylar cobra kite craze in New York City which soon caught on across the country. Even as an adaptation of the great traditional



1. A Skye Morrison resist-dyed silk delta kite in the Allentown Art Museum.

2. Tyrus Wong with his flock of butterflies in Venice, CA.

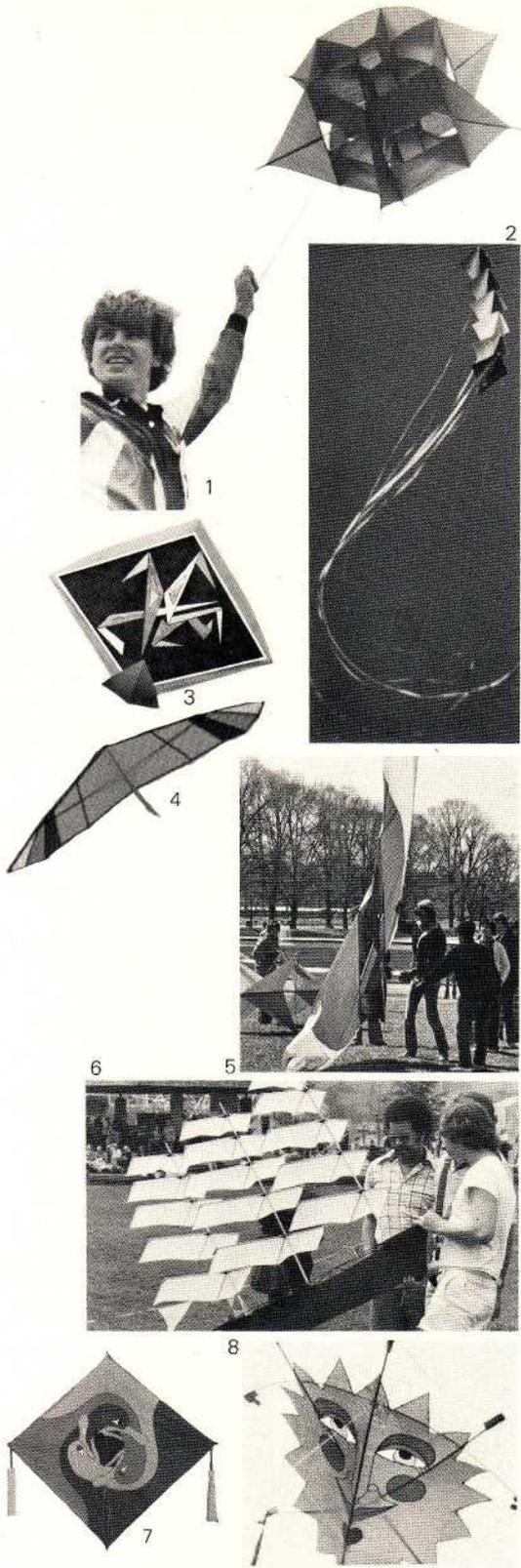
3. The spectacular Flexifoil Eurostack flies the flags of the Common Market nations.

4. Fumio Yoshimura's kite-like tracteries in bamboo and white paper.

5. An enormous white box kite by Robert S. Price drawing admirers in Maryland.

6. A lean and light high flier by Takeshi Nishibayashi, noted Living National Treasure of Japan.

Photos: 1, 3, Tal Streeter; 2, Mabel Wong Hogle; 5, A. Mitchell Koppelman.



1. Peter Waldron flies one of his Prof. Waldof box kites in Ocean City, MD.
2. Rainbow Stunters in mid-corkscrew.
3. A handpainted Grandmaster kite.
4. A Soaring Wing by Wind Mill Kites.
5. At a Smithsonian kite festival: Carol Rogallo next to an extra-large Corner Kite and Gray Marshall handling a Marshall delta-Conyne.
6. A Ghost Clipper (Ken Bourgeois design).
7. A Lois Clark kite design developed from a detail in the Irish Book of Kells.
8. A Jan Kloock sun face kite.

Photos: 1, John F. Van Gilder; 4, Anneke Davis; 5, Tal Streeter; 7, David Checkley.

kite form of Thailand and the adjacent region, the cobra is a wonderfully pure mark in the sky. Lambrakis's **Grandmaster** fighter kites merit special recognition as the only production model kite I know of bearing original, individually painted modern art images. The craft in this fighter makes it one of the finest available.

Al and Betty Hartig, best known as the Nantucket Kiteman 'n Lady, have won admiring skyward glances for over two decades with their printed cloth deltas. When you hanker for a little more pattern in your delta, you may enjoy as I have the Hartigs' good eye for design and color cut from well-chosen commercially printed fabric.

Carol Rogallo continues the family tradition of consistent and surprisingly artful management of the fabrication of kite models bearing the name Rogallo. The all-red nylon Corner Kite is one of my favorite "pure" kites, among the best along with the box, tetra, delta and Parafoil.

Peter Waldron's Professor Waldof Box Kite is another noteworthy original three-dimensional kite in the tradition of Hargrave, Bell and the Rogallo Corner Kite. One of the most distinctively shaped kites in recent times, the Waldof comes not unexpectedly from England where kiting enthusiasm is currently so high. Waldron's kite must be sewn with absolute symmetry for it to fly—and it does fly absolutely perfectly. The Professor Waldof won first place for "Most Innovative Manufacturer's Kite" at the 1978 Ocean City (Maryland) Grand National Kite Festival.

The Stratton Ghost Clipper is a kite virtually in a category by itself. It shares Asker's *trompe l'oeil* effect, overtaking mere realism as a ship and becoming one of those unique objects whose place unquestionably is in the sky. Stratton designer **Ken Bourgeois** outdid himself with the Ghost Clipper.

Drawing on an architectural background, **Dave Checkley** brings a high degree of design consciousness to his Kite Factory line of kites. I would give him an award of high merit solely for holding on so long to international orange as the exclusive color for his kite coverings. On a takeoff on old Henry Ford, Checkley said you can have any one you want, but they're all gonna be orange! So much for self-expression in choosing all those weird colors for Jacob's coat kites. Lately Checkley shows signs of giving in. His new line shows stripes and multicolors.

Steve Edeiken's Rainbow Stunters manage somehow to mute the rainbow spectrum syndrome without losing their appeal. Spaced out as they are in a stunt train, smaller in scale than the average

stunter and (one notes on closer inspection) very beautifully made, the Edeiken kites are most appealing.

Applique, although it adds bulk to the fabric and thus increases the kite's weight, nonetheless is used to good effect by many kitemakers, such as **Heloise and Chris Lochman** in their White Bird Kites, including their most elaborate "flying man" (or perhaps it is "flying person"). In any case, the black figure with its wings of bright plumage beneath outstretched arms captures the feeling of humankind's fantasies of flight.

A better applied decoration for kites is inset or pieced rather than appliqued. This more difficult technique cuts away overlapping fabric to allow beautiful stained-glass effects, sometimes quite detailed. The trade-off is in reduced strength for increased lightness and sharpened visual effect. I have seen many examples but from their photographs I especially want to see the originals by **Lois Clark** of Utah and **Jan Kloock** of Washington state.

The Cloud Pleasers group, made up of **John Rausch** (founder, now no longer active in the company), **Bruce and Carolyn Kennington**, manufactures superb large-scale deltas and hybrid delta-Conynes designed by **Curtis Marshall**. Marshall and his son **Gray** also offer custom-built Marshall designs on a larger scale. Gray earned the highest score at the 1976 Smithsonian Kite Carnival flying a 115-square-foot Marshall. The Marshalls are experts at the aerodynamic geometry required in successful kite designing. Their kite workshop includes sewing machines, pattern cutting equipment and a metal lathe for turning aluminum and nylon fittings. The Marshalls and the Cloud Pleasers are quite sensitive to the effectiveness of bold color patterning, a kind of large-scale graphics moving powerfully up into the sky. Aside from artists' one-of-a-kind kites, the Marshall kites (along with the comparably scaled Jalbert Parafoils) are among the most expensive currently in production in the United States.

Kites continue to be designed all the time, and some of them marketed, in ever-expanding diversity. **Wind Mill Kites** of Virginia makes Soaring Wings and Soaring

The purity of a kite
is almost inviolable.

Scimitars of courageously elegant high aspect ratio, finely detailed. **Kites of the Four Winds**, now of Massachusetts, has launched a new kite based on Briton **Stephen Robinson's** Facet Kite—a kite gem that turns Waldof geometry inside out.

Another outstanding group of kites as art comes under the general heading of

bird/insect designs. What better subject for *trompe l'oeil* than kites in perfect imitation of nature's own fliers. The archetypal three-dimensional bird/insect kites, still made today in Tientsin, China, are so marvelously constructed you can almost envision the nimbleness of the fingers making them. In Japan, **Shuhei Goto** makes extraordinary, realistic, fully-scaled seven-foot-wingspan cranes and other birds of wonderful grace and elegance. (Tyrus Wong's kites have already been mentioned.)

There are counterparts in western nations. Our noble bald eagle inspired Air Force career man **Bevan Brown** to construct of papier-mache an eye-catching, show-stopping full-scale version to confound even natural birds as it wheels in the sky. **Ezekiel Contreras** of Long Beach, CA, "Nishi" of Japan and J.C. Young and Larry Chinn of Seattle are among others who have made eagles of equal beauty.

The flap of the delta has always suggested birds. Thus, **John Van Gilder** and **Louise Crowley** have worked magic in Seattle with realistically rendered seagull deltas. In Australia, **Helen Bushell's** Trefoil airfoil keeled invention warrants real admiration and praise for the beauty of her butterfly and bird deltas. Her seagull, convincingly suggested by an economical stroke of black at the wing edges, is one of my all-time favorite bird kites. **Joseph and Alice Lee** (Lee's Kites), also of Washington state, bring exceptional craftsmanship in similar vein to the kite market in a collection that includes snow geese, Canadian geese and eagles. Al and Betty Hartig also make a very beautiful eagle, red cloth ibis and white snow owl.

Some of the intricacies of oriental kites are being rediscovered by Americans such as **Lawrence Chinn** and **J. C. Young** in Seattle, who carry forth and adapt their heritage with dazzling effectiveness in bird kites, butterflies and centipedes. In Arlington, VA, **Stephen John Bernstein**, attracted to the challenges of oriental kites, has made a variety of them without the advantages of an Eastern environment.

All of these "art" kites by kitemakers never fail to hold their own in museum exhibitions shared with kites of historical importance and those made by artists.

THE TREND TO KITE EXHIBITIONS

Kitemakers of all inclinations, commercial or otherwise, are pushing the body of kite knowledge outward in every direction. We are all beginning to believe this is not a temporary explosion but an endless clock. Each contribution we make rewinds the kite clock to a point that will advance it always by more. And as kiting grows so

does its aesthetic. Beauty is continually redefined as the mutual learning process goes on. Sprawling, groping, unstructured and untidy, kiting does not stand still for long. Its beauty moves, with the ultimate, uncertain beauty of life itself. It is no wonder, therefore, that we resist the idea of putting kites in museums, where life becomes frozen in time. Devoid of its native habitat in the sky, the kite is not quite itself.

There are innumerable museums without walls, that is, kite festivals, spread across the United States—a worthy subject for a story of its own on kite festivals as theater-art—but to mention just one: the archetype living annual museum for kites has to be on the last Saturday in March, initiated and master-of-ceremonied by **Paul Garber**, the dean of American kiting and Smithsonian Historian Emeritus, in his glory at the Smithsonian Kite Carnival on the Mall in Washington, DC. It's American kiting's finest: young, old, poignant, charming, inventive and strikingly beautiful kites fly as Garber organizes and orchestrates an afternoon of everyone purely and simply enjoying kites.

On the other hand, a kite so very slowed down as it is when hung on a wall is available for detailed scrutiny that can greatly increase appreciation. With proper titling and historic information, the kites can provide a concentration of kite knowledge that outdoors would be dispersed or even invisible. Further, there are people visiting galleries who will be captured by the kites and sent out to play with them—for a healthy kind of reversal.

It was probably inevitable that the increased recognition of kites as art would be reflected in a growing number of kite exhibits. The trend is flattering to kiting though not always convenient, as for example when dates overlap and kites are packed and repacked for air shipments rather than real flight.

The landmark exhibition of kites in my time, reviving my own childhood pleasure in kites as it must have for countless others, took place in 1968 at New York City's Hallmark Gallery on Fifth Avenue just a few blocks up the street from the Museum of Modern Art. The show, "Flying Kites," was the brainchild of author James Wagenvoort. His *Flying Kites: In Fun, Art and War* provided the basis for the exhibition. Yoshimura showed his elegantly pure white paper and bamboo kitelike objects flying up out of the basement level grand stairway into the Fifth Avenue windows. Window shoppers crowded into the gallery to find painter Al Hansen's pop art images painted on kite-shaped canvases, stacks of



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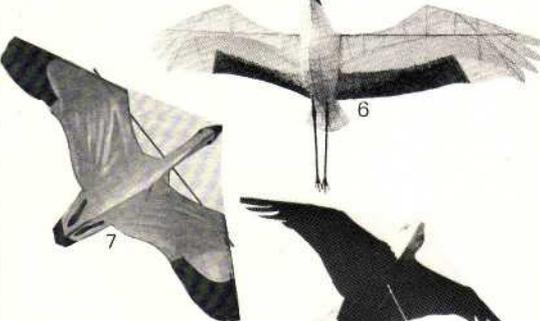
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6



9

1. Diaphanous dragonfly kite from China.

2. J.C. Young of Seattle shows his eagle kite.

3. Lawrence Chinn, also of Seattle, in his workshop full of kites.

4. Bevan Brown of McLean, VA, poses his bald eagle kite as for falconry.

5. Australian Helen Bushell's seagull-like Trefoil delta.

6. Goto crane kite from Japan.

7. Snow goose by Lee's Kites.

8. Eagle delta by Nantucket Kiteman 'n Lady.

9. Stephen Bernstein, Arlington, VA, and his oriental crane kite, symbol of long life.

Photos: 1, 4, 7, Anneke Davis; 2, 6, John Van Gilder; 3, Patty Meeko; 8, Ken Akin; 9, Bill Kocher.



1. Margaret Greger kite, a sign of the times.
2. Scene at the Guilford (CT) Handcrafts Gallery kite show in March, 1980.
3. A Sue Pearson appliqued kite at Guilford.
4. A subtle George Peters Parafoil; Guilford.
5. Classic revival—"Seven Sisters" kite by Jan Hosking at the Central Michigan University show.
6. Permanent exhibit in a kite shop; example is Let's Fly a Kite, Marina del Rey, CA.
7. Paintings for the sky; Modegi Museum, Tokyo.
8. Kite display in the National Air and Space Museum, Smithsonian, Washington, DC.

Photos: 1, 2, 3, 4, 5, Tal Streeter; 6, Ron Moulton; 7, David Checkley; 8, Theodore L. Manekin.

well-displayed Indian reels, informative films on giant Bermuda kites, displays of Asian kites of all kinds and fascinating kite paraphernalia from the collection of one of America's most prestigious designer partnerships, Charles and Ray Eames. Wagenvoort's book, along with Clive Hart's *Kites: An Historical Survey*, Jane Yolen's *World on a String* and David Jue's *Chinese Kites*, were all written and published at about the same time, 1967-68. Surendra Bahadur and George Kelly's *Go Fly a Kite* store in New York City became a full-time activity about this time as well. Gallery and museum goers in the Hallmark neighborhood were instructed that kites were fun and, indeed, in the context of books and exhibitions, works of art. A renaissance of adult enthusiasm for kites was firmly established by the late 60s.

My own kitemaking in Japan in 1970 attracted a great deal of attention there and resulted in an exhibition in one of Tokyo's finest modern art galleries, the Minami Gallery, in the Nihonbashi district, the center of Tokyo near Tokyo Station. Perhaps the most important viewer to me was editor Marty Davidson of Weatherhill publishing company. He looked around the gallery and at our first meeting suggested I write a book about Japanese kites.

In 1976 at London's Institute of Contemporary Art, "Kites: A Summer Celebration" brought the artful kites of Tom Van Sant to Europe. Professor Hiroi was there with some of his inventive kites. A host of contemporary kites was exhibited, including examples by Rogallo and Jalbert, perhaps the first time these were shown in an art museum context. For the Flexifoil inventors and artists Ray Merry and Andrew Jones, the ICA exhibit gave them their first glimpse of a Parafoil. Jacquie Monnier's long-tailed kites were flown, needing only the sky to confirm their beauty as kinetic art. Monnier was already well-established in Europe as a serious kite artist. There have been many shows there devoted to her work. This past fall, Monnier exhibited her kites in a one-woman show in New York City's Betty Parsons Gallery.

Later in 1976, the Festival d'Automne a Paris presented a show of over 250 kites from primarily Europe and Asia. Ten contemporary artists from France and Germany were commissioned to make kites for the occasion with the only requirement that the creations fly. In December of the same year, the New York World Trade Center's tall twin lobbies were decked with 150-some kites in a well-researched show. (Both these exhibits were featured in *Kite Lines*—its first issue.)

The Seattle Center, stimulated by one

of the finest kite organizations in the U.S., the Washington Kitefliers Association, has had a number of kite exhibitions which could only be described as immense. Each spring the WKA has a workshop-and-display. In the summer of 1977, "Flags, Banners and Kites" was one of the first exhibits to solicit art kite entries nationwide. This past summer's "Celebration of Flight" brought several hundred examples of the state of the art from around the world, showing, as well, 250 kites made by local schoolchildren.

In the past few years, the popularity of kite exhibitions has made it difficult to keep up with them. Several recent shows in which I have had varying roles may be representative:

The Guilford Handcrafts Center in Guilford, CT, in the spring of 1980 installed a beautiful exhibition, "Winds and Strings," descriptive of the kites and of a wind and string ensemble which performed in conjunction with it. Just a few highlights: a Curt Asker paw print kite in America for the first time; some attractively pieced kites by **Sue Pearson**; and some kites by **George Peters**, an artist in Honolulu, showing here

The best museum for kites...may be the sky.

some of the most refined, subdued colors I have seen in modern nylon kites.

The same month (March), I juried the "Ben Franklin Memorial Kite Show" for the Central Michigan University Gallery in Mt. Pleasant, just north of Detroit. The sponsors advertised in national art magazines and journals for entrants. There were a great many flying—and nonflying—submissions from first-time kitemakers attracted to the idea of kite art. All entrants were accepted! The University Gallery was packed with kites. **Jan Hosking** and **Oscar Bailey**, longtime kite enthusiast artists, shared the "first" prize with two young, first-time-out kite artists. Kites in the show came in an unbelievable range of materials and forms—bridal gowns, feathers, delicate watercolored papers, gauzy transparencies that would melt into the sky, architectural structures, and a feminist kite by **Margaret Greger** in the form of a road construction sign, "Women Working"—to mention a few among many unusual forms and content-loaded kites.

This past summer, the major gallery space of the Allentown (PA) Art Museum was given over to a "Survey of International Kites," which included examples from Canada, China, England, France, India, Indonesia, Japan, Malaysia, Sweden, Taiwan and the United States. From June 29 to September 14, a fascinating selection of historical material was shown

as well as work by nearly all the contemporary kitemakers I've written about here.

For permanent kite exhibits, I suggest—not facetiously—that one visit kite shops, which are often mini-galleries in themselves. These are permanent exhibits that are, besides, regularly updated. If, however, you prefer more hallowed halls, there are two of them. As more fully described in the Spring 1979 issue of *Kite Lines*, these are in Washington, DC, and Tokyo, Japan.

Paul Garber has been instrumental in establishing a permanent exhibition of major historical kites in the collection of the National Air and Space Museum, Smithsonian, in our nation's capital. This important display opened in June, 1978. And in Japan, with a nearly uncountable 2500-odd kites from all over the world, the late kite collector extraordinaire **Shingo Modegi** established in November, 1977, the first museum/gallery devoted exclusively to kites. The Modegi Kite Museum is a short walk from Tokyo Station, the center of Japan's rail system. How many millions are going to benefit from Modegi's wonderful generosity?

THE MOST BEAUTIFUL KITE

What is the most beautiful kite? I don't dare speak for anyone but myself. Every kite enthusiast has in his or her mind's eye a breathtakingly beautiful kite silhouetted against the clouds, a kite which stops time for a moment. The best museum for kites, after all, may be the sky.

This is not so different from painting and sculpture; the studio, not the museum, is the most exciting space of the fine arts. The art of the kite is complete only in the collaboration of inventor, artist, maker and flier:

Unrolling Jalbert's Parafoil on the ground, the cloth limp and slightly disheveled, holding your arms out widespread to catch the wind, seeing the cells fill out just inches away, catching the breeze, joining the cloth to the wind, the wrinkles of the rip-stop cloth straightening out, smoothing out, stretching, more insistently pulling at your arms, pulling you off balance, your smile starts then—the *kite smile*—the air joining the fabric, transforming it into a new entity pulsing with life which will fly off into the sky.

Assembling Rogallo's delta, unfolding the sail cover, sliding the spars into the narrow side pockets, bowing the spreader bar into place, just picking it up a few inches off the ground, the kite pulls incessantly, shaking back and forth, demanding to be released, flexing laterally. Strength seems to flow through the whole frame. The

delta is like an arrow with the hard cutting tip, its middle strong but flexible and resilient, the softness of the trailing edge ruffled by the passage of air. With just the barest hint of a breeze it leaves your hand, moving smoothly off into its home.

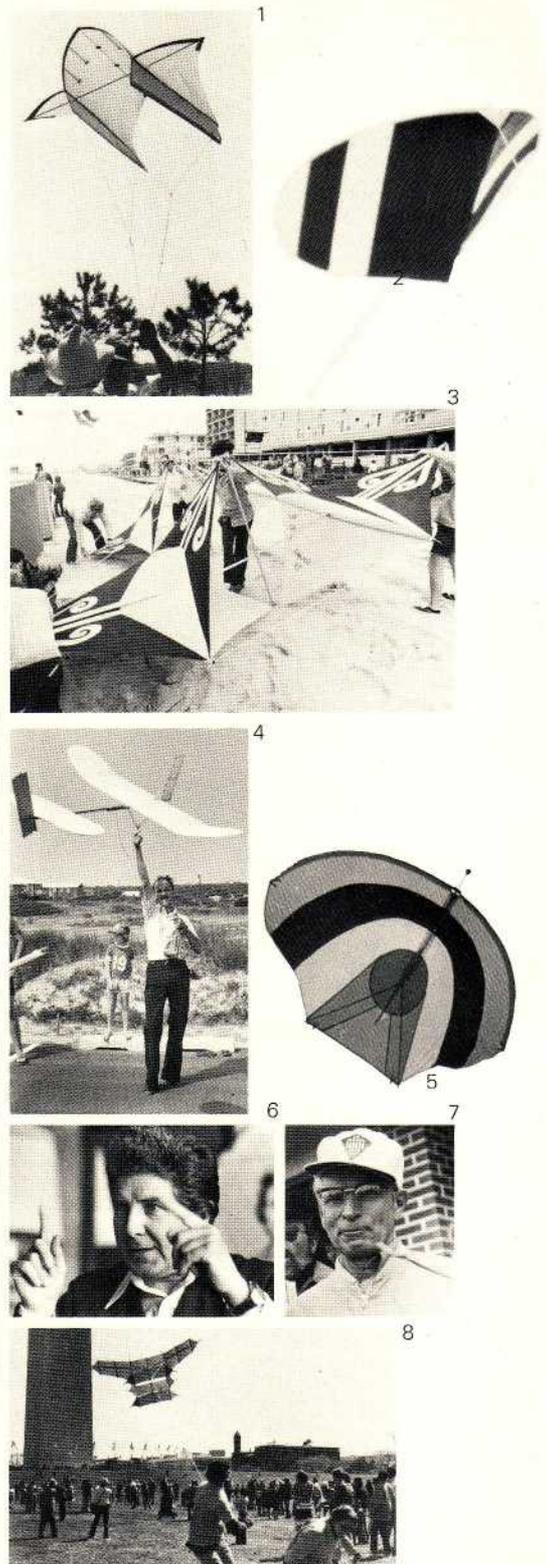
Rogallo and Jalbert have given us the gift of two very beautiful kites.

It is dangerous in an article like this to name names—some are sure to be left out accidentally. There are many more kitemakers whose kites I have admired and enjoyed and who help to sustain this kite feeling of good will in me and I imagine in many others: **H. B. Alexander** in Charleston, SC, **Stormy Weathers** in Oregon, **Peter Lynn** from New Zealand, **Garry Woodcock** and **Ken Lewis** of Canada, **Pat Hammond** and **Richard Robertson** of Texas, **Hod Taylor** of Minnesota, **Hank Szerlag** and **Wayne Hosking** of Michigan, Marylanders **Pete Ianuzzi**, **Rick Kinnaird**, **William Bigge**, **Mel and Valerie Govig**, San Franciscans **George Ham** and the **Toy brothers**, **Peter Powell** and **Nick Morse** of England, **Gary Hinze** of San Jose, CA, **Tom Joe** of Long Beach, CA, **Bob Ingraham** of New Mexico, **Wyatt Brummitt** of Rochester, NY, the late **William Allison** of Ohio—and scores more whose names I regret I do not yet know who make and fly wonderful kites. Having given kites-as-art a great deal of my time and thought, I believe, at last, that *all* kites are beautiful.

The good will held by kites in the public's collective subconscious is rather amazing. The very word *kite*—whether a kite boxed for sale in a store or displayed on a museum wall—predisposes one to images of flight, the release of tension and a warm feeling of pleasure free from earthbound problems. I wonder if there is another single human-made object set apart from nature's myriad wonders quite like the kite. ◇

A BIBLIOGRAPHY OF RECENT KITE/ART ARTICLES (listed in order of publication)

- "Man's First Space Program: Flying Kite Exhibition, Hallmark Gallery, New York." *Design* (Winter 1968), pp. 16-19.
- "Fumio Yoshimura." Susan Edmiston. *Craft Horizons* (Aug. 1971), pp. 23-25, 71.
- "Reaching for the Sky: The Kites of Jackie Monnier." Ron Padget. *Craft Horizons* (Aug. 1972), pp. 16-19.
- "Kitesmanship: Tal Streeter." G. A. Ruda. *Craft Horizons* (April 1974), pp. 24-26.
- "Usable Craft. Heavenly Humours: The Modern Kite." Tal Streeter. *American Craft* (Aug.-Sept. 1979), pp. 26-32.
- "Paintings in the Sky." Douglas Davis. *Newsweek* (Aug. 11, 1980), p. 81.
- "Cosmic Kites: Jacquie Monnier." Suzi Gablik. *Art in America* (Nov. 1980), pp. 124-25.



1. An experimental sled by Harold B. Alexander.
2. Ladybug kite by Hank Szerlag.
3. Kite in wrestling match with mortals, including maker Peter Lynn of New Zealand.
4. Bill Bigge, cerebral kiter, with one of his airplane kites at Nags Head, NC.
5. Rainbow Bird by A. Pete Ianuzzi.
6. The ebullient original stunt kiter, Peter Powell.
7. Robert M. Ingraham, founder of *Kite Tales* (predecessor of *Kite Lines*).
8. Rick Kinnaird, crew and crowd at Cody launch, 1980 Smithsonian Kite Carnival.

Photos: 1, 5, Tal Streeter; 3, 4, 6, Theodore L. Manekin; 7, John F. Van Gilder; 8, Bill Kocher.

POSTSCRIPTS: KITES AS ART

In addition to the 1980 exhibitions of kites seen by Tal Streeter [preceding article], *Kite Lines* has received reports of others which we briefly mention here.

Perhaps it should be said, however, that the fact of an exhibit is not necessarily an indicator of either great art and aerodynamic quality or comprehensive selection. Indeed, as exhibitions increase and overlap, their quality grows more difficult to achieve.

PARIS: EXHIBIT AT PASSAGE VERDEAU

In the typically Parisian scenery of Passage Verdeau, the Cerf-Volant Club de France organized a most beautiful exhibition of kites from December 19, 1979, through January 30, 1980.

This charming and quiet place was perfect for such an event. Imagine a pedestrian way covered with a huge and gorgeous glass roof of Second Empire age, shedding a soft and warm light, charming colorful shops, a slight breeze which makes the kites quiver—you are there.

Eleven beautiful kites, some of which were four-meter span, were hanging under this glass roof. Old original documents from 1900, man-lifting pictures from 1910 and contemporary aerial pictures taken from kites were displayed in a large shop window.

Many visitors came; the kite put its case across. Unfortunately, all is bound to come to an end. Kites are flying in their natural element again.

Report by Andre Mignard
Secretary, Cerf-Volant Club de France

ENGLAND: KITES OF FRANK HOLTERMAN

An exhibition of kites by Frank Holterman, A.R.C.A., F.R.S.A., of Hale (near Liverpool) was held at Manchester Polytechnic from March 17 to 22, 1980.

The show was in an exhibition hall, perhaps 35 x 70 feet, with windows at each end, so the kites were hung the length of the wall at each side, interspersed with framed ink sketches for designs and some photos of kites from (e.g.) Japan.

Frank's kites may be called traditional, in a sense, in that they are all fully-framed single-surface kites—no soft kites, box kites or sleds and only one quasi-delta, a Russell Hall's. Birds and insects, together with simple geometric types such as circular and rhombic designs, predominate; what chiefly attracts is the bold and colorful treatment of the sails—rip-stop (with one exception), mostly painted rather than applied designs.

I've never seen kites in England as wildy colorful as Frank Holterman's.

Report by John Spendlove
International Secretary, Northern Kite Group

SOME OTHER RECENT KITE EXHIBITS

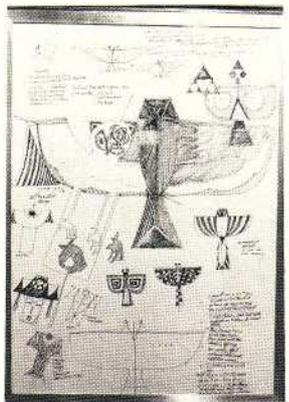
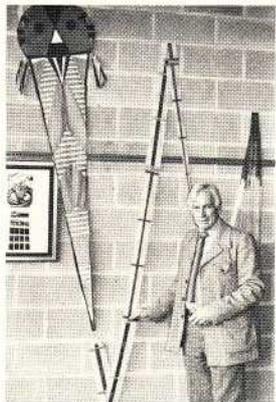
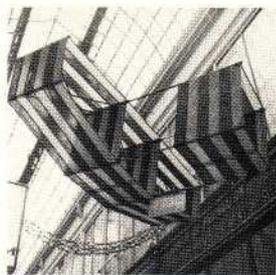
- Arizona—September, 1979: "Great Kites of the 20th Century," Arcosanti, Cordes Junction, AZ.
- California—April 1-June 8: "Skyfishing—The Lure of Kites," Junior Arts Center Gallery, Barnsdall Park, Los Angeles.
- Michigan—Mid-May through June 8: annual Fisher Building (Detroit) kite display by the Unique Place kite store of Royal Oak.
- New York—July 15-August 17: "The Art of the Japanese Kite," Japan House Gallery, New York City.
- Virginia—April: "Kites and Other Light Flying Objects," Virginia Commonwealth University, Richmond.
- Texas—March-mid-April: "More than Meets the Sky," kite exhibit by Pat Hammond, Rosenberg Library, Galveston.



Mori buka kite by Shin'ichi Muramoto from Tal Streeter's collection shown at Japan House.

SOME KITE EXHIBITS COMING IN 1981

- Arizona—September 4-October 11: international kite exhibition, Tucson Museum of Art, Tucson.
- California—December 9, 1980, through April 1981: The Flying Sculpture of Tom Van Sant, Pacific Design Center, Los Angeles.
- Connecticut—September: national invitational kite competition, Westport-Weston Arts Council Museum, west Connecticut.
- Indiana—April 5-May 31: "Sky Sculpture," Ball State University Art Gallery, Muncie.
- Minnesota—May: Northwestern National Bank kite exhibit/festival, Minneapolis-St. Paul.
- New York—July 4: sky show including kites, Twin Towers, New York City.
- New York—August: "Usable Art," Queens Museum, Flushing, Long Island.
- North Carolina—April 6-17: exhibit of contemporary kites, University of North Carolina, Raleigh.
- Texas—May-June: "More than Meets the Sky," kite exhibit by Pat Hammond, Art Museum of Southern Texas, Corpus Christi.
- Virginia—March: kite exhibit, workshop, fly, Science Museum of Virginia, Richmond.
- Wisconsin—June 17-19: kite exhibit and fly, Milwaukee Art Museum/Lakefront Festival (noted artists invited), Milwaukee.



Kites from the Cerf-Volant Club de France on display at Paris's Passage Verdeau:

1. Pomorcef kite made by Mr. Collard.
 2. Cody Soneyded kite made by Mr. Bonvalet.
- Seen at the Frank Holterman exhibit, England:
3. Holterman next to one of his kites showing the separate tail sections attached by swivels.
 4. A group of mask-like Holterman designs.
 5. Sketches of Holterman kite ideas.

Photos: 1, 2, Latour; 3, 4, 5, Ron Moulton.

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Of Termites and Kitefliers

By Wood Ellis

The prominent biologist, Lewis Thomas, says (translating freely from the arcane*) that an individual termite has no mental conception of the vast architecture of the whole termite hill, which may, in tropical areas, measure 100 feet across. The little fellow simply has a yen to pick up a dab of mud and put it just there, you see, where it looks right. The resulting structure can be as large compared to the termite as New York City is compared to a human. It includes hundreds of levels of labyrinthine passages, beautiful, arched vaults and orderly galleries, subterranean gardens of fungi, air conditioning and such excellent drainage and waste disposal that it can endure for decades.

Not a single termite ever knows that he is building such a thing, and he sees only a small part of the structure in his lifetime.

*Lewis Thomas, *The Lives of a Cell* (New York-Viking, 1974).

Thomas observes that humans as well as termites are biologically programmed to build things they do not comprehend. The human parallel is the continuing construction of languages, music, art, information. Each of us spends a lifetime moving bits about from place to place, often aimlessly it seems, but the bits are words or images—or kites—symbolic things. The discovery of a really new fact, previously unknown to humans, triggers the release of tons of pheromones, and our antennae, by the millions, pass it around excitedly until it finds its place as a vital part of a lovely new doorway or buttress in our collective mind. If he is correct, then my stupid dropping of a phrase or an attitude is an essential part of its relayed movement from some unknown beginning to a resting place in an undreamable, vast structure.

When you have a yen to do something, it may be biologically ordained, even if you cannot think of a good reason for your urge. Your DNA strands may carry complex codes which compel you to pay

attention to kites—to do your bit in an unknown social project. Trust your clocks.

Perhaps some kitefliers are merely making excuses when they explain why they fly kites. They have a pat list of what they hope will be socially acceptable reasons, but the real reason is unconscious and bigger than anybody. My own ostentatious excuse has been that the kite is a patriotic symbol of liberty and I'm trying to set an example of proper citizenship.

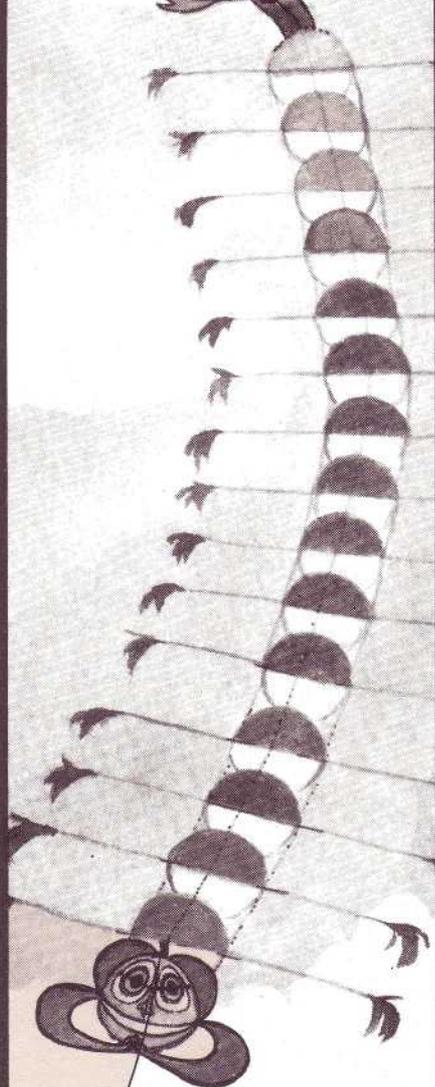
But think of the termite. He is unable to explain the structural significance of his dab of mud. Probably a kiteflier is unable to explain the significance of his kite in the vast systems we build without blueprints. The next time someone asks me why I fly kites, I shall simply say, "Here, hold the line a minute." And then I'll comment briefly about that particular kite—how it looks, feels, flies, how it is built. And I'll say, "Do you think it should have been a different color? . . . Is that so? . . . Yeah, probably so. . . . Do you like kites?" And then he will understand—or feel—as well as I can explain it. ▽

Prof. Tsutomu Hiroi in his Gakugei University office-studio in Japan, as photographed by Tal Streeter, who says Hiroi "has about 150 modern kites of his own design along with a collection of traditional kites. They are not hung as decorations, as one might guess, however; Hiroi is anxious that they be used and enjoyed as they were intended—and they are flown frequently. Hiroi says, 'I am not a kite maker in the traditional sense. I seldom repeat designs and I do not sell these kites.'"



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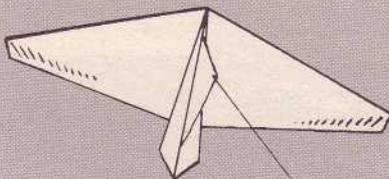
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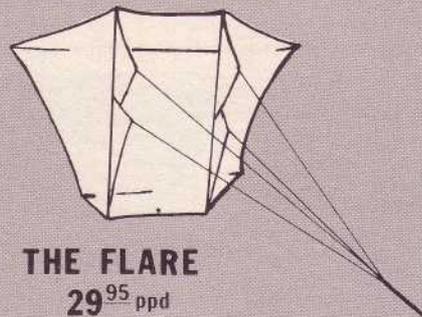
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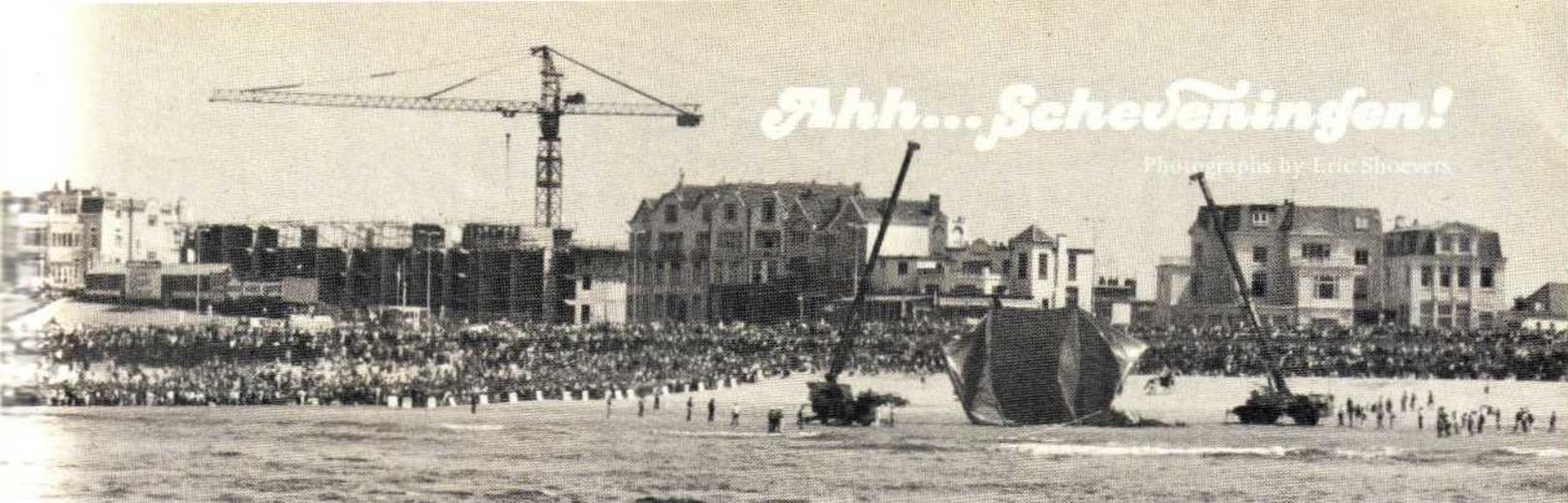
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Ahh...Scheveningen!

Photographs by Eric Shivers



Above, at Scheveningen, Holland, a triple sled (15x21m; 49.2 x 68.9 ft) is prepared for a launch that didn't succeed. Below: from left, Nick Morse's giant tetra; a Brogden kite from Belgium; Prof. Waldof kites on the mobbed beach.



It had to be a standout event. The Third International "Vliegerfeest" (Kite Festival) on June 14 and 15, 1980, spilled all over the beach at Scheveningen, a resort outside The Hague. The crowds, massed to see the kites, were estimated at 25 to 40 thousand. For energetic, curly-haired 32-year-old Gerard van der Loo, it was a great day.

The Big Plans for Scheveningen had kept Gerard bubbling six months in advance. He had donated his time for the promotion of kiting, believing it would also help his kite shop, Vlieger-OP, in The Hague. But it is obvious he loves the work. The festival is mostly paid for by the local council of Scheveningen beach. Some beach spaces are sold to sponsors; Fokker, the airplane company, was one this year.

The Scheveningen Kite Festival is essentially a kite *show*. It is noncompetitive and informal, welcoming kites and the general public and inviting a few foreign guests on an expense-paid basis to put on flying performances. For 1980, kites came from Germany, Denmark, Belgium, England—and, of course, Holland.

Saturday dawned bright and sunny, with winds at 13 to 15 knots. One of the main attractions in Gerard's kiting circus was Nick Morse, the admired builder of elegant Cody and tetrahedral kites. Seven Codys were assembled on the beach, four of them made by Nick [see this issue's cover]. The kites were to be used in a man-

lift, but on the first day a storm threatened and on the second day the winds fell off by the time the system was ready. In spite of this, the kites made a spectacular sight on the sands and in the air.

Much advance effort had gone into plans to attempt to break some world kiting records: altitude, duration and largest kite. Gerard reported afterwards:

"First the altitude was canceled by the minister of defense at the very last moment, because Scheveningen is a very risky place with many airplane flights. Then after three days our duration of flight was over. We had very bad luck because we had three different time periods of absolutely no wind. (Yes, it happened in Holland!) So we stopped."

But the effort to build the largest kite went forward. After months of work by a team of seven Dutch kites, and at a cost of \$6000, a triple sled had been made with 315 square meters (1033½ square feet) of lifting surface and a weight of 390 kilograms (860 pounds). A line of 8000-kg (17,637 lbs) breaking strength was to be used.

"For lifting the kite," Gerard reported, "we hired three cranes and a tugboat. The cranes were 40 meters (44 yards) from each other and lifted the kite by pulling a line (attached from one crane to another), at the back of the kite, slightly forwards. At this moment one of the steel

pipe struts bent too much and as the boat pulled, the pipe bent completely and the kite had no lift anymore. Anyway, we failed. Next year we will try again!" (The next Vliegerfeest will be June 21-22, 1981.)

But the crowd didn't seem to mind the failure. Tourists drawn by the abundant publicity found much to enjoy. A good camping site at nearby Okenburgh drew many, including Dave Taylor and his two sons from England.

Writing later for "Kite Wings," the newsletter of the Essex Kite Group, Dave told of joining Brian Edgely for a breakfast of "traditional good old English eggs and bacon. We went into Amsterdam and had a very good look around. We made several good friends who were also interested in kites."

He also met a group of artists and musicians in Swolle, Holland, and saw them fly some beautiful kites, including a centipede and a windmill. "This was approximately six feet high and had sails about four feet across. The sails rotated and the kite flew, made from tissue paper of various colors; it looked very attractive."

Summing it up, Dave said, "What a wonderful two-day festival it was, full of beautiful kites and beautiful girls! Brian and I cannot make up our minds which was more delightful!"

Gerard can sleep easy.

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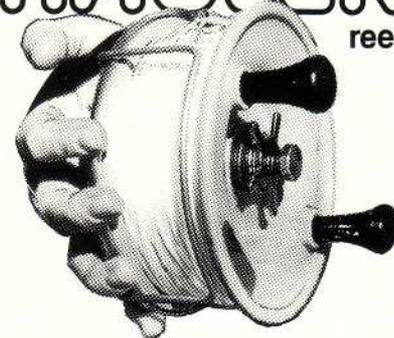


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WORLD RECORDS IN KITING:

QUESTIONS, ANSWERS & CHALLENGES

A letter arrives in the office at *Kite Lines* from a would-be kite record breaker. It states an ambitious goal ("I am planning to fly a kite higher than ever in history") and says that the *Guinness Book of World Records* has referred the correspondent to us for advice on procedures.

How do we answer? For several years, we have replied to these inquiries individually, as well as we could within the time constraints of publishing our journal. Each inquiry presents different questions but a few general points are repeated in each reply. We sense that the time has come to share our suggestions through *Kite Lines* and to open the debate to kites everywhere. Even those of you who have no personal yearning to set a new world record of your own might still be interested in the questions of judgment and philosophy surrounding world records.

Guinness presently recognizes only six categories in kiteflying and has shown resistance to expanding its kite section beyond them. This is an interesting point in itself, since baseball, for instance, fills eight-pages-plus in *Guinness*. Yet a baseball fan can obtain books of statistics on his or her sport that are nothing less than encyclopedic. Just as baseball has records that exceed the interests of *Guinness*, kiting as a sport should have its own records. In its comparative youth, however, the enthusiasm of kiting stands very nearly on square one where documentation is concerned. As the journal of record for the worldwide kite community, *Kite Lines* has shouldered the responsibility and will continue to do so.

As of this writing, no defined standards for any kite record have been "carved in granite," nor do we of *Kite Lines* consider ourselves, by any means, to be the final arbiter of all kiting achievements. But we admire the old saying: "Observe the turtle. He makes progress only when he sticks his neck out." We are willing to risk the possibility of doing a less than perfect and complete job of defining "stan-

dards." Experience will be the real and ultimate test. Our suggestions are made on the basis of the consensus of knowledgeable opinion, as near as we can sense it. These opinions will certainly evolve over time. Thus the following statements are only a beginning and they only apply to what *Kite Lines* will recognize. We cannot speak for *Guinness** or for any other parties who might wish to set standards

of their own. We will try only to uphold the best and fairest standards we know in what we print in *Kite Lines* as world records. At the same time, of course, we encourage you, our readers, to comment and make suggestions for criteria.

*As a matter of information for those who seek listing in *Guinness*: the kite records section of the book closes annually on about June 15.

How to Document Your Record

Setting the most impressive kite record in the world will get you zero recognition unless you can back it up on paper. This dull truth might as well be faced from the outset and a secretary recruited if necessary. Papers and other material should be sent to *Kite Lines*, *Guinness* and elsewhere as the contender chooses. Minimum information will include:

1. The claim.
2. Date and hour or hours of the effort.
3. Name of contender or team with full addresses as appropriate.
4. Nation, state and site of the effort and weather conditions at the time.
5. Full information about the kite or kites flown, such as dimensions, type, and methods used, the details to depend upon

their relevance to the record claimed.

6. At least one disinterested third party (more is desirable) must sign the claim sheet and verify the information as a witness. Every effort should be made to obtain the best possible verification; for example, if possible, use a notary public.

7. Photographic verification is encouraged because it will buttress the news value of the report, but it will not necessarily provide proof of it. For example, still photos taken at the instant of launch may seem to show a kite in apparently successful flight when, in fact, in a moment's time, the kite may have crashed ingloriously. Motion pictures would be much more definitive and the film laboratory's processing log could verify a date.

Definitions & Rules to be Observed in Seeking Any World Kiting Record

1. A *kite* is defined as a tethered aerodyne deriving all its lift from ambient winds and unassisted in launch or flight by any "booster," such as a rocket, bal-

loon, gas, motor, electricity, explosive or other applied device.

2. All kites used in any claim for a record must fly. Flight is defined as being

airborne at an angle of at least 15° above the horizontal to an altitude above the ground of at least the length of the kite and for a time period of at least two minutes. These factors interrelate and a kite achieving only the minimum in all of them puts acceptability of the claim at risk. For example, duration of flight is important for the record for Largest Kite. Further, any "touch-down" of the kite (or anything attached to the kite) to the ground (or any thing or person attached to the ground) ends a flight.

3. All kites used in any claim for a record must be retrieved.

4. All kite records must be set either within the limitations of any applicable

prevailing laws or with permission of the authorities to perform outside such limitations.

5. All kite record efforts must be made in conformance with recognized safe flying practices as appropriate to the effort.

6. For most categories of kite records, increases over past records, to be recognized, must be in significant increments, perhaps on the order of 5%. There should be no doubt that a new record surpasses a previous record.

In sum, kites used in any claim for a record must, to be recognized, fly unassisted and be retrieved, within the law and in conformance with safe flying practices.

However, we have insufficient information either to dispute or confirm most of the claims. In the absence of prior standards and provisionally deferring to *Guinness*, we accept these kiting records:



ALTITUDE by Single Kite

Present Holders: Prof. Philip R. Kunz of the University of Wyoming and Jay P. Kunz of Laramie, WY, on November 21, 1967, flying to a minimum of 22,500 ft and a maximum of 28,000 ft.



ALTITUDE by Train of Kites

Present Holder: Unnamed Germans in Lindenberg (now East Germany), on August 1, 1919, flying a "chain of eight kites" to 31,955 ft.

Previous Holders: An earlier edition of *Guinness* had recognized 10 high school boys of Gary IN, flying near Portage, IN, using a train of 19 kites. The undated report gave the height as 35,530 ft, "assessed by telescopic triangulation." A recent and noteworthy effort (reported in the Spring 1979 *Kite Lines*) was made by Steven Flack in Boonville, NY, on September 9, 1978, flying to a claimed height of 37,908 ft, using a train of seven kites. The altitude was determined only by triangulation, using line length and angle, and the kites were not retrieved.

Comments: For future Altitude record efforts (single kite or train), *Kite Lines* will not accept triangulation by line angle and length alone as

Currently Recognized Categories of World Kite Records

First let us set out those kinds of records which *Kite Lines* is not prepared to recognize. As of this writing, we make no distinction between records set by individuals as opposed to teams; any number may play. For many kinds of kite records, it makes good sense to use a team. As a practical matter, however, *Kite Lines* cannot publish extremely long lists of names, so a captain's or club's name may be used for a team effort. As record-setting with kites increases over time, some efforts may be broken down by individual vs group.

Likewise, ages of contenders are immaterial at this time, but they may be applied to kite records in the future.

Finally, categories broken down by nation or state or by specific production-model kites are not presently considered of significance. It is believed that kite groups will set their own records within their areas and kite manufacturers will record efforts made with their own kites (as, for example, the most production-model Flexifoils flown in train).

Following are kite records which *Kite Lines* does recognize.



conclusive, especially when trains are used. We require that the highest kite in a train be observed by a disinterested third party using a rangefinder sighting or radar.



DURATION OF FLIGHT Outdoors

Present Holder: The Sunrise Inn team, managed by Will Yolen, at Ft. Lauderdale, FL, on April 30 to May 7, 1977, flying for 169 hours.

Previous Holders: A record of 168 hours had been set on April 23, 1964, by Walter Harlan Scott, Delray Beach, FL. The notarized claim was signed by six witnesses. It stated that this effort had broken the previous 99-hour record held by Benn Blinn of Columbus, OH. Scott and Blinn had been unknown in *Guinness*, which for several editions listed the longest flight as belonging to Vincent Tuzo of Bermuda, who flew 61 hours 25 minutes on May 6 to 9, 1973.

Comments: For tries at a Duration record (sometimes—perhaps rightly—called Endurance), *Kite Lines* requires assurance that a minimum line length appropriate to the kite was maintained throughout the flight. This applies both to Outdoors and Indoors records. "Walking" a kite on a short line will provoke doubt of "flight." Also during a Duration effort, the kite or kites must be kept under observation at all times to insure that no question can be raised that a kite fell to earth and then rose up again by itself, as can happen. At night this is particularly challenging and important. A searchlight from the ground or light source attached to the kite can be used; or a flier can listen to the hum on the line or keep a hand on it to assure of the continued "life" in the air. A log should be kept of the kites used, the personnel on watch and their annotations, which should be made regularly.



MOST KITES FLOWN ON ONE LINE

Present Holder: Kazuhiko Asaba on September 21,

The largest kite flown and fully documented is 2,949 square feet in area, flown in Shirone, Japan, March 20, 1980.



1978, at Kamakura, Japan, with 4,128 kites.

Previous Holders: There were several important earlier achievements in this category. Documentation of them appeared in the special issue on trains, Summer 1977, and the Spring 1979 edition of *Kite Lines*. The earlier issue included "proposed standards for multikiteflying," which we repeat here as our. . .

Comments: All the kites must fly. To meet this standard, it must be clear that no kite pulls another. So-called "sky anchors," or large kites launched first, are not recommended or proper procedure. All kites should be approximately the same size, again on the principle that no kite pulls another. All kites must be retrieved; kites lost or impaired in flight do not count. A recent question was raised about the number of lines permissible in a "most-on-one-line" effort. Our response is that more than one strand may be used if they function as one line.



LARGEST KITE FLOWN (by Lift Area, by Weight)

Present Holder: The Japanese in Naruto City, Japan, in 1936, flying a kite built of 3,100 "panes of paper" and weighing 9½ tons. Exact documents on this incredible feat seem to be blurred in myth. The weight claimed is considered dubious by a number of kite experts. A more recent effort, scrupulously documented, appeared in the Spring-Summer 1980 *Kite*

Lines. This was the work of the Shirone Kite Association in Japan. On March 20, 1980, they flew a 63.3 by 46.6 foot kite weighing 792 pounds to an altitude of 250 feet for 15 minutes. This very definitive effort is affirmed by *Kite Lines* and is expected to be recognized by *Guinness* in its next edition.

Comments: *Guinness* recognizes a single, simple Largest Kite category; *Kite Lines* maintains two categories, Largest Kite by Lift Area and Largest Kite by Weight, even though the same kite may achieve the record in both. Contenders who seek to challenge the Japanese record should know that *Kite Lines* determines a kite's size by its lifting area only. In a kite with multiple planes (as, for example, a box kite), horizontal area counts but not vertical area. The sides of a box kite do not count if the kite is flown square; however, if it is flown on an angle the angled areas (of degrees between horizontal and vertical) count as lifting area, based on the projected area, up to within 15° of the vertical. Likewise, side flaps of sleds do not count as lifting area. In determination of a kite's weight, its tails and bridle lines may be included.



LARGEST "HAND-LAUNCHED" KITE

Guinness recognizes this category but *Kite Lines* does not because methods of launch do not lend themselves to sharp or significant distinctions that separate the capabilities involved in managing giant kites.

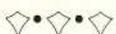
New Categories of World Kite Records which KiteLines Recognizes

The following are new records and suggested records, recently recognized or not yet set. All are, we believe, categories that are both *achievable* and *valid*. We hope to report claims on these records in future issues of *Kite Lines*.

DURATION OF FLIGHT Indoors

Present Holders: Carl Brewer and Tom Sisson of Seattle, WA, on January 31-February 1, 1979, in Seattle's Kingdome, flying a Brewer airplane-type kite for 9 hours 13 minutes.

Comments: "Indoors" is defined as inside a building and under roof.



TRACTION BY KITE for Distance, Distance by Land and Distance by Water

(all straight-line); and for Speed, Speed by Land and Speed by Water.

Present Holder for Distance and for Distance by Land: George Pocock of England in his "Char-Volant," a carriage pulled by two large kites. Pocock traveled 113 miles across the English countryside in 1827. It is not known how many days this journey took, but the speed at times was 20 to 25 miles per hour.

Present Holder for Distance by Water: Samuel Franklin Cody crossing the English

Channel on November 5, 1903, using a train of his Cody kites. Reenacted by Keith Stewart in 1977 using a Gordon Gillett Tow Kite system. Closely contended by Bernard Stewart (no relation) of Victoria, B.C., Canada, crossing the Strait of Juan de Fuca on July 5, 1979, covering 20 to 23 miles.



GREATEST WEIGHT LIFTED BY KITE

Present Holder: G. William Tyrrell, Jr., of Southampton, PA, on September 22, 1978, at the Grand National Kite Festival in Ocean City, MD, flying a 19 x 20 ft Jalbert Parafoil kite that bottomed out the scale at its highest reading, over 420 pounds.

Comments: Net vertical lift, not line pull, is the standard for measurement of kite weight lifting.



LONGEST KITE AND TAIL

Present Holder: Richard de Santis of Palos Verdes Peninsula, CA, on March 22, 1980, flying a 500 ft stunting "dragon" kite at the Venice Pier Kite Festival in Venice, CA.

Comments: Measurement should be in the kite's longest dimension and/or including the full length of its tail. The tail must be substantial and functional over its entire length, not merely attached threads of string or wisps of paper.



FIRST KITE FLOWN in Specified Remote Locations (such as the North Pole, Mt. Everest, etc.)

A Present Holder: Dodds Meddock, Aeronaut on the 1980 Polar Balloon Expedition, flying a four-cell Parafoil kite for six minutes at the North Pole, 90° N, April 11, 1980. The kite, a gift of John M. and Ora (Scotty) Parker of Charlotte, NC, was included as an emergency signal but was flown for pleasure.



MOST PARTICIPANTS AT A KITE EVENT

Comments: Applies to number of people flying kites in a specified area over a specified time. A "crowd estimate" will not be acceptable. A systematic count, verified by a disinterested third party, is required.



MOST EXPENSIVE KITE SOLD

Comments: A written bill of sale and disinterested third party verification must accompany a claim, which shall be subject to stringent scrutiny.



KITE FLOWN IN MOST EXTREME WEATHER:

Hottest and Coldest Temperature, Strongest Wind.



MOST CONSECUTIVE DAYS OF INDIVIDUAL FLIGHT

Comments: Is anyone up for kiteflying every day for a year? Has anyone already done it? Wouldn't the diary of it make interesting reading?



MOST NATIONS IN WHICH KITES HAVE BEEN FLOWN: Individual Lifetime Count. Also subdivision for most states in the United States and for first kiter to fly in all 50 states.



LARGEST FISH CAUGHT BY MEANS OF A KITE FISHING SYSTEM

Comments: Determination to be made on the basis of fish weight.



NONE OF THE ABOVE (Other kite records can be set and recognized, too!)



ANNUAL RECOGNITION

In addition to our interest in the above absolute world records, *Kite Lines* would like to recognize the *annual* record for each category. Wouldn't it be good to know, for example, that you flew your kite higher than anyone else this year? Send us your claims for best effort this year and we will publish them in an early issue next year!

Valerie Govig

Dodds Meddock flying a kite at the North Pole on April 11, 1980, is the first verified success at this location.

Story by William A. Rutiser
 Photographs by Theodore L. Manekin

Here's how it came about. A few years ago I happened to wonder if it might be possible to construct a kite that both flew well and possessed a pronounced asymmetry between its left and right sides.

Attempting to encourage expert experimentation with such kites, I offered a modest cash prize at the annual festivals in Baltimore, sponsored by the Maryland Kite Society, and was rewarded with numerous promises and claims of designs—but no kites. Last spring, Valerie Govig proposed that *Kite Lines* sponsor and publicize an international exposition of asymmetrical kites. This took place on June 17, 1980, at the Burtonsville Recreation Center, a large grassy field located midway between Baltimore and Washington, DC. (Val also arranged for nearly ideal weather, rather hot but with no precipitation and only a few short periods of calm.)

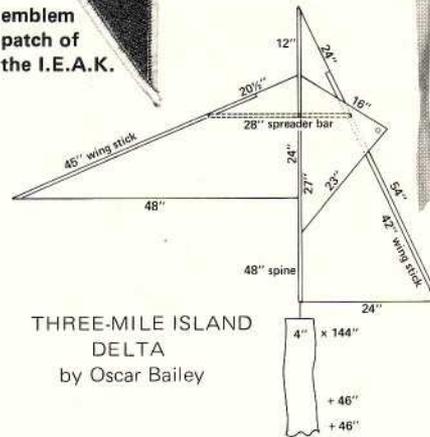
There was a small but appreciative crowd for this unusual occasion, which mingled serious headwork with sporadic giggling. Twenty-one kites were officially entered. There were also two last-minute, unofficial entries and three kites that were brought to the field but not flown. Of the 21 official entries, only two would not fly (numbers 4 and 16). Eight of the kites, shipped to the event, were flown by surrogate fliers while the rest were brought to Burtonsville and flown by their makers.

The kites were flown, one at a time, approximately in order of arrival, before a group of four judges: Bill Bigge, Bevan Brown, Bob Price and myself. Others who had been tapped for judging decided to enter kites instead or assisted in other-than-judging capacities. (For example, Ted Manekin was occupied with the photography.) Robert and Jewell Price, who live near the field in Burtonsville, were particularly important because they received and logged in the kites shipped in advance and also prepared a lovely buffet for all of us afterwards. We thank the Prices heartily for their great help.

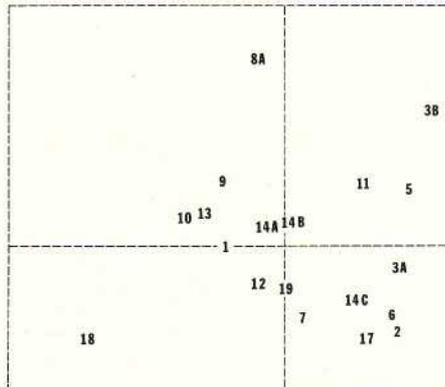
In judging each kite, we noted certain objective aspects of the flight: the kite's highest angle; demonstration of stable flight for 30 seconds; and ability to recover from disturbance, both with and without assistance from the flier. We rated, on a ten-point scale, three perform-



emblem patch of the I.E.A.K.



THREE-MILE ISLAND DELTA
 by Oscar Bailey



Rutiser's diagram plots kites by number for asymmetry vertically against flight horizontally.

ance characteristics commonly considered in kite contests: launch and retrieval; altitude and angle; and stability and control. We attempted to estimate each kite's degree of asymmetry in terms of the ratio between the area of the kite's elements that did not have symmetrical counterparts and the kite's total area. While this asymmetry ratio is easy to define for an outline drawn on paper, we found it difficult to compute precisely for a real kite

a challenge is answered
**INTERNATIONAL EXPOSITION
 OF ASYMMETRICAL KITES**
 Burtonsville, Maryland, USA

flying in the air. It's evident that the proper symmetry plane to consider is the vertical plane containing the flying line, but unfortunately kites flown in most winds don't remain still (and frequently the line doesn't stay in one plane either). It is unlikely that our in-the-air estimates would be exactly duplicated by tape measure and calculator.

In addition to such practical difficulties, a conceptual problem is presented by kites that are not simple two-dimensional shapes. One must decide whether to apply the above definition to the kite itself or to a projection of the kite on a plane. As an example, consider an ordinary diamond-shaped kite with one side set a short distance behind the other. In projection the kite is perfectly symmetrical even though no part of the kite matches any part of its mirror image.

The scores are summarized in the figure where each kite's asymmetry score is plotted vertically against the sum of the kite's flight performance scores. The two lines dividing the diagram into quadrants correspond to the median scores. The diagram shows that, with certain exceptions, the best performing kites tended to be the most symmetrical while the less symmetrical kites performed less well.

The airplane kites entered by Carl Brewer (6) and Gary Hinze (2) flew well at high angles. Both kites seem to have been designed by distorting symmetrical kites in ways that did not destroy the stability and rigidity inherent in the basic design. At the other end of the diagonal we see several kites where unique shapes definitely influenced their behavior. Stephen Bernstein's kite (9) was generally constructed like an oriental figure kite. Its stability was impaired by the lack of



torsional rigidity in the small wings on the right side. Similar flexure in a symmetrical kite might have been balanced by corresponding changes on the opposite side.

Curtis Marshall's attractive kite (10) was constructed of styrofoam disks decorated to represent astrological bodies supported by a rigid wooden frame. While rigidity was not a limiting factor, the frame's drag and weight prevented the kite from flying above 30 degrees or so.

Mark Mazak's kite (13) was constructed on a two-stick frame with a framing cord and an irregular cover in several pieces. During this kite's judging trials, the smaller sails were sliding loosely on the framing cord which caused a constantly shifting bridle point. The kite had flown better during tests earlier in the day.

Several variations of tetrahedral kites appear near the middle of the diagram. Scott Spencer (12) constructed an asymmetrical configuration of symmetrical cells while Skip Harmuth's kites (14A, 14B) were composed of distorted tetrahedrons arranged in the conventional symmetrical patterns of four and twenty cells. These kites flew very much like their ordinary counterparts.

Pete Ianuzzi and Garry Woodcock made flat kites composed of multiple random shapes. Pete's kite (19) was formed of patterned plastics attached to an intricate rigid frame of bent wood.

Garry's kite (1) contained five triangular sails of nylon and plastic loosely connected to four sticks. These kites were somewhat penalized by the way the asymmetry score's definition cancels balancing areas. Pete's kite was the most randomly shaped kite in the event.

The remaining kites in the lower right hand corner of the diagram are asymmetric derivatives of recognizable designs. Oscar Bailey's "Asymmallison" sled (3A) has a center keel of heavy transparent plastic and a three-point bridle. A thin bamboo stiffener in a sleeve across the back tends to keep the kite from closing. Clive Rawlinson sent a lopsided two-line controllable kite (7) that was not much hindered by the effects of its asymmetry. Brooks Leffler flew a modified flare kite (17) with a folded-back wing balanced by an off-center drogue.

Skip Harmuth's third entry (14C) was a Corner Kite with one triangular wing replaced by a rectangle of equal area. The kite, flown with a tail attached to the rectangle's corner, flew well at an angle above 45 degrees. This suggests that the rectangular sail produced more lift than its triangular counterpart.

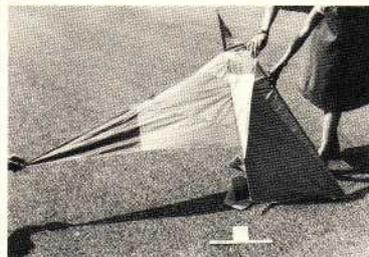
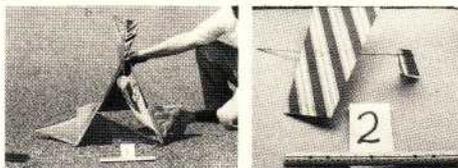
While kite number 18 appears to be isolated in a distant corner of our diagram, the reader should not dismiss it as an insignificant entry as this was the most imposing kite of the day. Its construction

to a spontaneous design by an eight-member team led by Rick Kinnaird consumed a small carload of bamboo poles, several plastic drop cloths and a case of beer (launch included). The entry form states the randomly shaped kite's weight as 27.1 pounds and its area as 0.5 acres.

Red Braswell, inspired by the design of the IEAK emblem, made a controllable kite (11) in the shape of one side of an Eddy kite which demonstrated its asymmetry by refusing to fly to the right of the wind while performing quite well to the left. Two-line configurations seem to promise a convenient means to locate the flying positions for odd-shaped kites even when stunting is not an objective. My impression from watching Red fly this kite is that it could be trimmed to fly stably in many different orientations although a tail would be required since the kite has no dihedral.

The simplest and clearly the most asymmetric kite in the exposition was made by Carol Master (8A). Note that the left side of the cover is made from the material removed from the hole in the opposite side. The kite's two-point bridle is attached at the corners of the hole and a tail is attached to the solid side's tip. Unfortunately, the kite was unable to reach an angle of 45 degrees and was somewhat unstable. I expect that this design, with sufficient experimentation, will

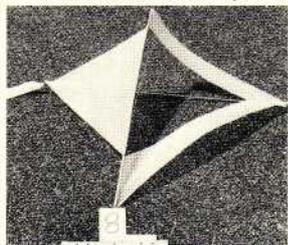
1. Garry Woodcock, Ontario, Canada; 2. Gary Hinze, San Jose, CA; 4. Charles Sotich, Chicago, IL; 6. Carl Brewer, Seattle, WA; 7. Clive Rawlinson, Essex, England; 9. Stephen Bernstein, Arlington, VA.



★ 1ST PLACE: Oscar Bailey, Lutz, FL, with his Three-Mile Island delta (3B). He also entered a sled which he called Asymmallison (3A).



★ 3RD PLACE: Carol Master, Jamaica Plain, MA. Most asymmetrical kite was reverse-pieced.

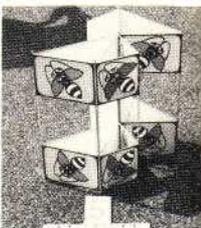
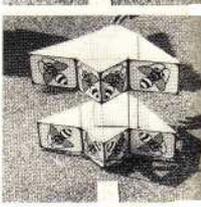


★ 4TH PLACE: W. D. (Red) Braswell, Manassas, VA. His half-Eddy, emblem of the exposition, flew well on two lines—but only to the left (not to the right).



★ 2ND PLACE:

Takaji Kuroda, Tokyo, Japan. His convertible box kite also won special commendations for structural ingenuity and longest distance shipped. Top, the inner box of the package containing the kite. Center, the kite in its symmetrical mode. Bottom, kite in asymmetrical mode. Modes could be changed in mid-air.



develop into an excellent kite.

Takaji Kuroda sent a truly remarkable multicell box kite from Japan (5). It consists of four rigid two-cell triangular box kites hinged together at their edges with figure-eight lashings. Frames made of $\frac{1}{8}$ -inch square wood are covered by paper decorated with block prints of the traditional Japanese bumblebee kite. It would have been a serious contender in any symmetrical kite contest on design and construction grounds. It flies well from two different bridle points. With the line at one point, it assumes a novel but symmetrical configuration while with the line attached at the other point the cells assume an asymmetrical configuration. The maker arranged a rigid steel piano wire between the two points, one at each end of the kite, with the wire spaced slightly above the cell surface. The flying line is tied to a heavy snap swivel that slides freely along the wire. The kite can be launched with the swivel at either end and flies in the corresponding mode. When the flier draws in several yards of line and releases them suddenly the swivel falls to the other end of the wire and the kite inverts itself, assuming the other configuration. Correspondence from Kuroda refers to other "magic" kites which change shape or color in the air [see article about Kuroda on pages 40-41 of this issue]. This kite arrived at Bob

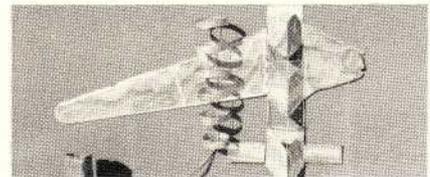
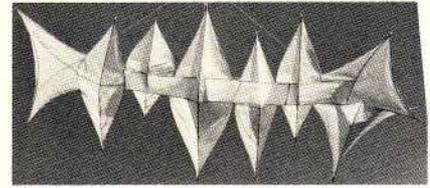
Price's home via air freight in a heavy wooden crate. We spent nearly half an hour getting past the steel banding and the glued wire staples used to secure the top. Once inside, we found, wrapped in several layers of plastic bubble packing, a second box, a light field case made of thin plywood and wooden strips. This entry, clearly the best box kite in the event, also provided the best kite box!

Oscar Bailey's "Three Mile Island" mutant delta kite (3B) earned the day's highest flight performance score and the second highest asymmetry score. The wings of this otherwise conventional delta kite are identical right triangles, with sides in the ratio of two to one, connected short side to long along the spine. The kite's tail, about four inches wide, is made in several sections connected with strips of Velcro to permit adjustment. With the tail attached to the tip of the spine, the kite flew to above 60 degrees. Its flight stability was exceeded only by Kuroda's multicell box kite. I believe that sufficient energy and material invested in experimentation would be rewarded with a similar kite requiring little or no tail.

My curiosity has been justified. Asymmetrical kites do fly and there are more ways to make them than I had ever imagined. Now, thanks to all of the exposition's participants, we know that there is a difference between balance and symmetry. ♦

NON-ARRIVALS OF INTEREST

Oscar Bailey's favorite wind sculpture (kite) was too big—60x24x12 inches—to ship to the exposition. Oscar said, "It is made of bamboo and Silkspan and flies very well, steadily and at a relatively high angle. The shape comes from seed-pods and concave tetrahedral forms."

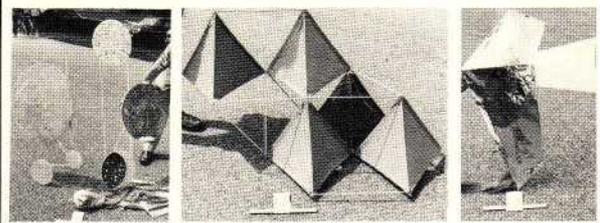


Ray Proctor of Honolulu, HI, wrote of his "wing, cabin, tail and simulated jet engine with one wing missing." He and his wife put in long hours but could not test the kite in time for shipping to the exposition. However, they have since flown it successfully at the beach. The model is made of Tyvek®, graphlex tubing and aluminum spars; the wing has mesh-covered holes for lightness.

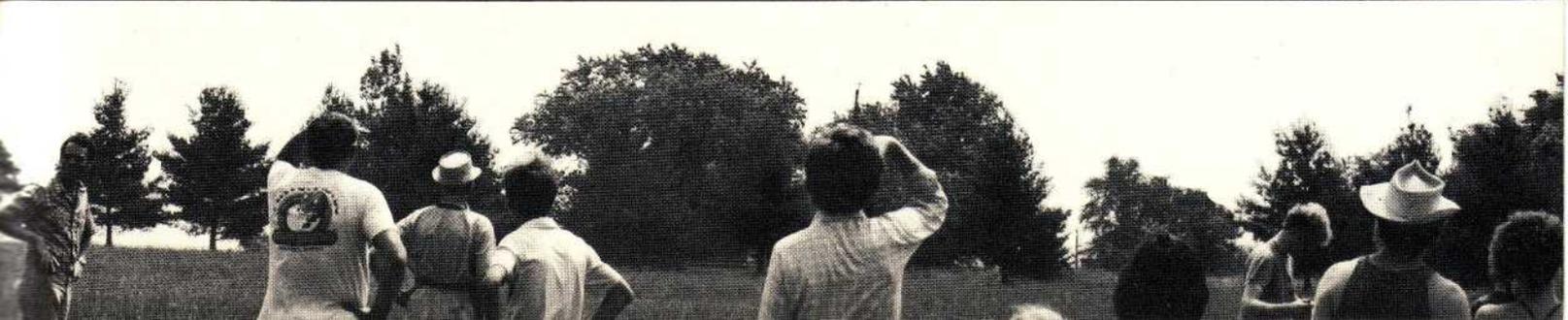


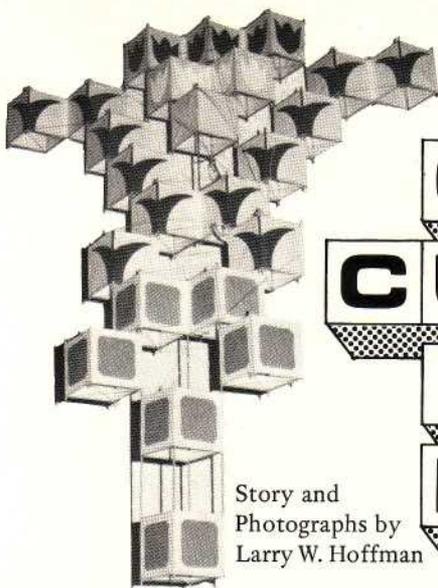
★ 5TH PLACE: Frank (Skip) Harmuth, Hackettstown, NJ. Special mention for making the greatest contribution to the exposition with his quantity effort of four asymmetrical kites—all of them successfully flown.

10. Curtis Marshall, Baltimore, MD; 12. Scott Spencer, Cherry Hill, NJ; 13. Mark Mazak, Baltimore, MD; 16. Foster Schucker, Newark, DE; 17. Brooks Leffler, Silver Spring, MD; 19. Pete Ianuzzi, Catonsville, MD.



NUMBER 18: Rick Kinnaird, Laurel, MD, and crew. Their kite was constructed spontaneously on the field from bamboo poles and multicolors of plastic—a zany triumph. Left, framework in progress; center, crew hoisting kite; right, flight!





Story and
Photographs by
Larry W. Hoffman

THE CONVERTIBLE CUBICS OF TAKAJI KURODA

Immaculate. Detailed. Precise. Faultless. Impeccable. Perfect. . . I exhaust my thesaurus finding words to describe Takaji Kuroda's workmanship for the construction of his cubic kites. Some readers may remember this gentleman's name and his interesting kite design form from their first publication in *Kite Tales* (predecessor of *Kite Lines*) in 1976.

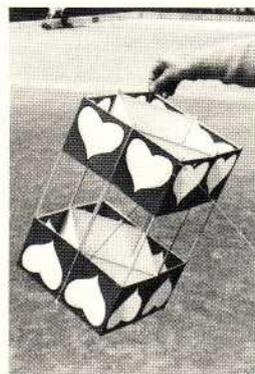
Kuroda is an electronics engineer and is General Manager, Space Development Division, of Japan's giant Nippon Electric Company. He designed the "multiport hybrid circuit" used in satellite and other communications systems throughout the world. Applying this principle to kite design, about seven years ago, he found himself solidly launched into kiting. One cubic design followed another and all found their way into his 1975 book *Three Dimensional Kites*. In Japan, 15,000 copies were sold; no English version is available.

Walking into Kuroda's living room is like stepping into another world. The eye is confronted with multicolors and multipatterns everywhere it looks! Mixed in

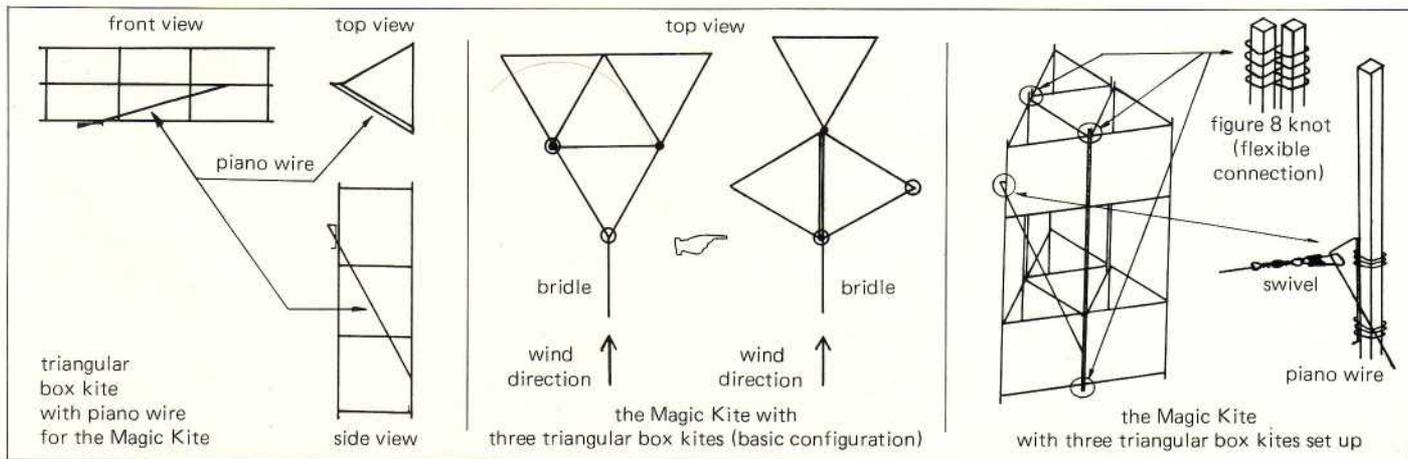
with the cubics that are hanging from each wall and totally covering the ceiling, are some of Japan's traditional kite designs, and if you don't walk carefully you will stumble over countless more kites leaning against the walls. The only space not taken up with kites is that occupied by the furniture.

In 1979, a friend of Kuroda started experiments with a sliding bridle arrangement to cause a kite to turn over while in flight. Using this idea, Kuroda worked on a cubic kite that didn't just turn over but converted from one combination to a different combination of cells. Only moving pictures could describe the results achieved. A slacking of the prescribed "fathom" (six feet) of line causes the kite to circle in the sky. At the right moment, a jerk on the line slides the bridle over to its alternate position and alters the cell configuration.

Clever in concept, amazing in construction simplicity, Takaji Kuroda's "magic" convertible cubic kites prove that the impossible, though yet to be accomplished, has been almost reached! ◇

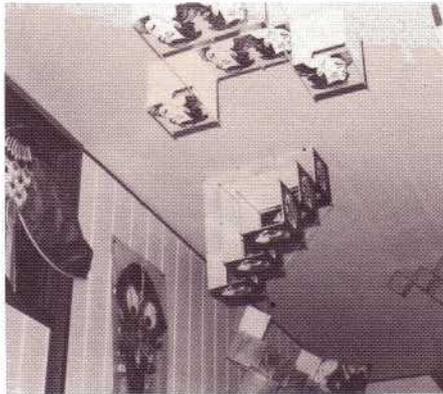
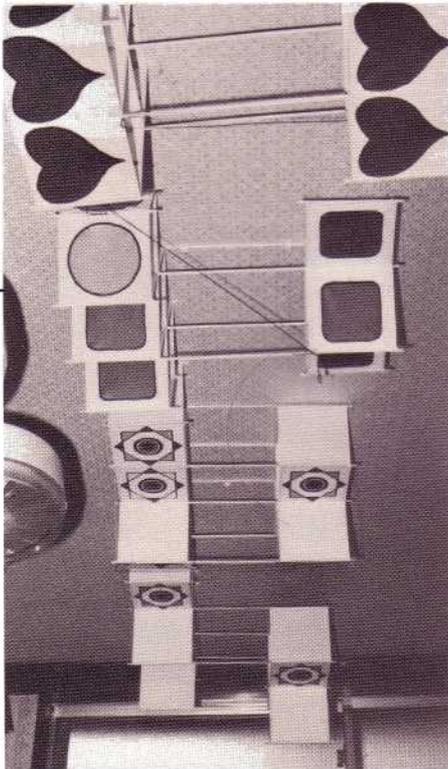
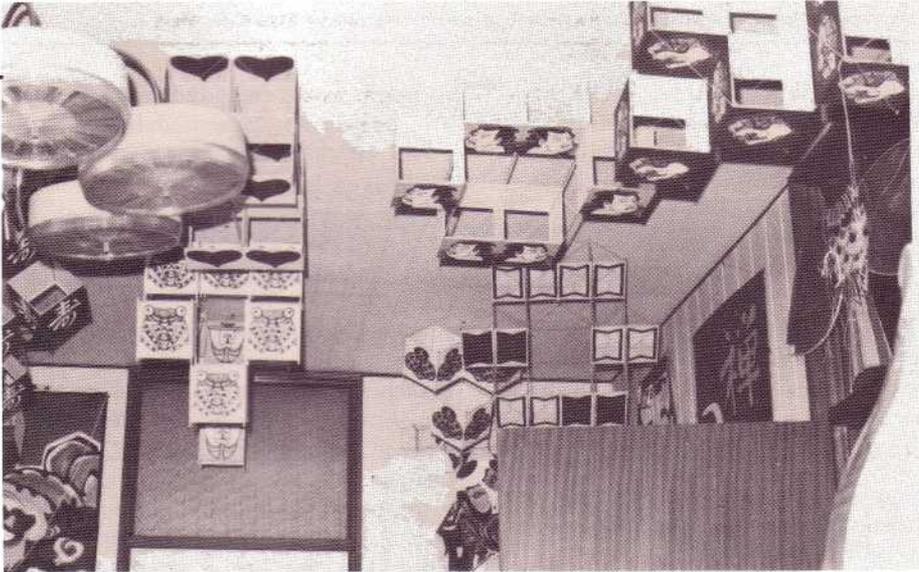


Kuroda shows the convertibility of one of his cubic kites. Above left is a single box, which becomes, with a slip-switch of the bridle, a double box, below left.





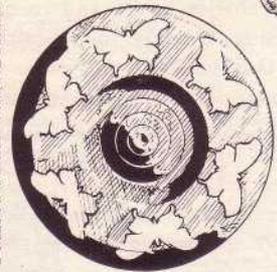
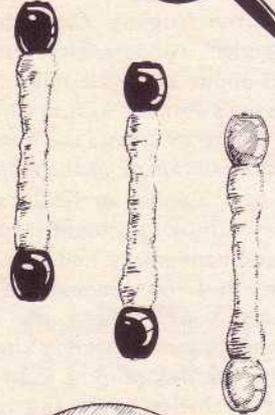
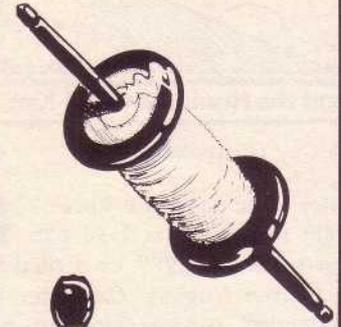
Kuroda at home in his living room, which is crowded with kites, including traditional Japanese as well as his cubic kites.



Above and left are views of the ceiling in Kuroda's home. Hardly an inch of space is left for a fly to walk over without entering a maze of cubic kites.

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and the Hornbeam Sled-Kite, Mark I.

By Guy D. Aydlett

Piney Mountain Air Force commenced flight operations at 1:30 p.m. Saturday, November 10, 1979, on a rural flightpad in Central Virginia. Our name honors a distinctive topographic feature which exists about 14 airline miles north of Mr. Jefferson's Monticello, near Charlottesville. U.S. Route 29 crosses the eastern flank of Piney Mountain, a small mountain whose precincts abound in fickle air currents, turkey vultures, a vibrant sense of history, curious happenings and almost palpable magic. It is our unqualified belief that any kite which consistently flies well in our environment is a great kite!

Our primary purpose is to fly kites or related vehicles safely and to encourage our friends to enjoy their healthful dividends. Our primary goal is to seek and practice technical improvements in the state of light-flight art. We limit our gatherings to mature, responsible, creative fliers totalling not more than 10 participants on any flight date. We do not anticipate sponsoring contests or festivals in the foreseeable future, but we do not rule out that possibility.

In addition, we offer objective flight-test services to individuals or manufacturers who submit ideas or products for evaluation and we intend to publish our findings in *Kite Lines* or other appropriate media.

We are pleased to report that two fliers well-known to the kiting fraternity have honored us with their presence: Alex G. Dunton, Jr., of Richmond, VA (versatile artist-printmaker, package designer and experimental fugalist extraordinary), and John D. Forbes, *Kite Lines* Lifetime Subscriber, University of Virginia professor, longtime kiteflier and eminently successful water-witch (dowser). John has donated a Cadillac trunkful of kites—many never flown—as potential test units. Alex had contributed a splendid roll of 51"-wide Type 14 Tyvek®.

Piney Mountain Air Force flies on afternoons of most Saturdays that bear even-numbered dates. Direct inquiries to: Piney Mountain Air Force, c/o Guy D. Aydlett, P.O. Box 7304, Charlottesville, VA 22906.



Above, Guy Aydlett and Perry Fitzhugh of the Piney Mountain Air Force gaze up at one of their kites, perhaps an efficient, stable, simple, unvented Hornbeam Sled-Kite, Mark I.

Frederic Whiting

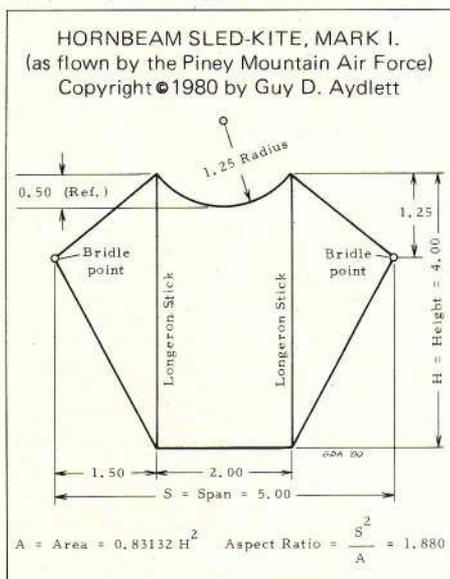
HORNBEAM SLED-KITE, MARK I.

The Hornbeam Sled has been flown with brilliant success in many sizes and in strenuous Northeastern United States weather conditions by experts and novices in places as widely diverse as Upstate New York and the Outer Banks of North Carolina, from 1976 until the present.

The excellent flying qualities of the Hornbeam Sled principally obtain from arcane airflow magic brought about by the noticeable leading-edge sag-arc subtended by the upper ends of the two

its height would embody four 25cm modules; its span, five 25cm modules. Similarly, a sled 40" high would measure four 10" modules in height and five 10" modules in span—simple ratio and proportion.

In common with other sled kites, the Hornbeam variation does not enjoy being choked by an overly short bridle. However, generous bridle lengths have no evil effects on its stability. It is suggested that bridle branches should be at least three times the longeron length (the height H). Braided nylon or polyester line is recommended. Use swivels of good quality at three points: the two bridle attachment points at the wingtips and the bridle apex where the kite line is attached. Verify that the bridle branches are exactly equal in length, particularly when flight is attempted in strong winds. If the Hornbeam Sled flies in a wing-low attitude, adjust the fault by shortening the bridle branch on its low side.



longeron sticks. However, aspect ratio, longeron placement and bridle point locations also enhance the ability of the kite to tolerate drastic up-and-down dimensional scaling.

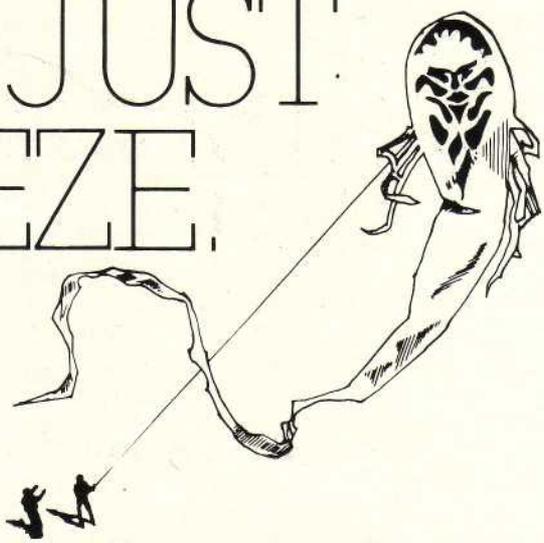
Note that the proportions are shown in dimensionless modules. This means that a sled can be made using any preferred unit of measurement: feet, hand spans, leg lengths, etc. For example, should you desire to make a sled one meter in height,

SLED CHALLENGE

Talented kitemaker, we invite you to fly our design simultaneously alongside your favorite sled of equivalent materials, weight and sail area. We believe you will discover the Hornbeam is the best all-around refinement of William M. Allison's inspired invention, the sled. Indeed, we extend this friendly challenge: if you consider your sled to be better, send both kites to us for our verification of your claim. If your favorite flies better during our tests, we shall attempt to honor you in print!

(Unless return shipping costs are prepaid, we shall assume the kites are offered as donations to the archives of the Piney Mountain Air Force. In the interests of safety and prudence, sleds larger than two meters in height shall not be accepted for comparative testing.)

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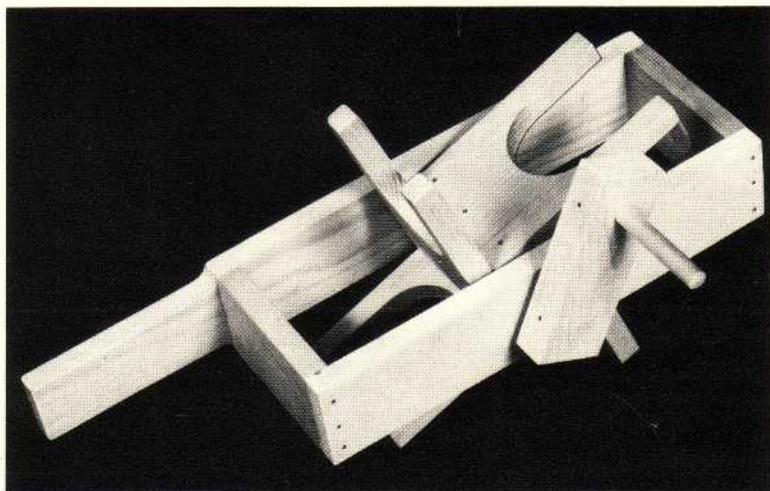
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STATESIDE

News From Here and There

FLORIDA

Oscar and Sarah Bailey have been busy conducting kite workshops. In the winter of 1979-80, Oscar found himself making three kites a week through a 10-week period for his university students. In the summer of 1980, he and Sarah taught a kite designing and building workshop at Penland School of Crafts, Penland, NC.

On a personal note, he wrote: "At Penland, I was flying a kite from a neighbor's hill, looked across the valley and saw a mountaintop clear of trees and made the comment that it was a perfect place to fly kites—360 degrees, all open. I found it was for sale and bought it. We will spend time this summer studying the land and siting a house, all solar. Plan to move there in four or five years—to do photography and kites." Subsequent letters tell of breaking ground for this kiter's dream house.

MARYLAND

On June 1, 1980, the Silver Hill Museum was renamed the Paul E. Garber Preservation, Restoration and Storage Facility. Housing over 90 historically significant aircraft, including some kites, the building holds the reserve collection of the National Air and Space Museum, Smithsonian. Garber, Historian Emeritus of the NASM and a walking repository of aviation history, is beloved of kites for inaugurating and maintaining the annual Smithsonian kite festival on the Washington Monument grounds. At the Garber Facility are some of the Chinese kites that formed the nucleus of the Smithsonian's aeronautical collection in 1876.

Free two-hour tours of the Garber Facility are conducted on Wednesdays

An old Chinese man-and-woman kite from the collection at the Garber Facility, Silver Hill.



Bill Kocher

and Fridays at 10 a.m. and Saturdays and Sundays at 1 p.m. Two weeks' advance reservations are required through the Tour Scheduler, Education Services Division, NASM, Washington, DC 20560; or (202) 357-1400 (call Monday through Friday).

NEW YORK

Wyatt Brummitt pens an appreciation for the long-standing kites of Rochester, NY:

Any decent day they're out there—the inveterate veterans of the ancient and honorable Long Meadow Chapter. Their flying field is the wind-swept expanse of the big parking lot at the Monroe Community College, where the grass beyond the blacktop is kept tailored and green as a suitable setting for any kind of kiteflying.

Ed Grauel is usually first out. He has a new 10-foot delta, made up of foot-square patches of varicolored rip-stop. It usually evokes comment ranging from reference to Joseph's coat of many colors to something about Aunt Dinah's Quilting Party.

Bill Schaeffer, our purist (he scorns anything new or tailored for the job; if he finds it in a vacant lot, it's okay) flies, mostly, control-line jobs. He takes special pleasure in making a downed kite leap back up into the air. (This, of course, is not to imply that his kites are frequently downed.)

Old Man Brummitt usually flies from a sprawled position in a comfortable folding chair. His usual fliers are deltas or boxed deltas; recently he varied things by lofting a six-foot airplane-type kite. It flew nicely, too, until it suddenly realized that Wyatt had forgotten to insert the spreader; it panicked, then, and dove frantically back to Wyatt's feet. Now a rebuilding job.

Often as not Tom and Jim Mendenhall show up, and Craig and Kathay Smith, and Al and Ruth Fennyvessy, and John Mills, and Wint Lemen and others—plus frequent visitors. On the third Saturday of each month there is a regular, official fly-up, with the AKA banner high on a kite line and, usually, an out-of-town

A 10-foot Zephyr kite with open keel made in multicolored plaid design by Ed Grauel and flown by Bill Schaeffer in Rochester, NY.



visitor or two. Jim Vullo comes over from Buffalo and flies both puns and kites with great eclat. It's all a pretty tight operation, as can be plainly seen. And visitors are always welcome.

OHIO

Betty and Miller Makey write to us from Grove City: "We have loosely organized the Central Ohio Kitefliers Association (COKA) on July 12, 1980, with 30-some names of interested kites. We have kite flies on the even-numbered Saturdays at Highbanks Metropolitan Park."

The letter goes on to list over a dozen occasions, mostly in the spring of 1980, when the group gave kite talks and workshops to schoolchildren, recreation gatherings, the media—and (notably) such disadvantaged groups as deaf children, retarded people in a psychiatric unit. Find COKA at 2557 Clark Drive, Grove City, OH 43123.

TEXAS

Richard S. Robertson sends sad news from the kiteflying Robertson family in Austin:

Our son John died on January 6th, 1980. Experimental cancer treatments failed and we knew it was a matter of time. However, John had moved back to his apartment, enrolled at the university and had a great fall until he had to move home the first of November, 1979.

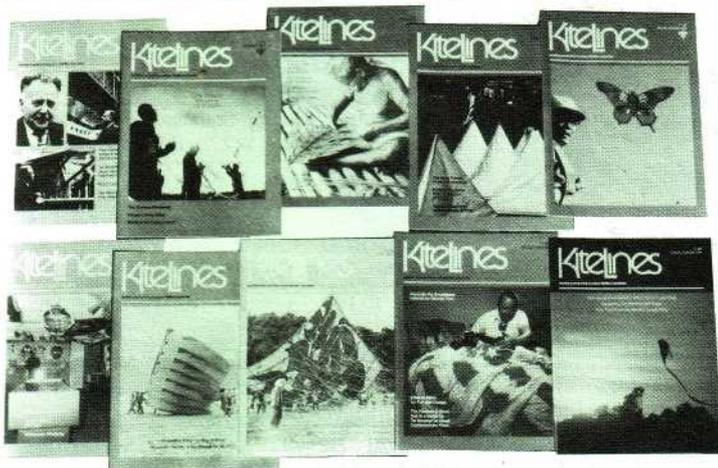
We are fine, making daily adjustments in our lives and trying to catch up on many things. Our kite tournament was rained out and held a week later. The postponed tournament barely squeaked by the weatherman. It looked like rain all morning and even sprinkled a little bit, but, as predicted, the afternoon improved—sun and wind were provided—and the tournament was on! The small crowd grew and we had a good tournament. If we'd been rained out, it would have been cancelled and would have been the first time it had not been held since the 1929 beginning. We were naturally very pleased.

Don Hering from Flexifoil Skysail in Houston demonstrated five stacked Flexifoils and donated two as prizes. Colette Holleran from Sky's the Limit in Dallas was there also with some of her colleagues and kites. It was a good afternoon.

News from Here & There Continues on page 48. . .

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Readers tell us they regard KITE LINES as an education in the art and sport of kiting—more of a reference source than a magazine because of the timeless and hard-to-find nature of its contents. And because new information and ideas keep popping up in kiting, we don't expect to repeat ourselves editorially.

Of our 10 back issues, 8 are still available in original copies and 2 in microfilm. As paper copies become "sold out," it will be our policy to make them immediately available in microfilm at the same price so that the serious kiter need never miss an issue entirely. We suggest you ask for back copies first at your nearest kite store. If they can't fill your order, use the order form on this page to get your copies from us. Here's a brief rundown on contents of our back issues for your convenience and reference.

SPRING 1977 (Vol. 1, No. 1):

Outrigger Kite Plans; Tracing Japan's Customs; Brummitt's Kite Categories; Profile: Paul Garber; Exhibits in New York and Paris; Two Marconi Kite Plans; Use of the Glue Gun; Featherstone-Kite by Rowland Emmett; Heart-Stopping Kite Festivals of Japan, by Tal Streeter; Reviews: kites—Octopus Kites, Corner Kite, Fighters, Better Builts and Wright Flyer kit; book—Greger; News from AZ, CA, FL, ME, MD, OH, WA, WI and Japan (1,585 kite train record); Talking about Tails; Ingraham's History of the Magazine; Brown Bag Kite Design.

SUMMER 1977 (Vol. 1, No. 2):

Which Is the Perfect Kite?; Person-Lifting Kites; Trains—The Multikite Phenomenon and Proposed Standards for World Records; Profile: Mike Welety; How to Conduct Trains, by John Van Gilder; Tom Van Sant's Trampoline; Reviews: kites—Flare, Firebird and 8 stunters, with Pfund on Dynamics of Controllables; books—Dolan, Lloyd et al and Dickson; Survey of Readers; News from AL, CA, CO, DE, DC, FL, HI, IL, IN, LA, MD, MT, NY, NC, OH, TN, TX, WA, Australia, Canada, Japan and New Zealand; Greger's Dutch Kite.

FALL 1977 (Vol. 1, No. 3):

Gull Delta Drawing; Tail Selection Study; Profile: Ansel Toney; All Saints Day in Guatemala's Hills; Stormy Weathers's Kite Fishing System, Sled Designs and Fishing Story; Kite Fishing in Micronesia; Kite Reels Analyzed (and

12 samples reviewed); News from CA, CT, MD, MA, MI, NJ, NH, NY, NC, OH, TN, TX, WA, Australia, Canada, England, Japan, Malta, Netherlands and New Zealand; Flags, Banners and Kites Exhibition in Seattle; The Sycamore Fire; Ingraham on Temperature Effects on Kites; Greger's Vietnamese Kite; The C.P.S.C. and the Aluminized Dragon; Excerpts from Hearings Transcripts.

WINTER 1977-78 (Vol. 1, No. 4):

Letter with college kite course prospectus; A "New" Medieval Dragon; Thorburn's Stacked Deltas; Reviews: kites—Grandmaster Kite, New Dragons, Spinning Janny; books—"Create-a-Kite," Thomas, Bloch-Laine et al; Symposium on the Many Facets of the Tetrahedrals: Opinions and Theories (17 expert comments); Comparison Table of Equivalent Kites; Simplified Construction; Trials of the Tetras; Tips for Tets; News from CT, HI, MD, MA, NY, OH, PA, TN, WA, Australia, Canada and Japan; England's Jubilee Year; Ingraham on Shipping Kites; Making Kites with Hundreds of Kids.

SPRING-SUMMER 1978 (Vol. 2, No. 1):

Rogallo Corner Kite Plans; Lincoln Chang's Modified Rokkaku Kites; Profile: J. C. Young's Chinese Kites; Reviews: kites—Flexifoil, Prof. Waldof Box, Wind Mill Kites and Firebird; Reels by Shanti; book—Dwiggins; Death of the Rotoki Inventor; Aydlett's Rebuttal of Brummitt; Spendlove's Towards a Taxonomy of Kites (poster pull-out); New American Tradition: Kite Festivals! (why, how and the Longevity Factor); Braswell's Figure Kiting; Cerf-Volant Club de France; Announcement, First National AKA Meeting; National Issues and Safety Council; Ingraham on Publishing Problems; Directory of Clubs.

SPRING 1979 (Vol. 2, No. 2):

Reviews: New Roundup of Kite Reels (12 samples reviewed); kites—Covered Wagon kit; books—Tyrrell, Hiroi, Van Gilder's Hand-Hold Reel Design; Kites in Museums—Tokyo and the Smithsonian; Deaths of Shingo Modegi and Frank Motts; Streeter in Paris; Kites in the Wilderness; Record Efforts—altitude, most on a line, indoor duration; Nirvana in Nags Head; Braswell's Two-Stringing the Delta; News from CA, CO, KY, MI, NM, NY, OH, WA, England and Japan; Profile: Stephen Bernstein and his Chinese Bird Kite Plans.

SUMMER 1979 (Vol. 2, No. 3):

Letters disputing altitude record effort; Reviews: kites—Flying Lines, Winged Victory, Cloud Pleasers and Rainbow Stunt Kites; book—Bahadur; Flow Form Kite Plans; Marshall's New Nylon Cutting Technique; AKA Meeting and Grand National Kite Festival in Ocean City, MD; Brummitt: The Sky Is Big Enough for All of Us; News from CA, CT, NY, OR, Canada and England.

FALL 1979 (Vol. 2, No. 4):

Reviews: kites—Craftsmanship from Sri Lanka (6 samples reviewed) and the Soaring Wing; book—Mitton; Symposium on Monumentality in Kites: Is Bigger Better? (23 expert comments); Ianuzzi's Critique of Japan's Giants with Weight Comparison Chart and Bedsheet O'dako Plans; Profile: Louise Crowley; Trebilcock's Lighthouse Kite Fishing Method; Record Efforts—kiteboat traction, "junior" record; News from IL, MI, MT, NY, OH, TX, WA, Australia, Canada, England, Ireland, Japan, Malta; Kurl's Super Conyne plans.

WINTER 1979-80 (Vol. 3, No. 1):

Reviews: kites—Rotors (3 samples reviewed) and Bull-Roarer Effect; book—Lloyd-Thomas; Brief Guide to Safe and Sure Kiting; Grauel's Shooting Arrow and Bull's-Eye Target Kites; Profile: George Ham's Parafoils; Death of William Allison; Innovations: Facet Kite by Robinson; Andrew Jones, Ray Merry and the Flexifoil, by Tal Streeter; '79 Events: in Beulah Valley, CO; Kill Devil Hills, NC; Seattle, WA (visited by Shirone, Japan); and Manassas, VA; The Miracle of Sagami-hara, by Carl Poehler; Kites and the Cambodian Spirit.

SPRING-SUMMER 1980 (Vol. 3, No. 2):

Reviews: kites—Skynasaur, Four Winds kites, Soaring Scimitar, Heart's Delight, Spinnaker Diamond; book—Marks; Searching for the Real Will Yolen; David Slays Goliath with Patchwork Special; Variations on a Theme (Tetrahedrals), by Bevan Brown; Kite Aerial Photography—Who's Done It and How: practitioners, history, how-to by Garry Woodcock, Robert S. Price, Stanley Crinklaw, Dale Fleener; Antique Kites, by Robert Ingraham; Record Efforts—largest kite by Shirone Kite Association; How to Bridle a Giant Japanese Kite, by John Van Gilder; News from CA, FL, WI, Australia, England and Japan.

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INTERNATIONAL

News From Here and There

AUSTRALIA

We received an interesting letter from David Ayling, new secretary/treasurer of the Kite Fliers Association of South Australia, Inc. Some excerpts follow:

I have just sent copies of our newsletter. Yes, we try to make them monthly, although I wonder if something less ambitious might be more realistic. We elected a new executive in June. Our president is your old friend Ted Padman, who, of course, is also the honorable president of the Essex Kite Group [England], as well as recently remarried and, as ever, the compleat, dedicated kiteflier. I have taken over as secretary/treasurer from Ian Perrin. Frankly, I doubt that Ted and I are good for the group, since we are both kitefliers at heart rather than organizers of others. Bob Hains, our founding father, continues as editor/publicity officer. Here is our new address: 4A Hazelwood Avenue, Hazelwood Park, South Australia 5066.

Our numbers are down but with some publicity we can build them up as warmer weather comes along. We now have a permanent home in the Parklands (the green belt which surrounds the square mile of the city and is a feature of Adelaide's original, colonial-times layout) where we fly first Sunday afternoons each month. Last time I guess we had 30 or 40 all told on a rather cold day, but good winds. We have had one or two outings to our

country site at Woodchester (2000-foot air limits vs the usual 300-foot ceiling for kites) and ahead are a springtime picnic meeting in October; the South Australia Championships in November at Victor Harbor; and probably some municipal children's days during the summer holidays.

In our first year or two there was a lot of activity and one of our local television stations got involved in both publicity and sponsorship—big public flies once a month with 1000-plus along, clowns, balloons, the works; flying somewhere every weekend in summertime, etc. Consequently, '79 was a year of reaction, very quiet. We have set about rebuilding on a lower-keyed but, we hope, more solid approach. We see our monthly meets as essentially club events to which we invite visitors and potential members. We think it will work.

CANADA

We quote from newsletter number one of the British Columbia Kitefliers Association:

On the rainy afternoon of March 9, 1980, at the invitation of Marcia Madill, owner of the High as a Kite shop in Gastown, Vancouver, a group of more than 20 kite aficionados gathered in the board room of the planetarium at Vanier Park, Vancouver. Their purpose was to explore the possibility of forming a kite association whose goals would be the furtherance

of kite lore and fun in the B.C. area.

The participants, some of whom came from Victoria, were solid in their support of the idea. They represented a wide range of kiting interests, from classic Japanese kites (displayed by Dan Kurahashi) to the ultramodern Flexifoils (flown by Barry Heibert of Victoria).

An initial organizational committee was set up and subsequently officers were elected, with David Pinner as president. The club has already held several flies and meetings and has put out some fresh, enthusiastic newsletters, one of which includes a drawing of the superlative Varley Volvo kite by Les Varley of Victoria. Memberships are \$5.00/single, \$10.00/family, c/o B.C.K.A. Secretary Rosemary Meyer, 3991 Puget Drive, Vancouver, B.C., Canada V6L 2V3.

From the other side of Canada, Garry Woodcock writes:

The 1980 Toronto Kite Competition was held June 7, jointly sponsored by the University of Toronto, Institute for Aerospace Studies (UTIAS), the Kite Store in Toronto and the Toronto Kitefliers.

Qualifying in the morning was exhausting, since there was no wind, and all kites had to fly for 90 seconds. Sure made for a lot of running and puffing!

It did pick up, though, just as everyone was hoping, and by midafternoon there was a breeze up around 300 feet. Still, there was a lot of puffing on the ground.

Graham (Gray) Marshall of Maryland added a lot of pizzazz to the event with his big new Parafoil, launched from the front of his BMW auto as he drove it backwards on the field. His father's (Curtis Marshall) magnificent delta-Conyne thrilled us all as well.

My own new seven-foot hexagon performed as I had hoped and took second in strongest pull at 11 kg (24¼ lbs). In the highest line angle event my Sauls Navy Barrage Hargrave biplane box kite didn't fly at its usual steep angle, but then the judge mentioned that every kite he measured wasn't flying at its highest angle, according to the flier!

Terry Wedge of Toronto was the big winner of First Place trophies, along with Graham. His Flare, "shooting star" (like a dragon and Russell Hall kite combined), plastic-wrap-and-bamboo lightest kite and spring-steel-framed "most unlikely to fly" cobra all won trophies. ◇

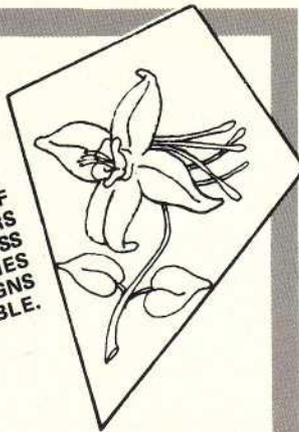
GUATEMALA CITY, GUATEMALA—Children and adults fly kites on a mount of pre-Columbian Indian ruins at "Colina de la Muerte" archeological excavations. In the background is Volcano Agua.



David Mangurian

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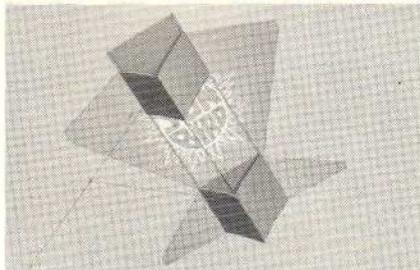
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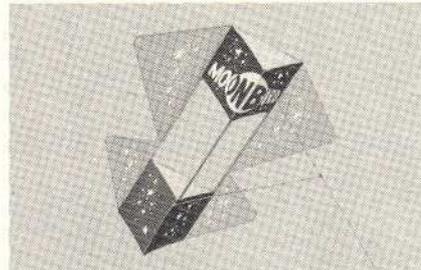
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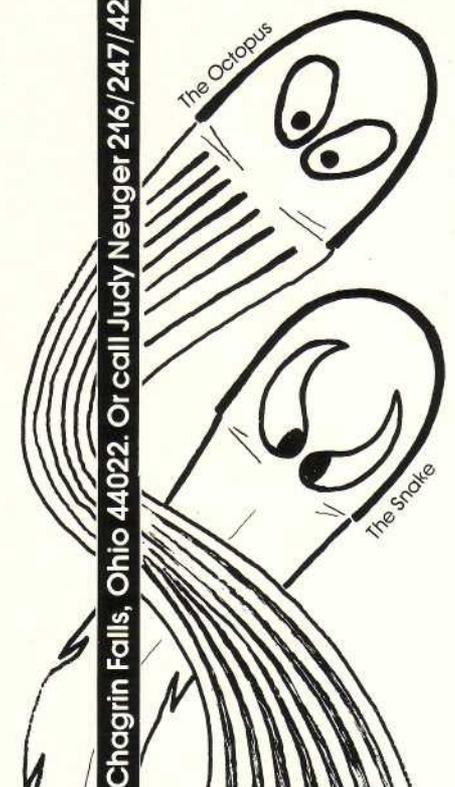
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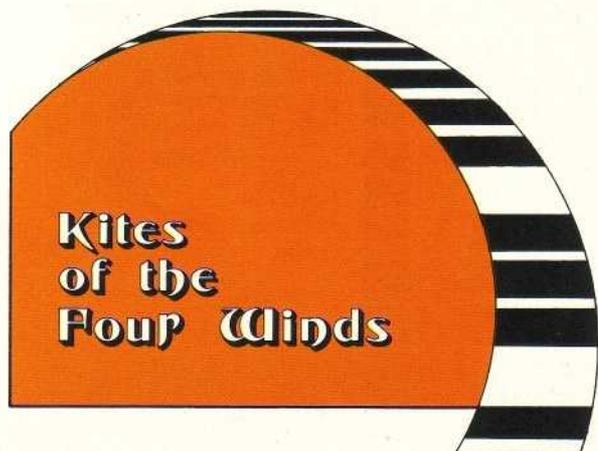
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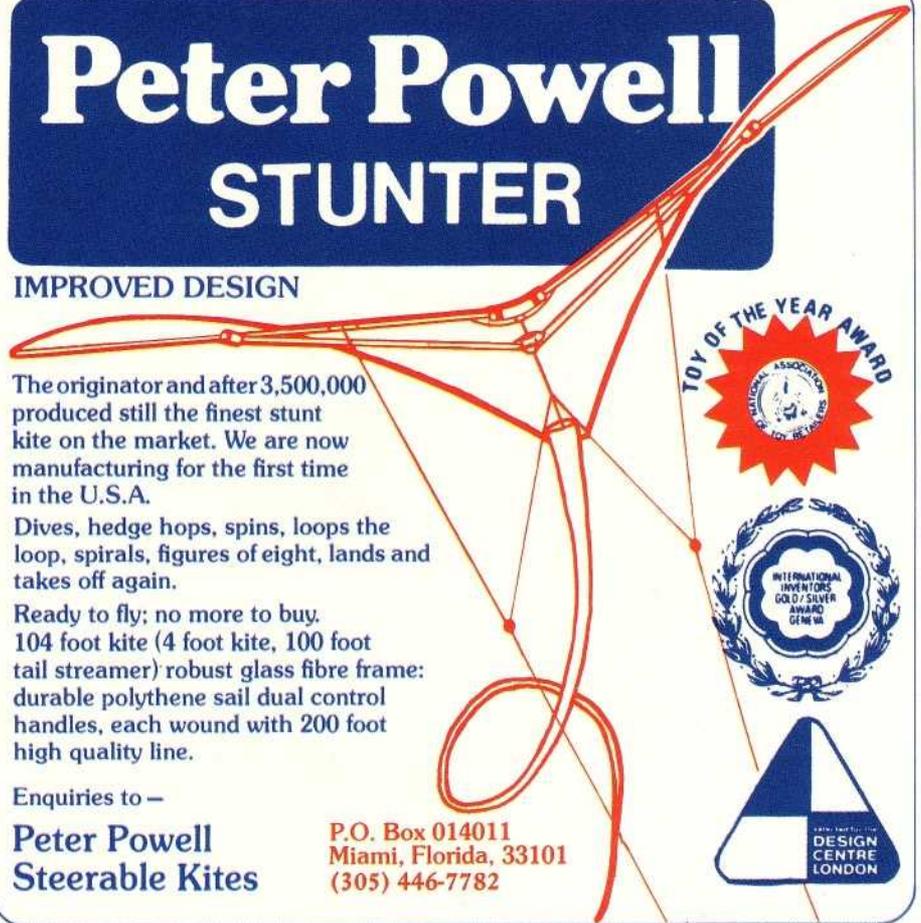
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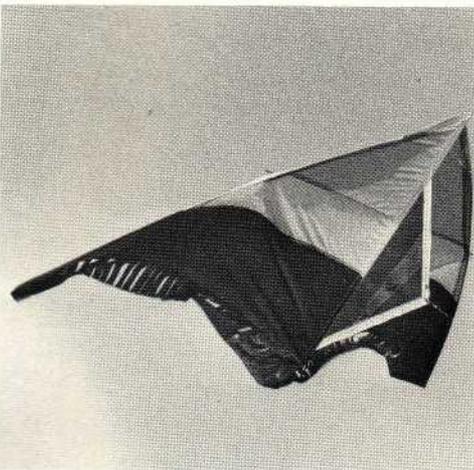
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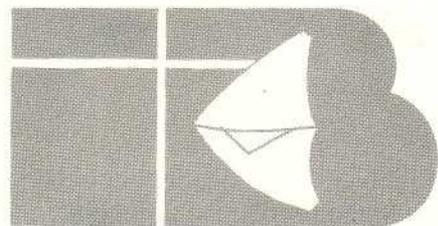


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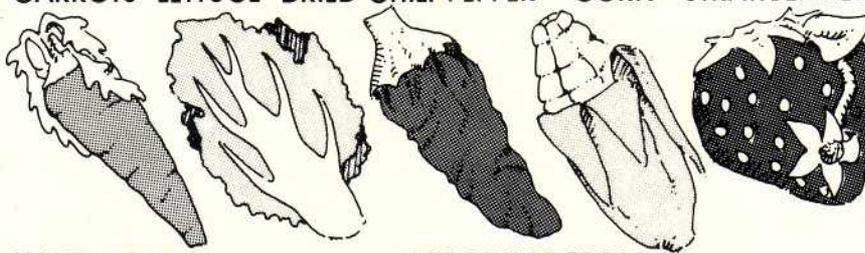
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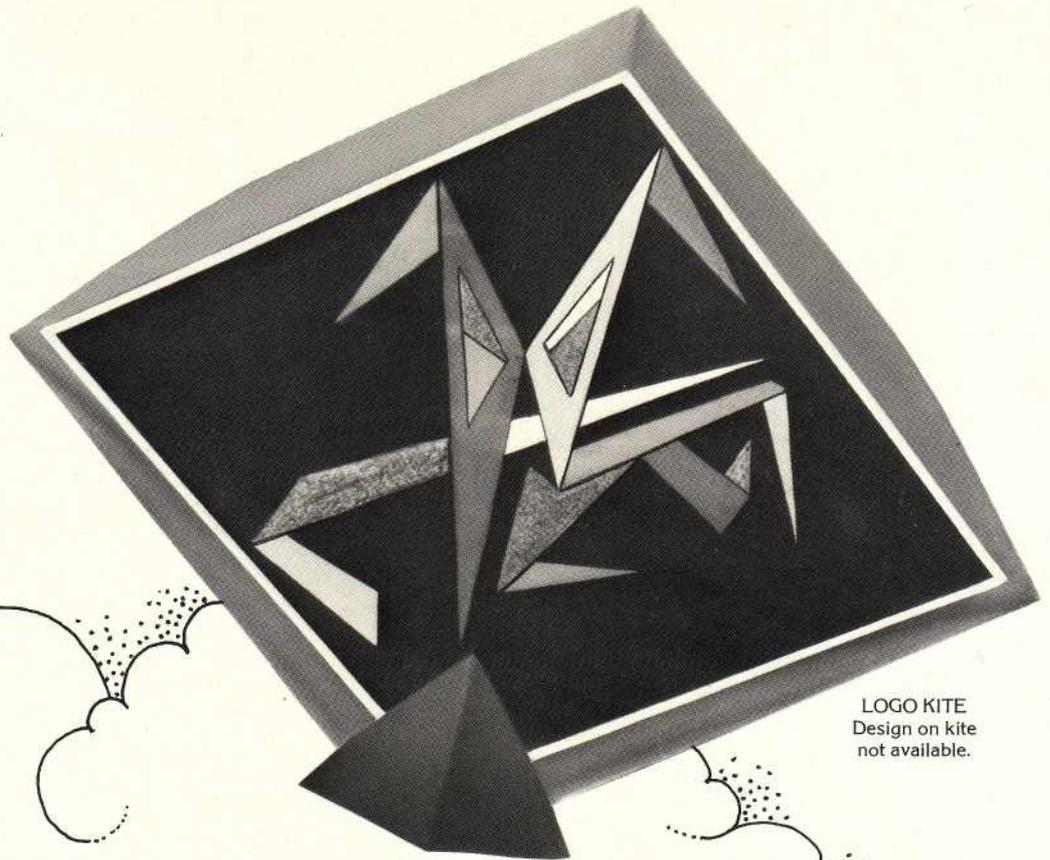
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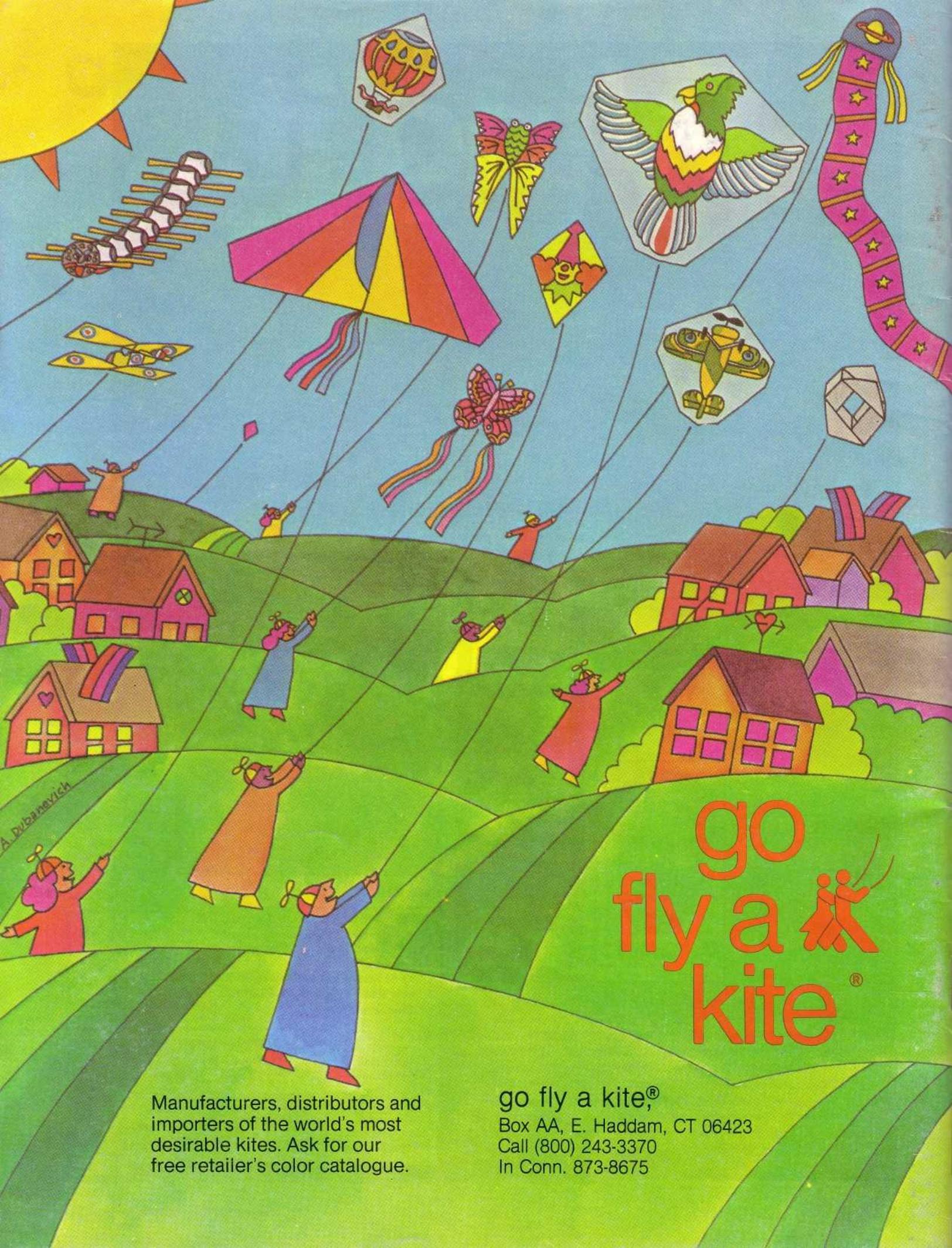
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