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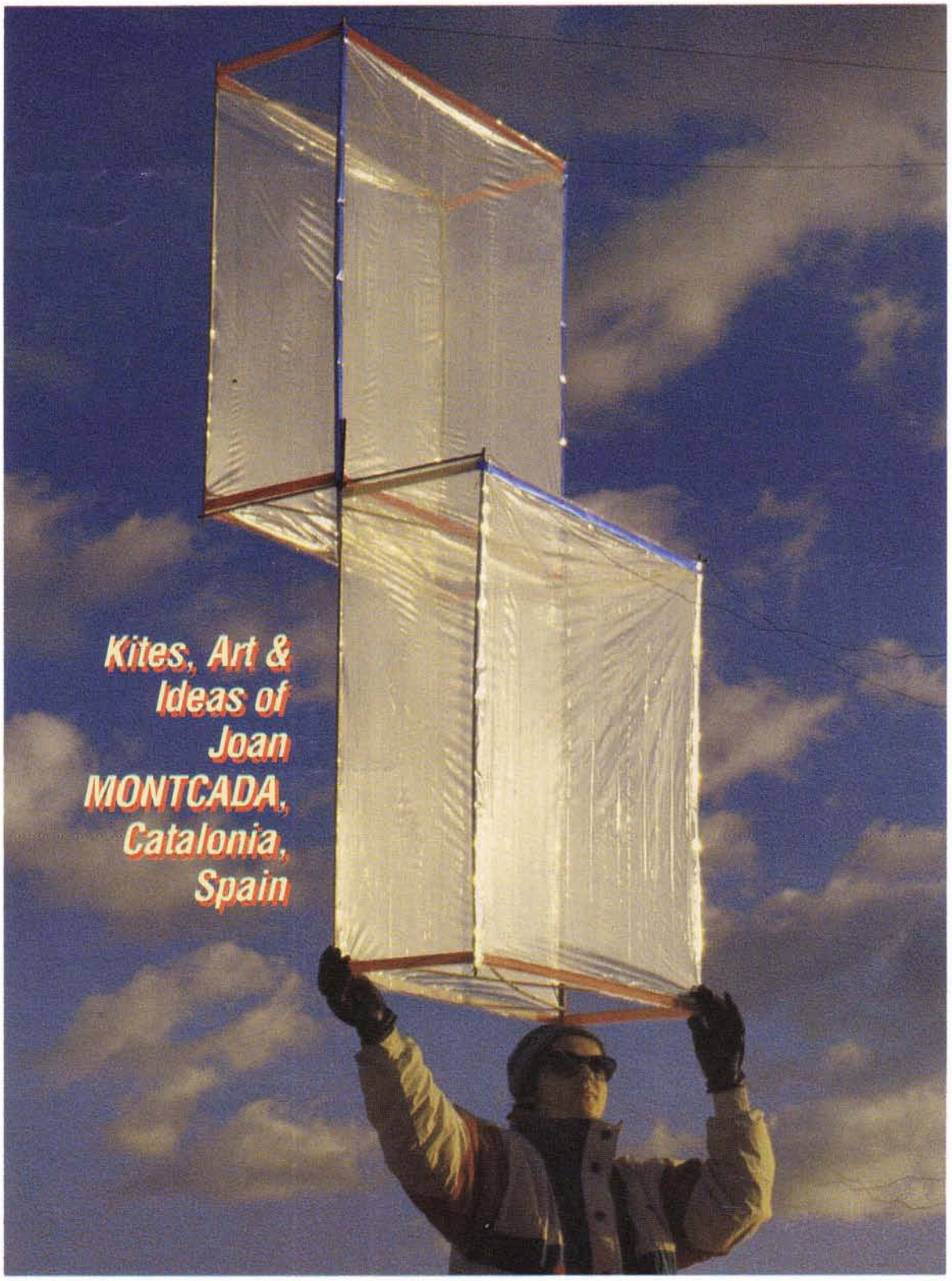

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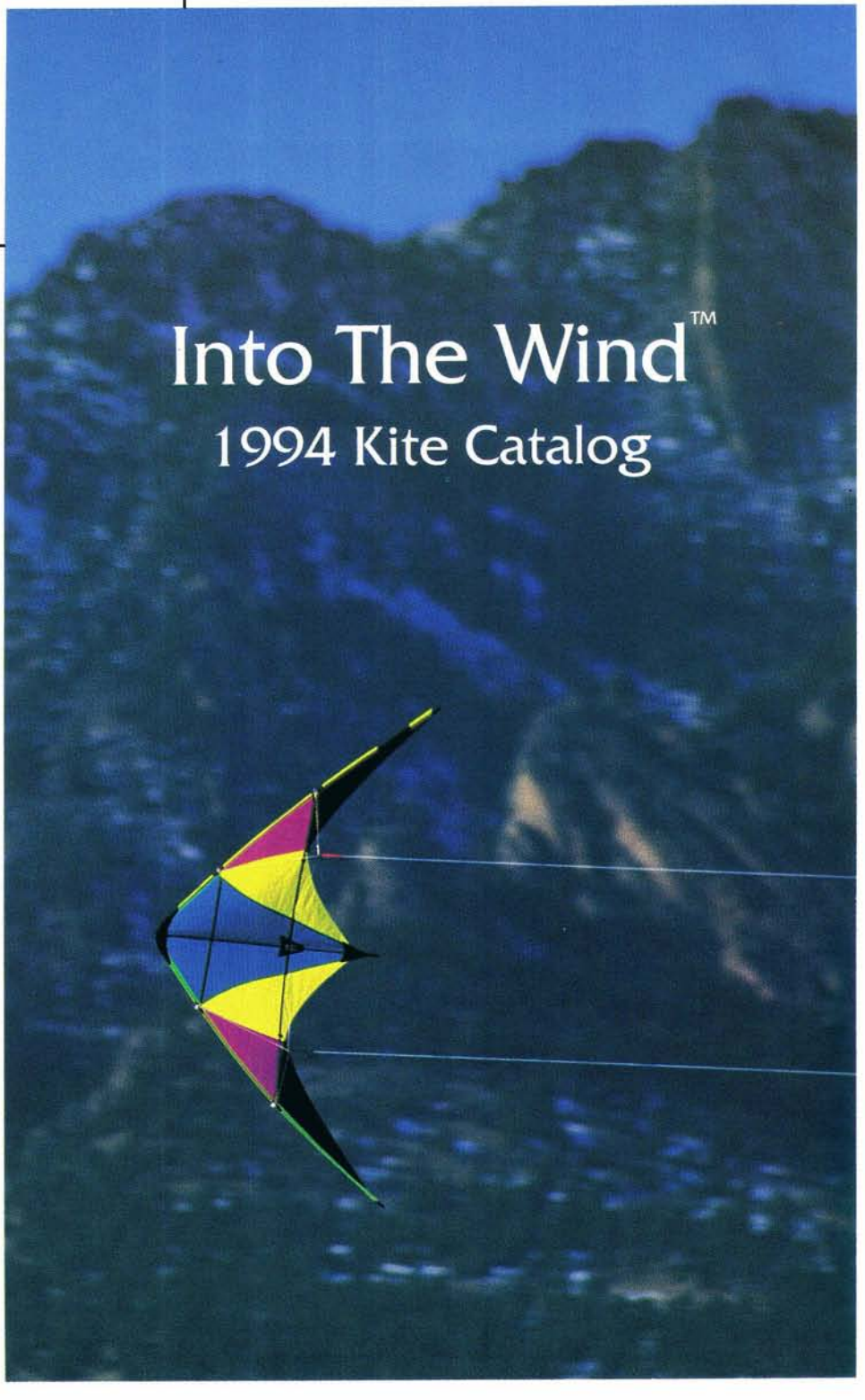

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Kite Lines

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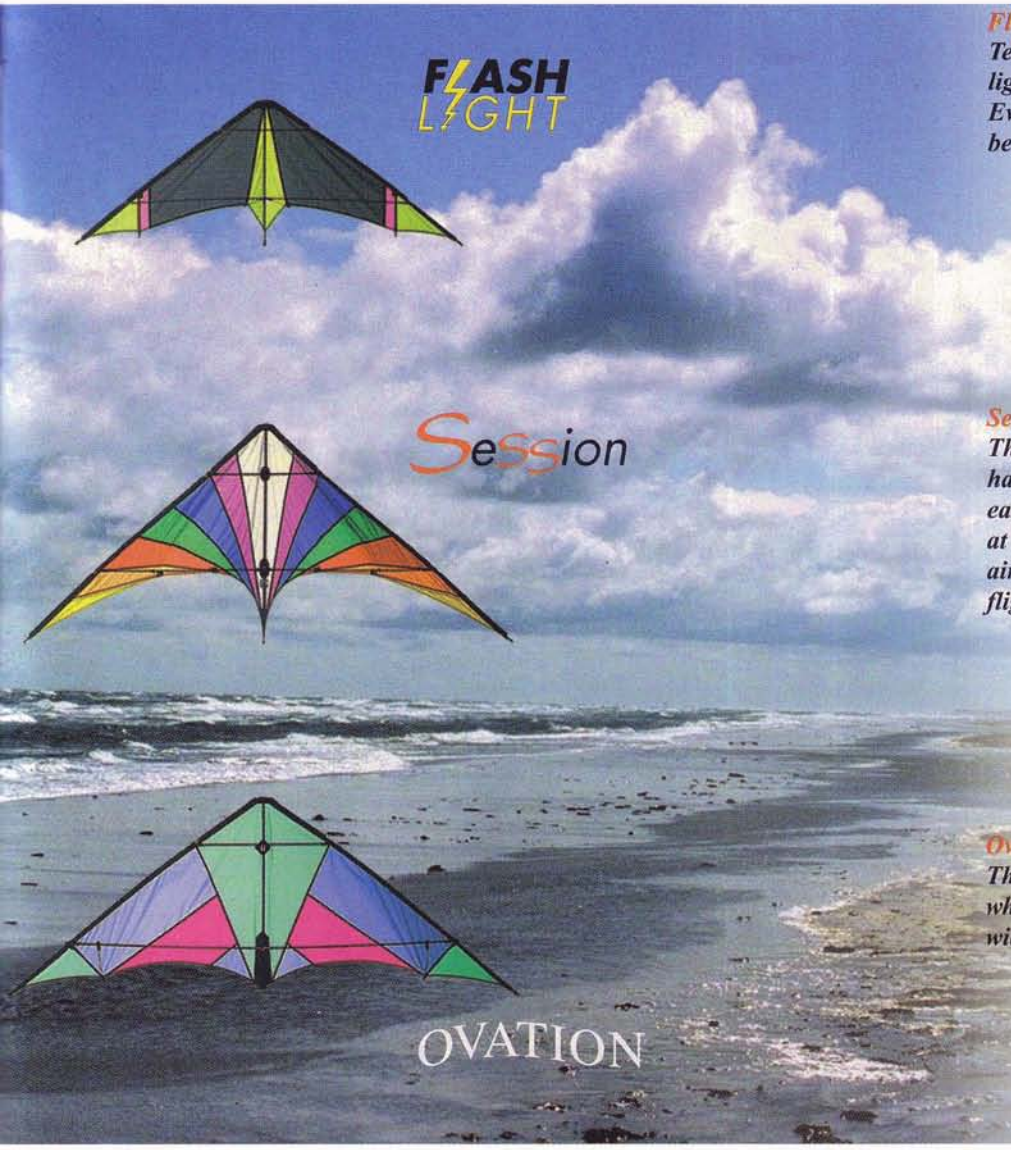
Cover

Marta Montcada holds a luminous Double Rectangle for launch at Castelldefels beach, Barcelona. The kite is made by her father, Joan Montcada. Photograph by Joan Montcada. *(Story on page 36.)*

Great performance...



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height:	*51 cm*
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frame:	*CFK ø 4mm*
rec. line strenght:	*50 lbs.*
weight:	*ca. 90 g*

Session

The "Session" is a good natured sport kite which handles best in light wind conditions. It is very easy to fly and shows excellent manoeuvrability at the edge of the wind window. An innovative air pocket system at the wing tips ensures silent flight up to 24 mph.

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height:	*84 cm*
wind range:	*3 - 24 mph*
frame:	*CFK ø 5,5 mm*
rec. line strenght:	*90 - 150 lbs.*

Ovation

The "Ovation" is a fast and powerful sport kite which can be flown with extreme precision in a wide wind range.

wingspan:	*200 cm*
height:	*80 cm*
wind range:	*2 - 28 mph*
frame:	*CFK ø 6,35 mm*
rec. line strenght:	*150 - 260 lbs.*

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In Praise of Low Tech

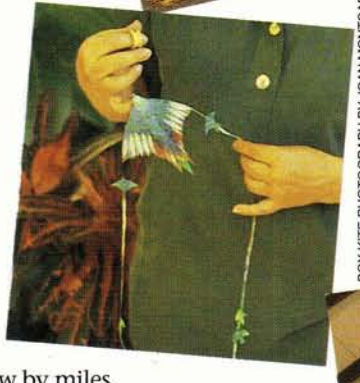
Kiting has its share of clichés, and one of them is the conjecture that if the heroes of kite history (Hargrave, Cody, Bell, et al.) had lived among today's high-tech materials, they would have used them.

Oh, really? How can we be so sure?

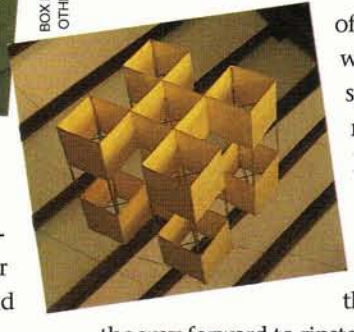
I'm here to suggest that we think again about this one.

It bothers me that our slick synthetics have charmed us away from appreciating things like paper, cotton, wood. These "old" materials have properties we may actually be unable to match in our obsession with the latest and the lightest. The maleability of wood and bamboo, the color-absorbency of cotton and the good cheapness of paper come to mind.

During my visit to the Rendez-Vous Mondial du Cerf-Volant in Verdun, Québec, Canada this June, I had the pleasure of talking to Marzukhi Jamaludin of Malaysia. What a view he gave me of kites! To him, all the sewn nylon creations that filled the sky at the festival were *not kites*. To him, only kites of paper and bamboo, made at the right time, in the right spirit, after the right training, could live up to the level he defined for kites. He talked about the inviting smell of the paper. He talked about crafting a kite that moves with life. He talked about God as a presence validating the acts of kitemaking and flying. He did not talk like any other kiter I had met before, and he spread the compass of my kite worldview by miles.



BOX KITE PHOTOGRAPH BY JOAN MONTCADA, OTHER PHOTOS BY VALERIE GOVIG



Counterclockwise from top right: In Verdun: traditional long-tailed kite of cotton and yaripa cane from Colombia; Marzukhi Jamaludin of Malaysia with one of his kites; at the World's Smallest Kite Festival, a beautiful paper bird by Mary Helsaple; in Spain, "Ten Boxes," paper kite by Joan Montcada.

Marzukhi, I owe you something for this gift.

And then there was my friend-through-correspondence William G. Wing, who told me he had heard that the properties of bamboo had been shown to be on a par or superior to many manmade materials. (Someday we will have to find the data behind this powerful assertion.)

Natural materials are more than a subject for talk. They seem to be enjoying a revival in actual use. I cite the historic kites being reproduced by a handful of specialized kiters such as Jan Fischer of The Netherlands, Jan Desimpelaere of Belgium, Werner Schmidt of Germany and Jeff Cain of the United States. Is this a mini-trend, a subspecialty or a cult? Call it as you see it, these makers use only original materials for their authentic kites. Some are said to research down to the very sources and fanatically use the same fibers produced by the same mills.

This March saw the birth of a new club devoted to fighter kites, the Manjha Club International. It is devoted to bringing better attention to the single-line (rather than multiline) maneuverable kite. Its first quarterly newsletter, "The Manjha News," written in French and English (editor Philippe Gallot), appeared this spring. Dues of 100 francs bring a pin and the promise of "sore hands all together." (Address: La Petite Chausée, 17700 Marsais, France.)

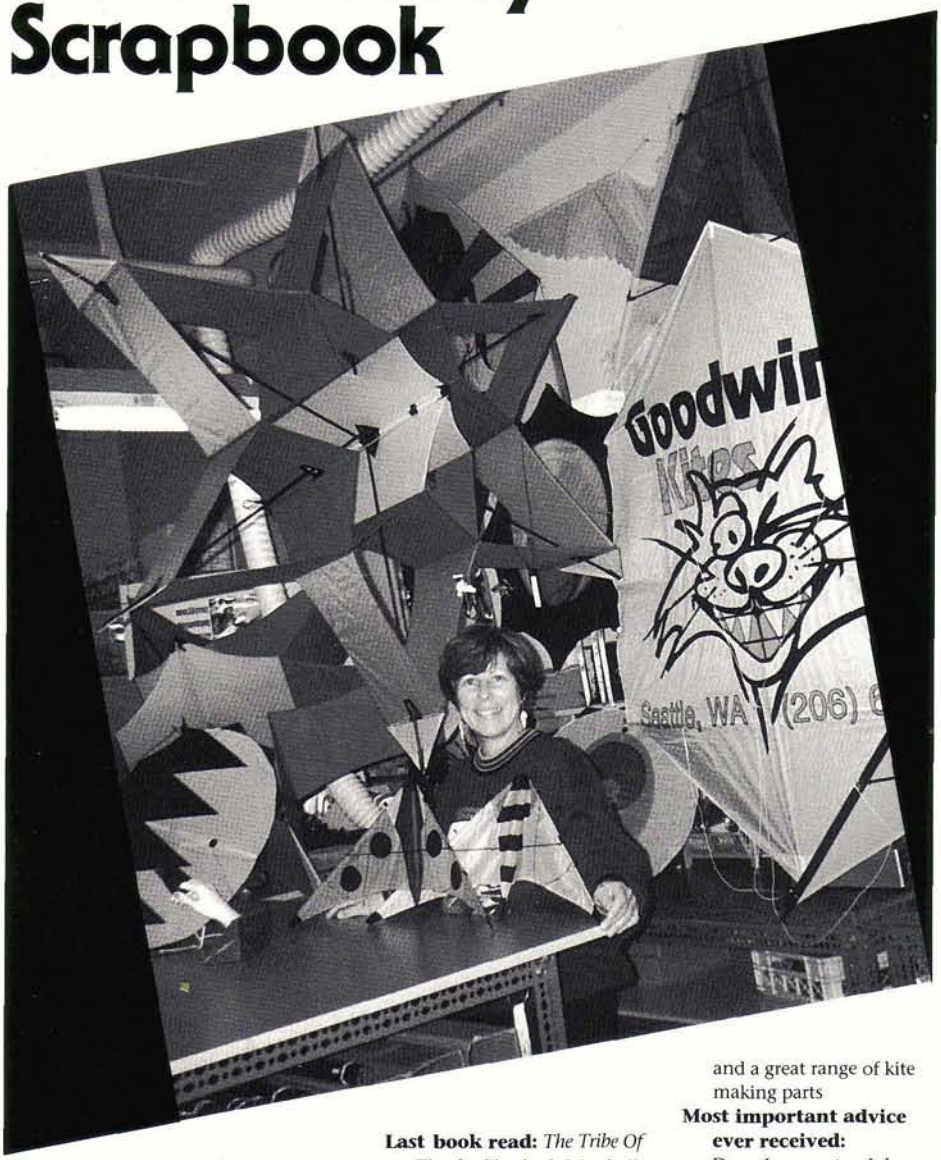
In June I took another swig of appreciation for natural materials when I went to Colorado for the World's Smallest Kite Festival. Both nylon monofilament and split bamboo were used for spars, but some of the lightest sails—and richest colors—were found in tissue paper.

Other examples of the "old" materials abound. Surely they have yet to be fully exploited. What a shame if all our kites and ambitions have to be built on synthetics. Besides, as sure as we take pride in today's wonderful materials, tomorrow's will come along and "supersede" them. In only a few years we may look back upon our ripstop and our graphite as merely the crude beginnings of kiting's technological revolution. As for what our great-grandchildren will think, some 20 to 60 years hence, our methods may become quaint bygones by then. But if we are lucky, the next generation will appreciate every step along the path to more rewarding kites. That's only if we leave to our heirs the full legacy, all the way back to leaves and hemp and all the way forward to ripstop and Spectra.

So while we rejoice at our ever-increasing array of choices in kite materials, we should celebrate and extend our "low-tech" options as well. (And think of the money we'll save!)

Valerie

Our Retail Family Scrapbook



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Favorite issue of *Kite Lines*: Summer-Fall 1985, with a good review of our then-new Asteroid kite.

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Stunters...and

Two Lines to India?

Call me paranoid or precious if you like but I was somewhat dismayed by your small news item ("In the Wind," Spring-Summer 1994 *Kite Lines*) about the Indian kite festival in Ahmedabad. I'm a team flier who would love to go to India for January 14th any year. I think a team flying competition would look fantastic in the middle of that mayhem. Why any of this should be a problem I can't imagine. Your compilers evidently have some problem with stunt kites. Maybe they should talk to someone about it or get professional help? For the sake of your readership they certainly need to broaden their mind and leave their attitude at home when they leave for work in the morning.

See you on the rooftops.

—Jeremy Boyce, Airkraft International Sport Kite Team, London, England

In answer: We firmly believe that having a broad mind means considering the vast range of experiences possible in kiting, stable and maneuverable, single-line and multiline. We don't mean that the Indian public should not see stunt kites; in fact, Robin Parent, Richard Gareau and I flew stunt kites in Ahmedabad during the epic traveling road show of 1993.

We do feel that Western-style competition should not be imposed upon another culture as some ultimate form of kiting. We would hate to see the highly evolved and sophisticated traditions of India's fighter kites driven into any kind of secondary role. The festival in Ahmedabad is first and foremost for the benefit of the Gujarati people, not the invited guests. *—Michael Graves Technical Editor*

Urban Wind Facet?

Thank you for keeping an out-of-touch flier so thoroughly in touch through your excellent publication of *Kite Lines*. May I also say how much I appreciate the lengths you go to to get things "right" and credit people accordingly. With this in view, may I offer my "two ha'p'orth" with regard to the moot question of the "Urban Wind Star": largest Facet, or largest box ("In the Wind," *Kite Lines*, Spring-Summer 1994)?

Amongst the many influences that went into the invention of the "Facet Kite, the

...Facets...and...Trains...and...

major ones were: Joseph Lecornu's cellular kites, Prof. Waldof's Box kite and Buckminster Fuller's Tensegrity structures. My overriding desire was to invent a cellular kite which required a minimum of framing members and did not require puncturing or fabricating holes in the sail material to facilitate the framing members (as in Prof. Waldof's or any winged box kite!) I also wanted to keep the material in tension and the frame in compression, rather than bending stresses as in most wing spreaders.

I started off with a simple three-dimensional structure, i.e., a vertical spine with triangular keels each running the full length of the spine and each radiating from the center, each braced at the spare end with a triangular, three-member frame. The problem came in how to multiply this basic cell, yet maintain a minimum of framing without piercing the cells with the frame. The inspirational leap came when I moved from a three-winged cell to a four-winged cell. Shortly afterwards, one afternoon while at work, the Facet was invented: a multicelled tensegrity kite with a minimalist external frame, which didn't pierce or require cutaways in the sail cloth. And it flew too!

Whilst not wishing to steal anyone's thunder for making the biggest anything, I think Joseph Huberman's "Urban Wind Star" as shown in Washington, DC is definitely not a Facet. I think its roots have a greater affinity to Prof. Waldof's kite. A son of Waldof maybe!

—Stephen Robinson
Derbyshire, England

Cover to Cover

I've recently remarried and now have two stepdaughters in my household. The reason I'm telling you this is that besides all the magazines my wife and I read, and the girls subscribe to a few also, none of them get read and looked at cover to cover like *Kite Lines*. Please keep up the good work! Good winds!

—Tim D. Browning
Danville, Virginia

To Catch a Train

Just before the bad weather had come last winter in Oklahoma I was out at my favorite kiteflying field launching my monster 250-count Arch Train.

The winds were just about right and I had almost all of my kites up when a friend, Doc Lawson arrived with his five-year-old son, Ryan. Like most people who aren't familiar with kiting, Doc and Ryan were completely overwhelmed by the train.

All of a sudden a gust of wind tore the kites from my hand and they headed south toward trees and a residential area. Can you imagine what went through my mind? All the time involved in building this magnificent creature and it was looking for a new home in someone's backyard poised as a permanent windsock. Or maybe even cause a power failure for the whole city of Purcell.

Just as the last kite left the box with me grabbing and fumbling fruitlessly, Doc and Ryan took off in a wild frenzy trying to catch the tie-down rope. (I'm embarrassed to say it wasn't anchored.) About 75 feet in front of me, Doc tripped on a rock and dived, at the same time grabbing the rope, and held on for dear life.

He had never been behind this monster and didn't realize the enormous pull it creates. He thought it was going to drag him away. As we got it under control, we looked over our shoulders and Ryan had busted out laughing and giggling at his Dad and me. Well I guess it may have been funny for him, but Doc and I weren't a bit amused. We had to struggle for another 30-or-so minutes just to haul this dragon back to its den.

Since that fateful day we've looked back with amusement. I don't think we were expecting to have to work so hard just to have fun. I talked to Doc the other day. Someone had asked him if had ever ridden a train, and his reply was, "No, but I caught a train with a rope once!" That made a heck of a story to tell, and one neither Ryan nor I will soon forget. TRUE STORY!

I'm not sure if this excursion was what did the trick, but Doc has also become addicted to kites. Kids come in many ages; as for myself, I'm 42.

Mercy, it feels good to be a kid again!

—Larry W. Hooper
Purcell, Oklahoma

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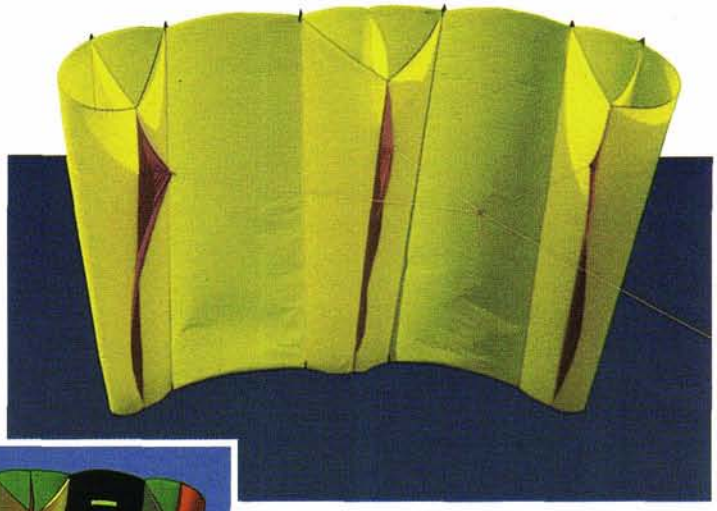
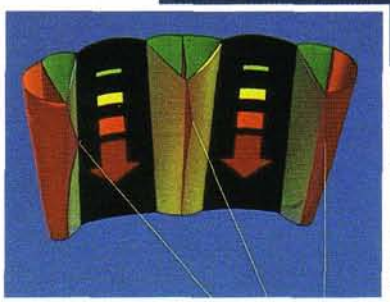
The Double Parasled

By John Verheij

In 1985 I made a small Double Parasled with a height of 1m (39") that flew without longerons. In this design the inflated tubes functioned as longerons. Such a kite could be transported as a small package in your coat pocket.

To have a small kite always at hand has its charms. However, I was interested in its behavior when enlarged. So I made one with a height of 1.5 m (59"). Most of the time it collapsed and came down, the inflated tubes having insufficient pressure to function as longerons. I then tried adding some wooden sticks to the back of the kite to give it additional vertical stiffness. Thereafter it flew perfectly, and in a surprisingly wide range of winds. For many years I have used this kite to lift small objects.





Above, a Double Parasled kept simple. Left, the same kite with complicated graphics. Both fly well in Verdun, Québec, Canada at the *Rendez-Vous Mondial du Cerf-Volant* in June.

Finally, I tried to enlarge the kite to 3m (118') in height, which involved about 33 meters (40 yards) of ripstop nylon. It took several attempts, but at last I arrived at this design, which has been flying very well for several years.

To make the Double Parasled you will need the following tools and materials.

Materials

- ripstop nylon 33m x 54gr (40 yds x 1.9oz)
- 12 carbon tubes 6mm x 1.5m (0.236" x 59") or 24 tubes 82.5cm (32.5") long
- 6 to 18 metal ferrules to join carbon tubes
- 6mm x 6mm (0.236") rubber or nylon caps
- 6mm x 6mm (0.236") fork caps or arrow nocks
- 6m x 3cm (20' x 1⅛") nylon webbing
- 1 roll edge-binding tape
- 2 fiberglass rods 1.5m x 2mm (59" x 0.080")
- 2 fiberglass rods 1m x 2mm (39" x 0.080")

Making The Kite

Make cardboard templates for all the panels, noting that the measurements have no seam allowances included. Cut the required panels, noting that two of the number 4 panels, the ones that form the outer tubes, and both of the number 6 panels need to be extended by 3.5cm + 1cm = 4.5cm (1¾") to allow for the sleeve to carry the longerons. Draw pencil lines 1cm (⅜") and 4.5cm (1¾") from the edge so you know where to sew. Add 1cm (⅜") seam allowances to the long edges on the other panels. The leading and trailing edges need no seam allowances, since they're reinforced with 2.5cm (1") binding tape. Reinforce both ends of each sleeve with 5cm x 5.5cm (2" x 2½") Dacron polyester patch.

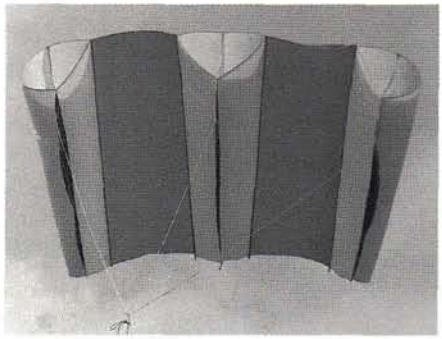
Reinforce the outside edges of the keels with edge binding tape. The dotted lines on the keels are 3cm (1¼") nylon webbing folded at the bridle point to create a 3cm (1¼") loop below the keel. When sewing the keels to the other panels, make sure that the webbing is sewn in between all the layers of cloth.

Assembly

Sort the panels to join them according to the lengths of their sides. Start with a 299cm (59") side by placing Panels 4 and 5 on top of a Panel 6 and stitch them 1cm (⅜") from

Half the Double: Our Own Parasled

Though we at *Kite Lines* had marvelled at the Double Parasled whenever we saw it flying, we had not actually examined it up close prior to receiving the plans. When they arrived, we were surprised to see that the kite was so very large, and that it employed carbon longerons. We had been assuming that it was entirely soft, its shape held only by air pressure.



One weekend we decided to make our own Double Parasled. We were concerned that 3 x 5m (9' x 16' or 144 sq.ft.) was too large to handle conveniently, so we scaled ours down by half to 1.5 x 2.5m (4½' x 8' or 36 sq.ft.). At this size it could be easily flown by one person, and would use much less cloth.

For our smaller version we knew that we could substitute smaller rods for the longerons, but we were not sure just how small we could go. We tried to fly the kite without the longerons, but it collapsed immediately. We eventually settled on ⅛" solid fiberglass rod for longerons. Almost any stiffener could be used, but this was what we had on hand.

This smaller Double Parasled flies very well indeed. It behaves itself in light 4–5mph breezes, and generates a healthy pull in 10+mph winds. We may someday build the full-size kite, but for now we are very happy to have its smaller cousin in our kite bag.

—Michael Graves

the edge. Fold the seam over to form the 3.5cm (1⅜") sleeve and stitch again *(see figure 3)*. Be sure to place the sleeve on the back side of the kite. Continue in the same way with all the panels to complete, as shown in figure 2. If necessary, try it with pieces of paper first.

Close the trailing edge end of the sleeves by sewing across each end several times. At the leading edge end of the sleeves, sew a piece of 10cm (4") flat braided cord along the seams to hook over the fork caps where the six longerons enter the sleeves. Fold each piece in half and stitch 2cm (¾") leaving a 3cm (1⅛") loop at the top of the kite.

For the longerons, you need 6mm x 6mm (0.236") reinforced carbon tubes of 3m (118") (2 tubes of 1.5m [59"] or 4 tubes of 82.5cm [32.5"] connected with metal ferrules). At one end, glue a rubber or nylon cap The other end is finished with a fork cap (or arrow nock). The fork cap hooks into the strap.

Bridle and Flying Line

The bridle consists of three lines 4mm (5/32") in diameter. The outside lines are 4m (157½") long, and the middle one is 4.1m (161½") long. Balancing the bridle is a simple matter. If the kite tends to pull a little to the left, shorten the left bridle line a bit and vice versa.

Take care with the choice of flying line and a secure anchor point because the Double Parasled can pull a great deal. Wear gloves at all times.

Launch

Place all the longerons together and put the kite on the ground with the keels toward you into the wind. Lift the left keel a little so that it catches a bit of wind. As the kite begins to open, walk a few paces to the left to open the kite completely. Try to prevent too much bending of the longerons while the kite is still on the ground.

Performance

The Double Parasled can fly in low winds, is stable and has enormous lifting power. I am of the opinion that it flies much better in low wind than the often-used parafoil, and it has similar lifting power. In winds over 6 Beaufort (22mph) the parafoil still flies better. But in low wind the parafoil meanders through the sky more than the Double Parasled does. Meandering can be irritating during kite festivals, when many kites may be close together. The Double Parasled as described here can fly from just over 2 Bft (4–7 mph) up to 5 Bft (19–24mph).

It sometimes happens that during gusty winds the front of the left or right tubes will close. The closed tube may drift backward and not open again. To combat this problem, slide two light 2mm (0.080") fiberglass rods into the edge binding tape at the nose of panels 2 and 3. This will force the outside tubes to remain open. In smooth wind, these rods can easily be left out.

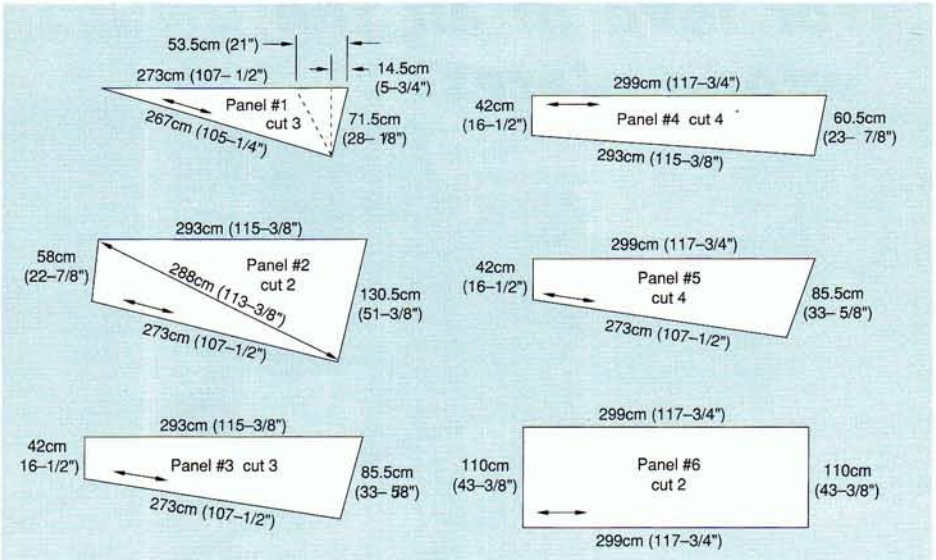


Figure 1. Panel dimensions. Small arrows inside each panel indicate fabric grain orientation. Add 1cm (3/8") to long sides of all panels. Add an additional 3.5cm (1–3/8") to allowance for the sleeve to the 293cm (115–3/8") sides of panels number 2, half of panels number 4, and the long sides of panels number 6.

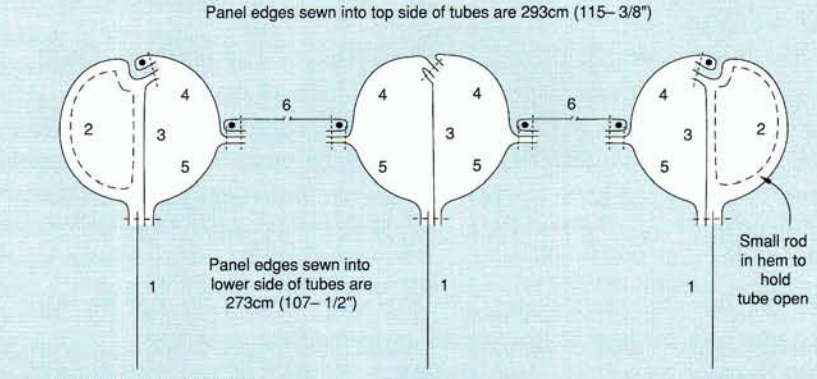


Figure 2. Cross-sectional view

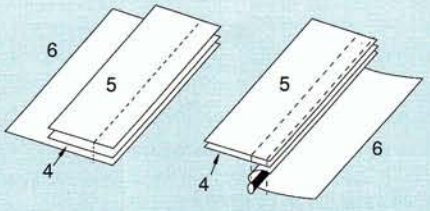
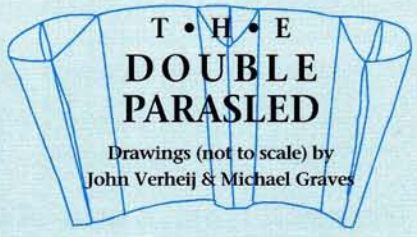


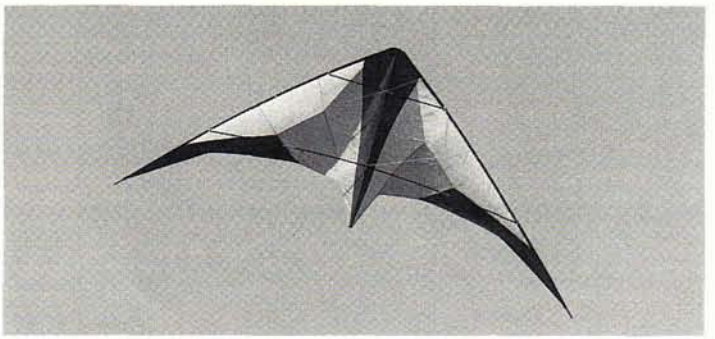
Figure 3. Assembly of sleeve



JOHN VERHEIJ is a well known kiter who lives in The Netherlands. He is on the editorial board of the Dutch journal Vlieger *and is a member of the team responsible for the world's largest kite.*

Stunters in Variety, 2 Rotors & a Foil

By Michael J. Graves, Mel Govig & Valerie Govig

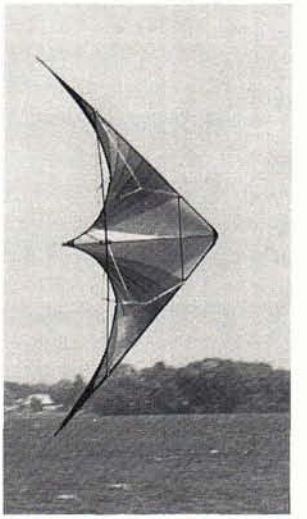


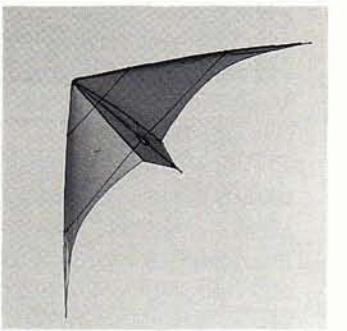
Left, the WhangDoodle cuts a smooth track.

Below, the MEFM covers a big piece of the window at one of its optimum bridle settings.

Right, the Trooper gives an easy and reliable performance.

Lower right, the Pro-S flies with grace and elegance.





WhangDoodle

We admit it: we expected this kite to be good. Bob Childs is a top stunt kite competitor, and his kites, sold under the company name It's A Breeze, have enjoyed an enviable reputation for quality and craftsmanship. Early this year, the company introduced a new variation on its Jabberwocky design, the 10-foot WhangDoodle.

The WhangDoodle is very well constructed using Carrington sailcloth on a three-wrap Advantage carbon frame. Apart from its size, its most interesting design feature is the inflatable cells located just behind and along both leading edges. The cells inflate in flight to give the WhangDoodle a very thick wing profile, said to redirect airflow across the back of the wing and produce more laminar flow at the trailing edge.

We flew the WhangDoodle over a period of four weeks, using 80'–120' lengths of Spectra line ranging from 80lb to 200lb, depending upon wind conditions.

We first flew the kite in a gusty 12 mph wind. The kite pulled hard against our 200lb lines, but showed no signs of stress. The kite's motion was slow and deliberate, and it made only a small amount of noise.

It was obvious from the start that the WhangDoodle needed a large amount of arm movement to perform the crisp moves we were accustomed to with smaller kites. With that change in technique, we were able to perform a wide range of moves, including snap stalls directly downwind, slides, and axels. Turning was fairly tight, centered approximately a foot inside the wingtip. The kite tracked very well and exhibited no oversteer at all.

At a kite festival a few days later, we had the WhangDoodle out in steady 3–4 mph winds. Under these conditions, its large sail area gives the kite a very solid feel, though we found cornering a bit soft with the stock bridle settings. Lowering the tow point ¾" improved the cornering, at the expense of a little bit of wind window.

In the lighter breezes, tracking and cornering remained very good. We practiced many figures and tricks without ever feeling limited by the 10-foot wingspan. With a bit of effort we were even able to perform a few tumbles on the ground. Relaunching from various positions on the ground posed no problems. Overall, the WhangDoodle showed the same smooth, forgiving performance we have enjoyed with the smaller Jabberwocky.

We also had the chance to fly the WhangDoodle in a pairs formation, alongside another manufacturer's 10-foot kite. The WhangDoodle seemed to offer snappier performance, more like an 8-foot kite. Several people who tried it agreed that it would be a strong contender as a team kite in light to moderate winds.

The WhangDoodle offers a strong combination of size, performance and style. It's not merely another big kite, it's a very good kite that just happens to be big. —*M.J.G.*

MEFM

The Big Easy Kite Company is one of those lucky manufacturers who can't keep up with demand (this year, that is). The MEFM is one of the reasons. The design was originally introduced as the EFM ("Excellent Flying Machine"), while the newer MEFM ("Most Excellent Flying Machine") features a new frame and lighter sail construction.

The MEFM is unusual because it features a variable aspect-ratio design. The kite can be configured with high-, medium- or low-aspect ratio using spacers to vary the overall length of the lower spreader. Two lengths of upper spreader are included as well.

The MEFM's design hinges on a standoff system that maintains a constant tension on the trailing edge regardless of the configuration for aspect ratio. A removable leech line in the trailing edge reduces drag.

The MEFM's bridle is also adapted to suit the variable geometry idea. It has both coarse and fine adjustment points on each side of the kite. Instead of knots or stops, the bridle is continuously adjustable. All four adjustable points are color coded, making it easy for the flier to get used to changing the kite's shape.

The MEFM is one of the best built kites we have ever flown. The sail is ½-oz polyester, with a substantial camber built in to increase lift. Sail reinforcements are minimal but adequate on a 17-panel radial design, simple but very attractive.

For its frame, the MEFM employs tapered tubes of wrapped carbon in the leading

edges and lower spreaders, with pultruded carbon elsewhere. The frame is amazingly stiff for its weight, which seems to support Big Easy's claim of a wind range of 0–30 mph. Rubber tubing is used as connectors, making the kite easier to disassemble on hot, humid days.

It's difficult to review a kite that can be configured so many ways. The owner's manual from Big Easy suggests that the higher aspect-ratio settings provide progressively more lift, and more radical handling, while the low aspect-ratio settings offer improved tracking and turning, as well as reduced pull in heavy winds. We found this claim to be generally true.

When set for high aspect ratio, the MEFM is not one of our favorite kites. It does have a bit more lift than the other settings, but turning and tracking are sacrificed: turns were very tight, but with substantial oversteer. Flying outdoors we could neither prove nor disprove the claimed 0 mph rating, but the kite did fly in a measured 1–2 mph.

When set up for medium aspect ratio, the kite began to please us more. Tracking was good, turning more controlled. There may have been a little less lift than before, but we could still fly in winds as low as 2 mph.

The continuously adjustable bridle allowed us to find the position that we were happiest with in any given wind. Once the kite was tweaked, we could do just about any move we wanted with the MEFM. Snap stalls, tip stands, axels and slides were easy. We were particularly impressed with how well it recovered in midair from a "turtle" position (i.e., floating on its back).

Our setup preference was at the kite's lowest aspect ratio. Cornering was crisp, with a minimum of oversteer, and tracking was excellent. The wind window was nearly 180 degrees.

Tumbling and other ground play were possible, though the especially stiff wingtips made the MEFM rather unforgiving while on the ground. Leading-edge and face-down launches were easy, though the standoffs sometimes interfered with the bridle while in face-down positions and while performing axels with very flat rotations. With practice we learned to compensate for this.

Its extreme range of settings and adjustments make the MEFM a very versatile performer. While there is a lot of competition among high-end stunt kites, the MEFM stands out for its interesting design and quality craftsmanship. —*M.J.G.*

DATA CHART

Stunters					*One-Liners*		
WhangDoodle	MEFM	Trooper	Pro-S	Name of Kite	Parafoil	Star Fighter	Dutchman
							
It's a Breeze	Big Easy	Skynasaur	Wolkenstürmer	Manufacturer	Aerial Kinetics	USAStarfighter	Twisk
$ 358	$ 320	$ 120	258 DM	Retail Price	$450appliquéd	$ 5.95	$ 5.95
RN	RP	RN	RP	Sail Material	RN	foam	plastic
DT	DT	DT	DT	Leading Edge Material	n/a	n/a	n/a
CFt	CFt	CFt	CFt	Framing Materials	n/a	dowel	steel wire
V / MP	Rubber	V	MP	Fittings	n/a	brads	n/a
116 x 53	Variable	86 x 46.5	101 x 43	Dimensions (in.)	80 x 60	24 x 14	25 x 12
12.75	7.5–9.25	11.00	6.0	Sail Depth at stand-offs (in.)	n/a	n/a	n/a
1900	1101–1324	1220	1170	Sail Area (sq.in.)	4320	96	72
14.50	9.00	10.25	10.20	Weight (oz.)	22.0	2.0	0.75
1.09	0.98–1.12	1.21	1.25	Sail Loading (oz./sq.ft.)	0.73	2.99	1.5
2–25	2–25	2–15	3–20	Suggested Wind Range	7–20	10–20	8–15
80–200	50–150	50–150	80–150	Suggested Line (lbs.)	300	10	10
I	I	N	I	Skill Level Required	I	N	N
<1	1–2	<1	<1	Assembly Time (minutes)	<1	3	3
VG	VG	VG	G	Ease of Launch/Re-launch	G	G	G
G	G	VG	G	Ease of Landing/Ground Work	G	G	G
SL	M–F	SL	F	Straight Speed	n/a	n/a	n/a
SL	M–F	M	F	Speed in Turns	n/a	n/a	n/a
E	G–E	E	VG	Precision/Tracking	n/a	n/a	n/a
H	M	M	M	Amount of Pull	H	L	L
L	SI–L	SI	SI	Amount of Noise	SI	SI	SI
VG	E	A	VG	Visual Appeal/Graphics	E	F	G
E	E	G	E	Workmanship	E	A	G
VG	VG	G	VG	Portability	E	A	A
VG	VG	G	VG	Durability	VG	P	G

NOTES: Retail price (US dollars) is "advertised" or "suggested." **Wind range** (mph) covers minimum and maximum speeds deemed suitable by our evaluators. **Dimensions** are in the following order: width x height. **Measurements** and (usually) drawings are made with the kite standing on the floor facing the viewer. **Materials:** RN–Ripstop Nylon, RP–Ripstop Polyester, DT–Dacron Tape, WD–Wooden Dowels, B–Bamboo, FG–Fiberglass, GR–Graphite, EP–Epoxy, CF–Carbon Fiber, r–Rods, t–Tubes, MP–Molded Plastic, V–Vinyl. **Speed:** SL–Slow, M–Medium, F–Fast. **Skill levels:** N–Novice, I–Intermediate, SK–Skilled. **Pull:** L–Low, M–Medium, H–High. **Noise:** SI–Silent, L–Low, M–Medium, H–High. **Other ratings:** P–Poor, A–Acceptable, G–Good, VG–Very Good, E–Excellent, n/a–not applicable.

Trooper

Almost anyone involved in stunt kite competition over the past couple of years should be familiar with the Tracer, part of the Signature Series designed by flier Mike Simmons and manufactured by Skynasaur. Tracers probably have flown to more first place finishes than any other kite in recent memory. The Trooper is Skynasaur's less expensive, entry-level version of the Tracer.

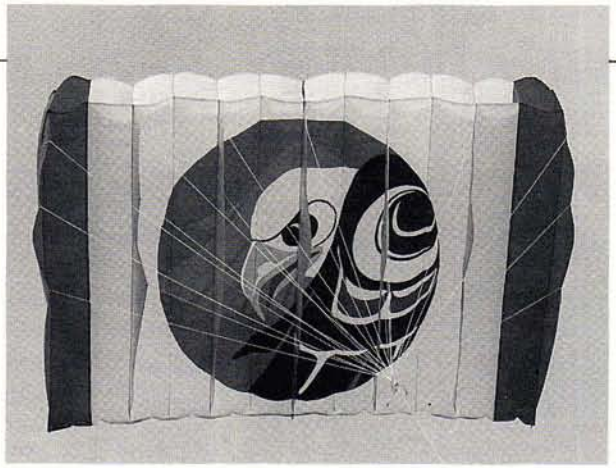
The Trooper's sail is built to take the extra abuse that a beginner may inflict. Stress points are adequately reinforced, and durable one-ounce ripstop nylon is used in the sail in a simple three-panel design: functional—not fancy. The standoffs are permanently attached to the sail with molded fittings, though the rest of the frame is connected by thick-walled vinyl tubing.

The Trooper's frame is the same as that found on a stock Tracer. The spine and leading edges of the kite are one-piece custom carbon rods, resulting in a minimum packed length of 65 inches. The leading edge connectors are held securely by vinyl stoppers glued in place.

The Trooper features a cambered leading edge, but does not employ a leech line in the trailing edge. It also features a shunted cross

bridle system. The original Tracer was one of the first commercial kites with a *cross bridle*, and reminds us very much of the Jordan Air X-1 (*Kite Lines*, Winter 1993). The cross bridle gives the kite improved feel and turning, while the shunt line prevents damage to the lower spreaders in high winds.

We test flew the Trooper on 80' to 120' lengths of 50lb–135lb Spectra line, under a variety of wind conditions.



Center, a parafoil by Aerial Kinetics shows a striking graphic derived from a Pacific Northwest Indian design.

The Trooper performed nearly as well as its more expensive sibling. It flew in winds as light as 2 mph, but seemed to be most at home in the 4–10 mph range. In winds over 12 mph we began to experience wingtip shake, giving credence to the manufacturer's 2–15 mph recommended wind range.

Like the Tracer before it, the Trooper tracked straight and cornered sharply. Its forward speed was slow to moderate, even through tight spins, which were centered well inside the wingtip. Snap and spin stalls were easy to do, along with axels and other radical tricks. In higher winds we could feel a small wobble coming out of sharp corners, as the shunt bridle shifted load around the frame. Even without the leech line, the kite remained completely silent.

On the ground, many tumbling-type moves were possible, but took a bit of care. The vinyl caps holding the standoffs tended to wander along the lower spreader, sometimes allowing the kite to rest nearly flat on the ground. A bit of tape was enough to keep those caps secure for ground play.

Though targeted at novice fliers, the Trooper is a very capable kite, offering proven performance at an entry-level price.

—*M.J.G.*

Pro-S

Once in a while a kite comes along that forces us to reconsider how we define "high performance." We have to recognize that there are kites that may not do all the capers that are currently popular in competition, but are nonetheless high performance designs. The Pro-S by Wolkenstürmer is just such a kite.

The Pro-S is elegant in its apparent simplicity. The sail, while visually striking, is made from only four panels, in two colors. The wing panels are shaped to form a very clean airfoil when in flight. The leading edges are cambered, and the trailing edges are fitted with a removable, floating leech line. The materials and construction techniques used are minimalist, but high quality.

One of the more unusual components of this design is the use of a single standoff. The shape of the narrow keel is formed by a pair of battens, which are connected by a bungee cord at the trailing edge. The single standoff mounts behind the spine, tensioning the bungee and holding the battens in position. The result is an unusually shallow sail, with a keel that varies in width in response to wind pressure. When in flight, the deepest part of the sail is formed by the airfoil pocket just aft of each leading edge.

We had very little wind for our first few flights with the Pro-S. With our wind meter indicating 2mph or less, we selected a 50-foot set of 50lb Spectra flying lines. Under these circumstances the kite flew, but was not a great performer. It was clear that a little more wind was needed to force the sail into the airfoil shape. As with most kites, if we kept ourselves constantly moving we could fly 360s until we tired.

During later flights we faced winds from 6–20mph, flying on a 120-foot sets of 80lb and 150lb Spectra lines. With some wind to keep the sail inflated, the kite's performance was much improved.

The Pro-S handled like a hybrid. It tracked very well and turned tightly like a delta, but it wanted to remain in motion like a Flexifoil. We practiced a range of precision figures just to get used to the kite's personality, and found it well suited to the task. The kite has an impressively smooth, graceful character. Its forward speed was quicker than most kites of its proportions, and it was completely silent.

In order to achieve a proper angle of attack for the airfoil shape the bridle is set very low, which gave a hesitant feel to launching. Once the kite was in motion, it overcame this feeling. In light winds this bridle setting also made the kite want to drop straight down when stalled in the center of the wind window. This made three point landings simple, but low altitude slides more difficult.

We flew the kite with the leech line both tight and slack. When tight it introduced a slight cupping effect into the trailing edge. This slowed the kite's forward speed and introduced a bit of oversteer, though the leech line tension was easily adjusted to vary its effect.

Ground play is not this kite's strong suit. The shallow sail made belly launches nearly impossible, though we could often tumble the kite into a leading edge launch. We were able to perform most advanced tricks, and enjoyed a very large wind window. Executing very flat, slow axels with such a shallow kite looks spectacular.

Wolkenstürmer's Pro-S illustrates a few of the differences between European and North American tastes in stunt kites. Those who take the time to learn will find the experience rewarding. —*M.J.G.*

Note: The Wolkenstürmer Pro-S is the first kite we have reviewed that is not generally available in American kite stores. We feel we should not ignore kites from overseas. Readers interested in the Pro-S should inquire at their local kite shop, or contact Wolkenstürmer directly.

Aerial Kinetics Parafoil

Hugh "Stretch" Tucker of Aerial Kinetics has generously shared his parafoil techniques with our readers in the past. Now his kites are available for those who want to bypass the sewing and go straight to the flying.

There are only a few good parafoil makers in this world, and even fewer who sell their kites. Like fighter kites and one-off works of art, parafoils may be a limited market. Tell it like it is, good kites are not cheap.

Stretch Tucker knew the original inventor of the parafoil, the deceased Domina Jalbert, and he knows the parafoil. Does

this kind of knowledge have any pragmatic value in building a kite? Hard to say, but our foil seemed to have innate self-confidence.

Besides understanding the invention, Tucker has singular facility with appliquéd graphics and excellent sailmaker's skill at sewing. His kites are truly works of high craft. The art depends on the selection of graphics by the buyer. Tucker can provide several of his "standard" selections or he can custom-make a kite with almost any surface design you desire.

At the size we tested, approximately 30 square feet, the kite is a no-fooling serious beast. We advise gloves for this one.

A frequent problem with parafoils is susceptibility to wind shifts of more than a few degrees. In our tests, the kite did take a few trips to the right and left when it was near the ground, but it rapidly returned to high front and center. A courteous flier will not leave this or any foil unattended. At the same time, a little bit of care will get it through the usual range of wind switches. A drogue is provided for really heavy gusts.

We especially admire the ruffle-free keels on Tucker's kites. If you haven't seen a parafoil hover at angles above 70 degrees, you haven't lived.

Well made, well bridled and simple to adjust, the Aerial Kinetics parafoil is one we can wholeheartedly recommend to any collector or flier. *—M.G./V.G.*

USA Star Fighter

Jesse Donaldson built his first rotor kite in 1942. He filed patents on an especially efficient model in 1948. To our knowledge, his was the first rotor.

Once every year or two, a new inventor comes out with a "new" rotor kite, complete with patent application. None of them seems to have lasted on the market (with the possible exception of the Sam DaVinci UFO), but at least the recycling of the rotor kite keeps it available to fans.

The USA Star Fighter, an expanded polystyrene ("Styrofoam") rotor kite, is both flyable and decidedly reasonable in price. If it's your first rotor, it's exciting. But as a representative of the genre, it's pretty ho-hum.

Two rotors in midwhirl: left, the Flying Dutchman; below, the USA Star Fighter.

Simply assembled from the directions, it flies well, though it vibrates more than other rotors we've seen, probably because of the patented design that places the dowel rod axle off-center.

Our kite hasn't broken yet, but then we haven't flown it over concrete, thrown it in a corner or tried to disassemble and reassemble it.

Just like coolers, cups and gliders, the foam USA Star Fighter performs its function at least one time out. After that, the inherent fragility of foam dooms it to many years of half-life deterioration in the landfill.

It's good to see that the rotor is still inspiring "inventors," but it's hard for an environmentalist to recommend it. —*M.G.*

Flying Dutchman

Technically, the Flying Dutchman is another rotor kite, but this one is made of colorful molded hard plastic and incorporates twin rotors and a set dihedral. It reminds me of an aluminum airplane rotor I flew in the late 1960s. It may not be really "new," but at the least it's a new version of its design, and it works very easily, with little vibration. Flying it is like having a hummingbird on a line.

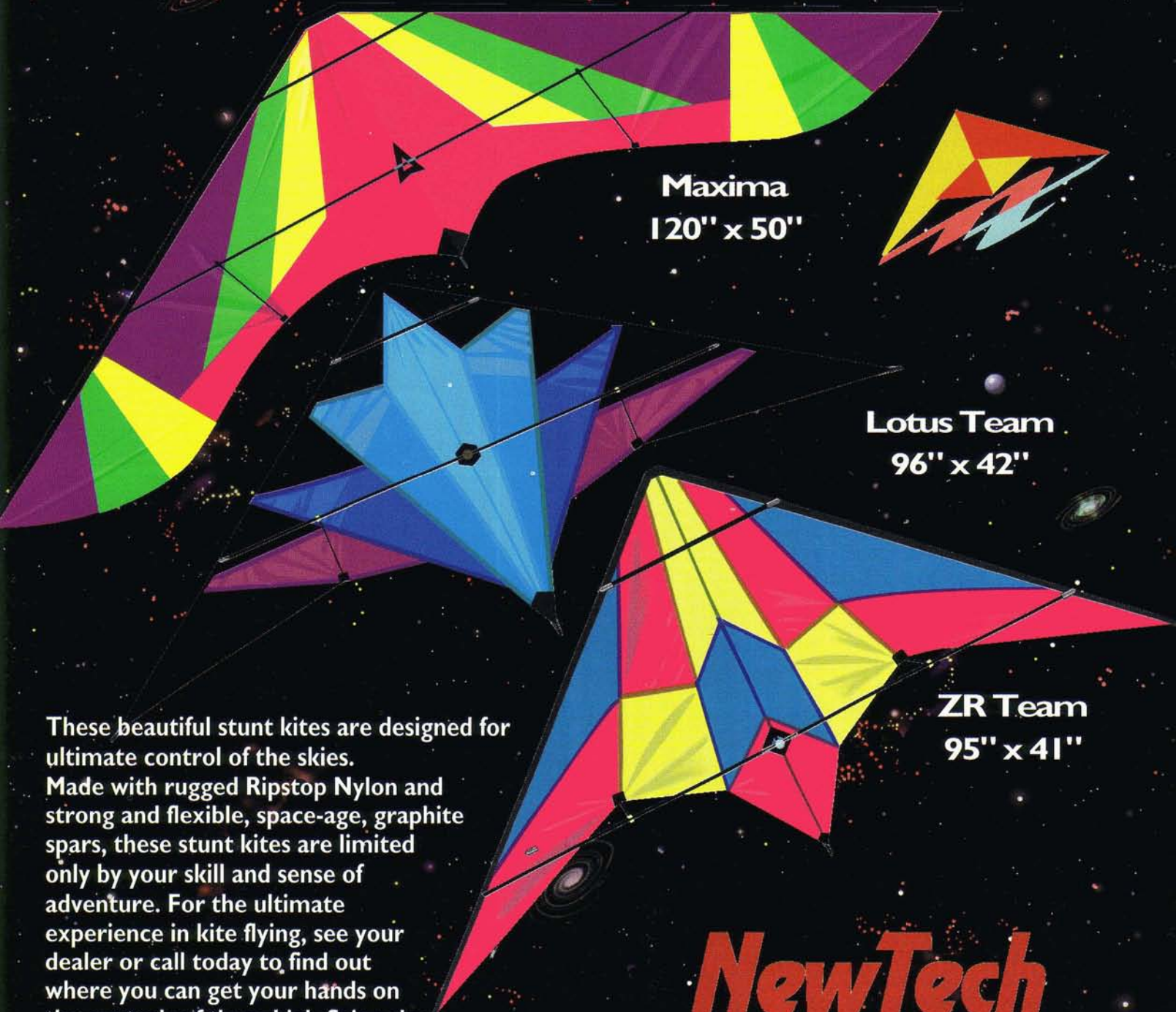
We judged it to be relatively durable (at least more so than foam). It is fairly easy to assemble, except for a bit of finagling to hook the flying line to the wire that holds the wings and forms the dihedral.

Novelty alone is not enough to recommend a kite, but in this case the doubled rotors make the kite unusual. I believe that a creative model builder could use this kite for inspiration in trying out variations in Magnus Effect aerodynes. It might cost no more to buy the kite for the plan than to buy a plan for the kite.

As you can tell, I liked it. —*M.G.*

Thanks to DJ Sport Kites and BFK for assistance and consultation in obtaining some of the stunt kites for these reviews. Thanks also to all those friends—on and off the Internet—for sharing their experiences with these kites.

Stunt Kites from NewTech Reach New Heights in Fun and Performance



Maxima
120" x 50"

Lotus Team
96" x 42"

ZR Team
95" x 41"

These beautiful stunt kites are designed for ultimate control of the skies. Made with rugged Ripstop Nylon and strong and flexible, space-age, graphite spars, these stunt kites are limited only by your skill and sense of adventure. For the ultimate experience in kite flying, see your dealer or call today to find out where you can get your hands on the controls of these high-flying sky commanders.

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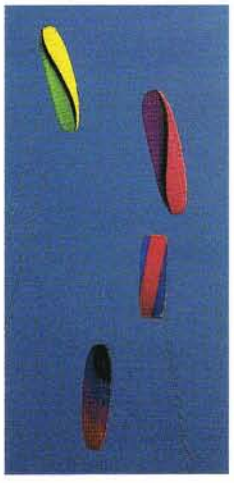
Making Waves!

A First-Ever Kitesailing Regatta at Ostia

ARTICLE & PHOTOGRAPHS BY MEL GOVIG



It was the world's very first: a timed race over a set course just for kite sailors and it took two powers of the kite world, Francesca Avenati and Peter Lynn, to organize it.

The kitesailing regatta was part of the big kite festival, Dove Sofia Il Vento, at Rome's beach, Ostia, this last May 6, 7 and 8. Awaiting the sailors was a 1,000-meter (1,100-yard) triangular course, approximately 300 meters (330 yards) on a side, marked with three white and yellow buoys.

Ten participants had arrived: Peter Lynn and his son Pete from New Zealand; Dominique Scholtes, Stef Tours, Gerard van der Loo and Nop Velthuizen from The Netherlands; Arno Busshoff, Ollie Stelling and Sven Weidhase from Germany; and Joost Meijerink from England. Each had boat, kite and (in some cases) support crew, ready to race.

All but one of the boats in the race were current model buggy-conversion trimarans from Peter Lynn. The exception was a boat put together by Stef Tours, who sailed two modified surf boards with centerboard/rudder forward.

Most of the kites flown in the competition were Peter Lynn Peels except for a stack of Flexifoils flown by Meijerink.

Three generations of Peter Lynn's buggy boat cruised the course before the actual racing. One was a much bruised and patched veteran prototype and another was Lynn's latest boat with broader, flatter pontoons. These prowled the course during the festival's three days, but to more evenly balance the field did not race.

I followed the contestants through the test runs in a motor launch, and felt their exhilaration, close-up and personal. I felt, too, the sunshine, mild Mediterranean waters and mostly good wind that made Ostia ideal for the Regatta.

Kiting's historians will note that Nop Velthuizen won this very first classic of kite traction and sailing. We'll recall how one by one and two by two the other contenders ran afoul of each others' lines and removed themselves from the race. Though finesse in the new skills of kitesailing has yet to be learned, these sailors cut their own swath across kite history.

Already Aquilandia, Avenati's kite shop in Rome, is organizing training classes in buggying and kitesailing along with dual- and quad-line flying, taught by local and visiting experts. She and a few other kite retailers are the first to sell the Peter Lynn boats now available (for about $1,500).

Lynn has hurled a gauntlet at the kite community. So far, the boats all seem to be buggies converted to water craft. Is it really important that the same vehicle be able to travel on land and water? Which works better: forward or aft steering? Is the equal-hull trimaran structure the best? What other hull designs should manufacturers or individuals develop?

Crystal ball, anyone? ♢

Left, Peel kites as pretty as popsicles fly over the boats.

Right, Dominique Scholtes tacks not far from the shore and the kite festival.

Below, Stef Tours splashes along on his surfboard creation.

Above, boats, sailors and kites gather to race.

Below, new-model Lynn boat with broad pontoons.

Classy, Helpful, Obsessive & Disappointing

By Ilene Atkins, Valerie Govig, A. Pete Ianuzzi & Steve McKerrow

Class Act

Stunt Kites II: New Designs, Buggies and Boats by Servaas van der Horst and Nop Velthuizen (Bussum, The Netherlands: Thoth, 1994), in Dutch, German or English editions, softcover, 112 pages, $22.95.

The first kite book by these authors, *Stunt Kites to Make and Fly*, was always on my recommended reading list when people asked me what books to get on kites, and this book will most certainly be on the same list.

This book is well researched, well written, well organized and well presented. For a largely technical work, it is exceptionally handsome, featuring beautiful photographs by Jan Pit and Michèle Velthuizen-de Vries, fine drawings by Jan Pit and excellent graphic design and printing.

Its information follows in logical progression after the first book, and although it is not a requirement to have read the first, there are references to it occasionally. The information on stunt kites is fresh, new and very thorough.

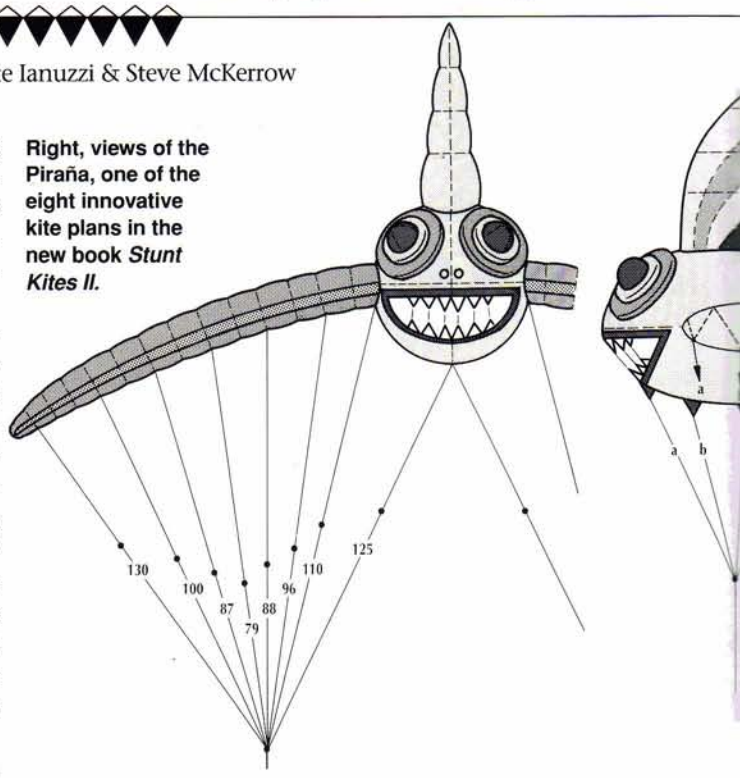
The authors disclose the latest developments in kite fabrics, framing materials, kite designs and kite bridles, with sections on how to make use of this information to design your own kites.

A full explanation of the evolution and design of sparless kites leads to sections on using kite power for land buggying, kite boating and ice buggying, with full credits given to the main developer of traction kiting as we know it, Peter Lynn. Detailed instructions show you the theory and practice of land buggying, including handling the kite, getting the most out of the wind, racing techniques and safety practices. The experience and knowledge of Van der Horst and Velthuizen is evident throughout the book, but particularly shows through in the power kiting section.

Of course their book would not be complete without plans for some of the kites they have made, and in this we are not disappointed. Included are detailed plans for eight different kites, from a basic delta, a high performance delta, a power foil, a fun fish foil, and a quad-line elephant kite called the Quadriphant.

Other items of value include detailed plans on how to make an air brake for a stunt kite, quad-line handles, a four-wheeled buggy and power-flying harness. Stacking techniques for stunt kites are included as well as the requisite useful knots and reading list.

Perhaps the most inhibiting factor for American kiters is the exclusive use of metric measurements. The authors specifically do not offer U.S. measurements, since this produces "odd numbers." They do show a conversion chart, but any serious kitemaker would do best to take a few lessons here in the metric system, which is simple to master.



Right, views of the Piraña, one of the eight innovative kite plans in the new book *Stunt Kites II*.

No book is printed without flaws, and an unseemly 18 of them were found by the authors soon after publication. A scrupulous addendum with corrections quickly went out, but if you bought a copy through the Kite Lines Bookstore before September 1, 1994, please request the addendum sheet that is now included. In addition, some of the photos are without credit, and some of the captions are not presented near the illustrations. The faults, however, do not detract from an otherwise superb book.

For while this volume was written for intermediate and advanced stunt kiters, I think anybody with an interest in sport kites would find this an excellent reference. It is timely and current, but like its sister book, is bound to withstand the test of time. It is a definite must-have.

P.S. Kiters purchasing this book for its plans will be interested in the companion floppy disk available separately for $14.95. The IBM-compatible software allows the user to print out full-sized templates for any of the book's plans. The disk also contains the KiteFlite program by Peter van den Hamer that simulates stunt kite maneuvers —*I.A.*

Ground School

A Beginner's Guide To Flying Indian Fighter Kites by Shirley Turpin (Burbage, Hinckley, Leicester, England: The Highway Men, 1994), paperback, 17 pages, $3.95.

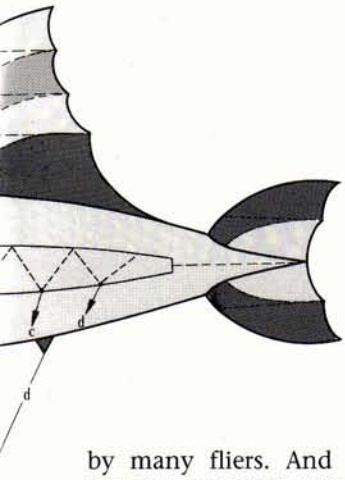
As devilishly difficult as it is to first gain the subtle, fingertip control of fighting kites, something else is harder: explaining the skill in a way that is more helpful than hopelessly confusing. This modest little book from Britain does the job pretty well.

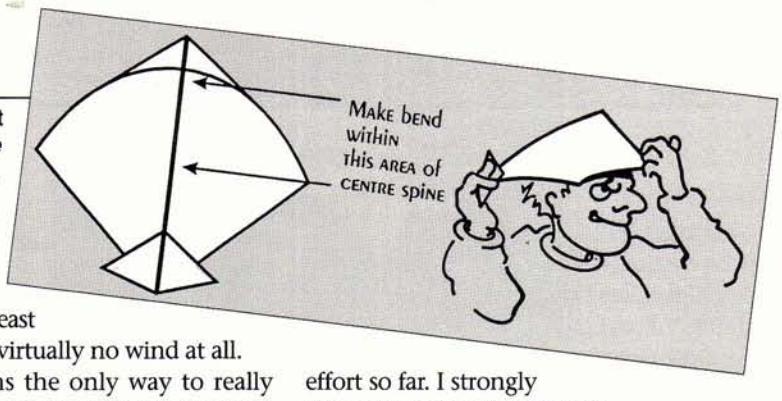
Shirley and Dick Turpin, trading as The Highway Men, travel around festivals in England, selling Indian fighters designed to classic specifications by Stafford Wallace of Leicester. They produced this booklet to supplement frequent on-the-field instruction sessions.

Thus the text reads like an owner's manual, assuming the reader will have just acquired a Stafford fighter. (Most fighter kites come with some kind of instruction materials, but this is by far the most extensive flying guide we've seen.) The booklet gives short shrift to other fighting kite designs, although it acknowledges there are many, "all with their own unique flying characteristics." And the short section, Choosing A Fighter Kite, actually discusses only the variety of Stafford kites (tissue or Mylar in several sizes).

Unlike the few other books devoted to fighter kites—*The Fighter Kite Book* by David Gomberg (1992), *Fighter Kites* by Philippe Gallot (1989) and the older *Come Fight A Kite* by Dinesh Bahadur (1978, now out of print)—this booklet pays no attention to building kites.

It does note the tradition in India of





Right, head-rub custom for fore-and-aft dihedral, shown in *A Beginner's Guide to Flying Indian Fighter Kites.*

fighting with *manjha*, glass-coated line, but does not delve into fighting techniques and rules. Its generally good explanation of choosing a flying line does not address the waxed line used by many fliers. And a short section, "Attaching the Flying Line," neglects to suggest using a swivel to minimize line twist, and is weak on its knot explanation.

But these are quibbles. Take the booklet's title emphasis on the words "beginner" and "flying" to heart. Helping you get your first dancing kite (as Joe Vaughan of Grandmaster kites calls them) into the air and learning to keep it there is the whole point. Sections on launching with an assistant or solo and, especially, The First Fight—Changing Direction, offer a clear progression of steps any beginner can apply.

The key to mastering a fighter is understanding that you must fly it by balancing line pressure against the wind to overcome the flat kite's inherent instability. Maneuvers actually amount to stringing together brief moments when the kite does not fly to achieve changes in direction. *Flying Indian Fighter Kites* conveys the concept admirably in a few short paragraphs, combined with simple drawings by illustrator Andy Smith.

Further, two sections—"Problem Areas" and "Tuning A Fighter"—offer exceptionally clear and helpful advice on difficulties encountered by many beginners. (For example, the warning "you should not attempt to drag a delicate fighter kite out of a tree" might have saved this reviewer's first Indian fighter many years ago. Indeed, good advice against trying low-level maneuvers in disturbed air would have kept it out of the tree in the first place.)

Beginners should also pay close attention to the section, "Suitable Wind Conditions." The book recognizes "the temptation to 'have a go'" in stronger wind, but emphasizes, "these kites are intended for flying in a dry gentle breeze only, so do be patient." On the other extreme, it does not subscribe to the often repeated notion that fighters can be flown, at least very happily, in virtually no wind at all.

Doing remains the only way to really learn the deceptively simple charms of flying fighter kites—more so than for any other type, even two-line stunters. But The Highway Men flier's guide is a good place to go to ground school. —*S.M.*

Report from an Obsession

Kiting to Record Altitudes by Richard P. Synergy (Toronto, Canada: Fly Write Publications, 1994), softcover, 72 pages, $15.95.

This is a most unusual kite book. Instead of telling the reader how to build and fly kites or describing some kite history, this book is a progress report on the author's two efforts to fly a single kite to an altitude above 12,471 feet (the existing record).

The first try was on July 30, 1993. At that time he flew a kite on 15,000 feet of line to a height of 4,180 feet. The second try was on October 23, 1993, when he flew his kite on 22,000 feet of line to an estimated altitude of 7,000 feet.

Considering that on the first try his kite went up only 60 feet for the last 5,000 feet of line payed out, I think the estimated height of 7,000 feet on the second try is largely in his imagination.

This book is extremely interesting for an experienced kiteflier. But anyone who is new to kiteflying should avoid this book like the plague. Mr. Synergy will try to fill your head with so many strange ideas that it will be years before you can get over the experience. However, if you know your way around kites, this is an unusually entertaining book. Including ping-ponging after a Casio altitude-sensor watch, recruiting of Sharon and Rick Van der Lip in the chosen fields of Kincardine (Ontario) and suffering a breakaway and loss of all his equipment at the finish, it reads like the script of a Laurel and Hardy movie.

The author's great enthusiasm and energy is apparent on every page of this book. It is a real adventure. Here is a man who was not afraid to put his money where his mouth is. My rough estimate is that he spent six months and at least $4,000 on this effort so far. I strongly suspect that he will try again.

Although Synergy says that he designed the "delta" that he used in this effort, he does not give us a diagram of the kite. All he says is that it has 10 square feet of wing area. If, as I suspect, the unidentified kite on the back cover is either similar to or the actual kite that he used, I can understand why he had so much trouble. A delta-type kite will generally fly better if it has a keel. (Deltas for stunting do not need keels.) Also, to get a kite to fly overhead you should avoid tails. (He used two, approximately 30-foot each.)

Synergy (his real name) is to be admired for the great thoroughness that he applied to each problem he encountered. Scattered throughout the book are many real gems of information for a knowledgeable kiteflier. On the other hand...

After describing most of his kiteflying antics, Synergy gives us two pages of largely imaginative kite aerodynamics, which explains why he had so much trouble getting a delta to fly in an acceptable manner.

There also appear to be many examples of poor design work. For example, his line-handling equipment appears from the photograph to be great for letting out line, but it looks as though it would be a disaster when you try to bring it in. Also the book itself (with the exception of the front cover graphic by Mark Groshens) has the typical malady of self-publication, poor design.

The author seems obsessed with making high-altitude flying a new area for tooth-and-nail competition. To get your kite higher than anyone else's seems to me to miss the point of single-line kiteflying. Of course, competition is almost fundamental to dual-line stunt kites, Synergy's first area of interest (see his first kite book, *Stunt Kite Basics*, 1993). Perhaps it would be unreasonable to expect anything else from him.

But for the right reader, this is an enjoyable book and I strongly recommend it.

—*A.P.I.*

➜

Aussie Style Deja Vu

Kites for Kids by Wayne Hosking (Royal Oak, Michigan: The Unique Place–World of Kites, 1993), 72 pages, paperback, $9.95.

One has to admit that Wayne Hosking is a prolific author of kite books. This is his ninth and he has two more planned. All are either self-published or subsidized by people who second Hosking's claim that he is filling a "crying need" in this world.

In this case he points to a need for a children's kite book—hence, *Kites for Kids*. Even though *The Usborne Book of Kites* does the job fairly well (always one hedges that a book for kids is really for adults working with kids anyway), still another children's kite book, if it were good, would be welcome. So: Is this one good?

I was disappointed. The writing is superficial, unclear, careless even in grammar and spelling on nearly every page, and—perhaps worst of all—flat in tone and appearance.

It is a temptation to think that a book for kids, which needs to make things simple, will be easy to produce. In fact, to be easy on the reader, the writer must be hard on himself. It will not do to have a section on problem solving that creates as many problems as it solves.

In its favor one can say that there are plenty of kite plans here, about 30, and two or three are relatively "new," at least to Hosking's books. The addition of the "no-sew ripstop" technique, which sounds so promising on the surface, turns out to depend on "weaving" and "skewering" the spars through hot-cut holes in the fabric. This assumes you will accept fragility and lack of adjustability in your kites, as well as hot knives in use around your children.

At least this book is consistent, with a form that lives up to its dreary contents. The entire text is typewritten. Many of the plans are muddy. The three or four nice illustrations by Alvin Belflower and the cute kangaroo drawings are no redemption.

The kangaroos were one thing worth saving from Hosking's 1982 book *Kites: Aussie Style*, from which this book was derived. *Aussie Style* was a decent book for its day and was not undeserving of resurrection. But for all the kiting/writing experience Hosking has, why does this book turn out worse, not better, than his first ones? Has he gotten too old to sing, like Sinatra? I'll skip the latest concert and remember him from his recordings. —*V.G*

Book News & Forecasts

New Editions...

We were amazed to receive a "new" book recently: *Kites for Kiwis* by Colin McGeorge (Auckland, New Zealand: Reed Books, 1994), softcover, 62 pages, $14.95.

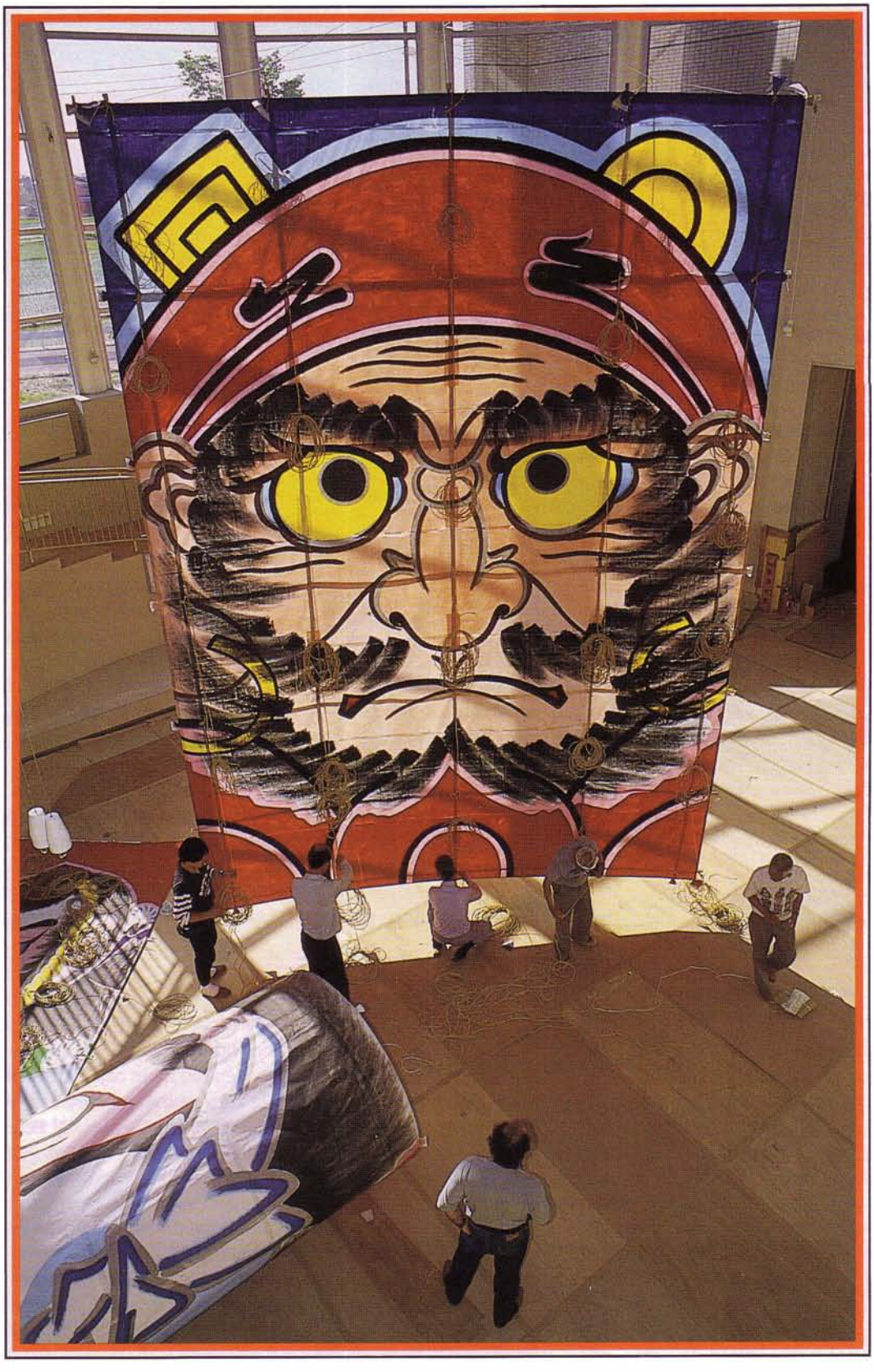
Hmm, we thought, this sounds familiar. And it is. This was a book previously in print from 1987 to 1991.

It was (still is) very local in orientation, describing materials and methods familiar to New Zealanders. For the rest of the world, this book's narrow frame of reference limits its appeal. The saving grace is the last chapter, on the *manu taratahi*, a traditional kite of the ancient native Maori. (Get out your *toetoe* stems, *raupo* leaves and flax for lashing!)

This new edition has been freshly dressed in new Sunday clothes, including a lively layout, a fresh cover, several interior color photographs and four new kites, including a tetrahedral.

But by far the most impressive change is that *corrections* have been made to the old text. Too often, new book editions are less conscientiously revised. Consider: all the photos are now right-side up!—and some have even been replaced, by better ones. There is a full section on kite safety. There are numerous "small" improvements in wording and content. A page of text is given to nylon, its grain and other characteristics for kitemaking.

This is still not a great book (the bridling of the two-stick diamond kite is still bad, the photos and drawings are ho-hum), but it is a distinctly better book, and a longer one, too, at 62 pages instead of 46. Naturally, the price reflects the increase in value, hitched up now to $14.95 (it used to be $6.95). But a Kiwi can't be choosy. —*V.G.*



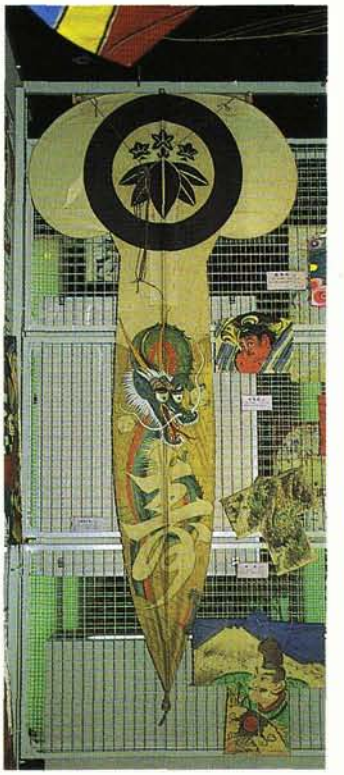
A giant Daruma kite slowly rises into position in the high cylindrical hall of the Museum

ARTICLE & PHOTO-GRAPHS BY PIERRE FABRE

SHIRONE'S Great New Kite MUSEUM

It's a fact: Japan has more kite museums than the rest of planet Earth—and certainly the best, too.

For many years now, Japan has had the most kite museums displaying large collections. Among the museums are the Japan Kite Museum in Tokyo (so far the best private collection on display), the rural toy museum in Kurashiki (also private), the kite museums of Hamamatsu and Ikazaki, and the huge *o-dako* kite museums of Showa-machi and Yōkaichi. Now, with the opening



Just a few of the kites in the Shirone Museum, left to right: a sheep kite creatively made in five parts for three-dimensional effect by Umetani of Hokkaido; a rare Kazusa Tojin Dako of Chiba prefecture; and Tamura in front of a group of Asian kites, including one from Brunei in red and yellow stripes.

of the new *Shirone O-dako to Rekishi-no Yakata* (Shirone Giant Kite and History Museum) the level has risen another step.

Japanese "kite cities" traditionally compete. Over the last 200 years, their huge kites have been the pride and emblem of the communities where they were made. Every village or town would strive to make a larger kite and hold a greater festival than the others. This is certainly why the *wan-wan dako* of Naruto and the *o-dako* of Zama, Sagamihara and Hoshubana reached such incredible sizes, and why Shirone and later Yōkaichi successfully claimed world records for their largest kites. Nowadays, as if kites themselves weren't enough, each town seems to seek supremacy through its kite museum!

Several reasons can explain this rather sudden and recent blossoming. Over the past decade, Japanese tourism has expanded. Cities realized the great potential they had at hand. Traditional kite festivals had always been very successful crowd pleasers, but what about the rest of the year? Kite museums were the answer.

Kite museums could help bring in tourists before or even after a kite festival. Also, in towns where the tradition was somewhat threatened because there was no convenient space to build and store giant kites, museums could provide this room and also the funding. Finally, since school groups are the main visitors, museums would help to spread the knowledge of kites, particularly among youngsters.

Another reason which might have triggered the establishing of such museums is the government's financial help for towns following the wealthy period Japan has been enjoying—at least until a couple of years ago!

A Big Budget

The former Shirone kite museum, housed in the town's old elementary school, was certainly interesting and charming, but too small and much too obsolete to keep up with the great reputation of the festival. It

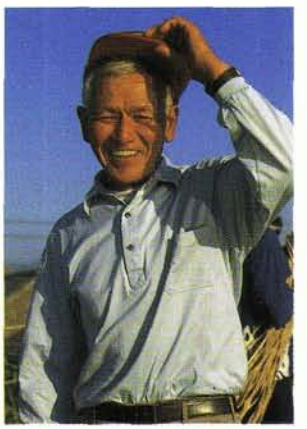
The Museum's Grand Opening

Severe heat and little wind did not discourage the group of international guests on the weekend of August 6–7, 1994. We had come for the Shirone Kite Museum's opening ceremonies as well as kiteflying on a nearby sports field. Friendly families in Shirone provided us with Japanese-style bed and breakfast.

A special guest in our group was Dorothea Checkley, widow of David Checkley, who brought early Western attention to Japan's kites with his tours from 1972 through 1988.

Leading kiters from around the world and many from Japan came to the opening. The Museum did not disappoint us.

It is impossible to list every kite on display, but I noted some of special interest, including a series of leaf fishing kites from the South Pacific, a Garber Target Kite, examples from Bali, Brazil, Brunei, China (including two whistling kites from Nantong), India, Indonesia, Korea, Malaysia, Thailand and Vietnam. Japanese kites included both traditional and "nontraditional," such as the realistic bird kites of Niigata. Very detailed maps of Japan showed all the kite cities. Western kites were represented by the works of Steve Brockett, Kathy Goodwind, Peter Lynn, Don Mock, George Peters, Joel Scholz, Scott Skinner and Randy Tom, to name some. The quantity was almost too much or perhaps the kites were too close together, but each item had a good caption, telling if it had been donated or purchased and giving the kitemaker's name when known.



Tamura in June during assembly of the big kites on the Museum's parking lot.

After the opening, a party was held at Tokyo's Taimeiken restaurant. On a floor above the restaurant is the Japan Kite Museum, established by Shingo Modegi and carried forward by his son Masaaki. At this favorite gathering place, Tamura was congratulated by everyone for his work for the Shirone Museum. It was an emotional moment for him. When he had to return to Shirone, Tamura could hardly hold back his tears. —*P.F.*

Shirone Kite Museum seen from the back with its large cylindrical glass hall.

seems the city of Shirone realized it was time to make the big change. The largest budget ever for such a project was invested: 1,580 million yen (about 15 million dollars), an incredible amount for a town of only 36,000.

Construction began in October, 1992, right next to the cultural and sports center, in the middle of paddy fields surrounding the town. This brand-new massive building of more the 30,000 square feet on two floors features a huge cylindrical glass hall, a 3D Hi-Vision video theater, a meeting room and a wind tunnel.

All this is very impressive, but what about the kites? The answer lies with the two key men in this temple to kites.

The Key Men

Kazuo Tamura, a well-known kiteflier of Shirone, now also honorary curator of the museum, and Masuo Watanabe, curator of the museum, spent 50 days driving more than 6,000 miles across Japan to gather all the kites they could find. The museum now has a collection of about 2,500 kites (worth some $200,000), 500 of which are from Tamura's personal collection, including some rare and interesting ancient kites. When I previewed the museum in June 1994, none were out of storage, but 400 kites were to be on display in the 11,000 square feet of the kite exhibit.

I checked over Watanabe and Tamura's impressive research by examining the museum's computer files. Every single kite is listed, with a wealth of precise data (size, place of origin, maker's name, etc.), a digitized color photograph, and a drawing (unfortunately not always precise).

The Exhibition Halls

The museum is not entirely devoted to kites, although they occupy the greatest part of it. The left wing shows the history of Shirone, with models and photographs as well as an *osabune* traditional boat and an interesting old-style farm house interior. Kites occupy the central glass hall and the right wing.

Interior design is well thought-out and the exhibit halls have excellent display features. A cable grid covers the four-meter (13-ft) high black ceiling. Space is divided by white metallic grid walls with vertical lights in columns. Even panels for photographs, detailed maps and written information in Japanese and English have good graphics.

The ground level is reserved for Japanese kites. It includes a part on Shirone's history with two television sets in front of a huge panoramic photograph of the kite festival. Visitors can watch a program of six videos on making and battling giant kites, man-carrying and record-breaking kites and the Shirone kite events of 1959 and 1974.

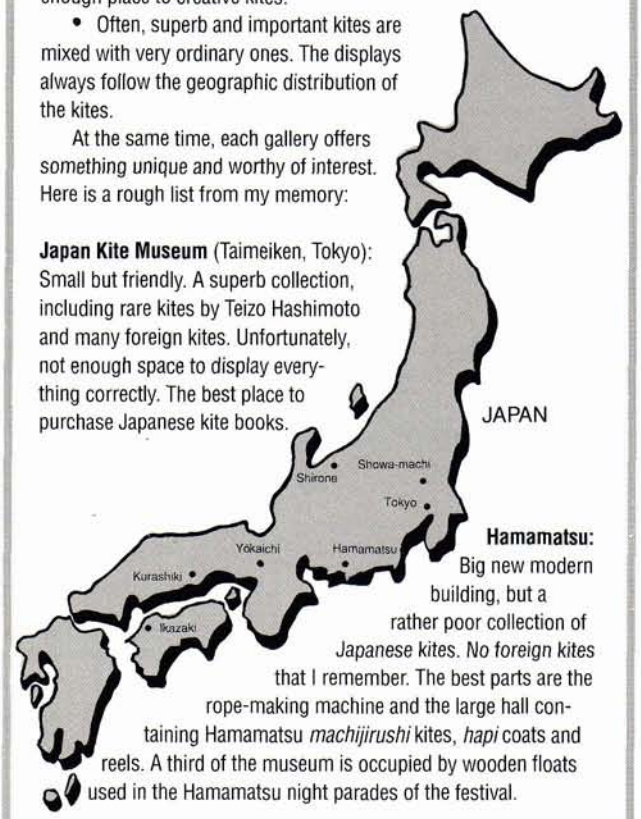
Four big kites (two full-size *o-dako* and two quarter-size *kodomo-dako*) hang in the huge cylindrical hall where sunlight pours through the wide glass wall. A long curved stairway running along this window gives access to the upper floor. Up there is the last part of the Japanese collection, a section with kites from around the world and many panels of historical informa-

JAPAN'S KITE MUSEUMS: an inventory & critique

After visiting in Japan over the past four years, I would comment that, *except for Shirone's*, the kite museums of Japan share certain shortcomings.

- None has a really comprehensive and well-structured collection of foreign kites.
- None has more than a couple of artist's kites nor gives large enough place to creative kites.
- Often, superb and important kites are mixed with very ordinary ones. The displays always follow the geographic distribution of the kites.

At the same time, each gallery offers something unique and worthy of interest. Here is a rough list from my memory:



Japan Kite Museum (Taimeiken, Tokyo): Small but friendly. A superb collection, including rare kites by Teizo Hashimoto and many foreign kites. Unfortunately, not enough space to display everything correctly. The best place to purchase Japanese kite books.

Hamamatsu: Big new modern building, but a rather poor collection of *Japanese kites. No foreign kites* that I remember. The best parts are the rope-making machine and the large hall containing Hamamatsu *machijirushi* kites, *hapi* coats and reels. A third of the museum is occupied by wooden floats used in the Hamamatsu night parades of the festival.

Ikazaki: More-or-less traditional style recent building, average interior design. Has a kite construction room and a very fine collection of Japanese kites, selected by Tadao Saito, an expert and author of several books on the subject.

Kurashiki: Traditional old house. Not a kite museum but a rural toy museum with kites scattered in all rooms. Rather old, yellow kites, no rare ones. Has a few engraved woodblocks for printing kites. Sells Japanese kites in the lobby. Interesting only because kites here can be appreciated relative to other toys, including wind toys.

Showa-machi: Huge new modern building with a half-traditional-style roof, a projection room and a restaurant on the top floor. Nice entrance with a large glass case for some of the foreign kites. Enormous hall (also used for constructing kites) contains the big kites, unfortunately partly hidden by a Peter Lynn octopus hanging right in the middle (perhaps removed by now). The collection also includes many smaller kites from all over Japan.

Yōkaichi: Very large modern building, nice interior space; includes a construction room. Big collection includes a local giant kite and the finest Shirone big kite I have ever seen (even in the Shirone museum!) Several rare and fine Japanese kites. Numerous foreign kites but poorly displayed.

—Pierre Fabre

tion. A workshop space for children's groups is in the back, right next to the wind tunnel.

The Wind Tunnel

With about 30 square meters (300 square feet) of floor space, I would judge the wind tunnel large enough for kites up to five feet in wingspan. It actually doesn't look like a wind tunnel, but more like a wind room or corridor, for its section is square with windows on the right side next to the workshop area. The floor and ceiling are sloped.

An enormous noise-dampened fan pushes air through the lattice wall at one end of the room. The air blows through the room, out the other end and back to the fan in a closed loop. The operator can adjust wind speed precisely from a digital control panel.

3D Videos

This is the first time kites have been shown in a three-dimensional video program! Technically, the quality of this video system is very good; the image is surprisingly sharp, which is why they call it "Hi-Vision." The 3D system works fantastically well (as long as you keep your polarizing glasses on). For a few seconds, my eye didn't get the stereoscopic effect of a couple of shots; it really messed up my brain!

They've programmed two 14-minute films in this comfortable 40-seat projection room. One film of the festival shows how they make rope and how they make the big kites (watch out for the bamboo poles that seem to come right at your face!) The other film is more like a tourist postcard of Shirone, with only a few kite-related sequences.

The Newest and the Best

While in Shirone, I took in the giant kite battle made famous in many media, including a *National Geographic* video and *Kite Lines* articles ("Heart-Stopping Kite Festivals of Japan," by Tal Streeter, Spring 1977; and "Shirone's Destruction Derby," by Kazuo Tamura, translation by Dan Kurahashi, Spring 1984). The clash of kites on each side of the Nakanokuchi canal was spectacular as it has been for over 250 years and the ending was the legendary lusty tug-of-war between the villages.

Many said that with its perfect weather, the 1994 Shirone battle was the best in 15 years. This festival's winning team, "Isshintasuke" of Ajikata village, is the youngest. Let's take this as a sign heralding the success of the newest and probably also the very best kite museum in Japan, if not the world. ▽

Sharpening, Puncturing, Bending

1 Another Way to Stay Sharp

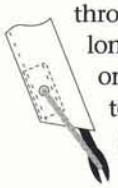
From Simon Freidin, Melbourne, Australia:
Ever since I read Adrian Conn's excellent tip for sharpening sewing machine needles (*Kite Lines*, Winter 1992-93), I've been a convert to the technique, though with my own variations. First, I check the dullness of the needle by lightly pressing its point to the tip of my finger.

You can lock the needle's 1/16" diameter shaft into the chuck of any electric drill. I lay mine flat on a bench, and run it at high speed, then I pass along the curve of the needle (from point to eye) with an EZE-Lap diamond hone (available in hardware stores; get the fine grade). This plastic-handled tool is light enough that you can feel the tip's curve as you move along it. Two passes, and my finger test reveals a *really* sharp needle.

Adrian's advantages are still there (no lengthy interruptions to purchase more needles, and smoother sewing) with the additional advantage that no oil is involved. You can sharpen the needle right next to the machine and get right back to work.

2 An Alternative to Eyelets or Grommets

From Ilene Atkins, Belleville, Ontario, Canada:
Have you ever noticed how small eyelets simply don't last when used in the wingtips of stunt kites? If you make enough kites to buy the proper grommet press, you can do a better job, but I have found another way altogether. I sew a small strip of ballistic nylon cloth (the same cloth I put on the nose) inside the wingtip, then burn a hole through it with a soldering iron. As long as the ballistic nylon is stitched on both sides of the hole it'll never tear out, and the hole will elongate only slightly, no matter how tight you tie the bungee cord.



3 Bending Solid Fiberglass

From Robert Josjor, Ogallalah, Nebraska:
Here is a reliable way to make a bend in solid fiberglass rod. Slip a close-fitting brass or aluminum tube over the rod, and center it over the point to be bent. Bend the fiberglass and the tube together.

Normally, bending brass or aluminum weakens the tube. Inserting sticks into each end then accentuates the shear point at the bend. This technique gives you a strong bend by filling the tube with continuous glass fibers.

It Works for Me is your place to share your favorite kite hint or trick. Each published item earns your choice of (1) any book(s) from the Kite Lines Bookstore to a value of $15 or (2) a one-year subscription or extension to *Kite Lines*. Send details, drawings and/or photographs to *Kite Lines*, P. O. Box 466, Randallstown, MD 21133-0466, USA, or fax us at 410-922-4262.

The SuperFAST Fighter Kites of KOREA

as seen at the Seoul International Kite Festival
Article & Photographs by PIERRE FABRE

The SILK opening ceremony with marchers in traditional costumes in front of Seoul and its mountains. Cymbals, drums, gongs and trumpets play martial-type music.

1994 is Seoul's 600th birthday as the country's capital, and Korea's national tourism year. Huge efforts, publicity and governmental funds had gone into this major kite gathering, the Seoul International Kite Festival (SILK), February 25–27. It was only one of 50 other international events, but because of its success the organizers are now seriously considering making it an annual festival.

Participants came from China, France, Japan, the Philippines and the United States. Generous prizes were offered in several categories, including kite fighting, both one-on-one and free-for-all.

It was an opportunity to learn more about the Korean kites I had long admired.

Often, because the wind wasn't very helpful, I'd leave my kites lying near the Han River, and visit the kite fighting area a quarter mile away from the festival field. Here, at the eastern end of the Youido riverside park, is one of three sites along the Han River where kitefliers usually meet on weekends.

It was probably because of the cutting line that those flying fighter kites were put so far away. I think it sad that many foreign kiters, busy on their own field didn't even go watch the traditional Korean fighting competition behind the Wonhyo bridge.

A Tradition of Competition

Korea is well known among informed kitefliers. It is the home of the most virulent fighter kite in the world, easily identified by the large hole right in the middle of its rectangular sail. Called *yon*, kites have been flown in Korea for at least 13 centuries. The first written record mentions General Kim Yu-Sin's using a "ball of fire" kite.

The first half of the lunar calendar's first month was the traditional kiteflying season, which usually ended with the first full moon of the year. On that day, Koreans would fly very high and release their kites, on which they had written four characters meaning "bad luck away, good luck stay."

Although in modern Korea, particularly

Above, the Battle Royal draws 50 participants. Any kite can participate, but the fast, sophisticated and underappreciated Korean kites sweep the field.

MEL GOVIG

Left, Jae Heum Yu of Cliffside Park, New Jersey, USA, having a good time in his homeland.

At PEACE at a KITE FIGHT

A Passionate Appreciation
by MEL GOVIG

For me this was an unusual visit to Korea. I've been there eight times, from 1958–1994. The Korean kite has been my Chosen (pun intended) favorite ever since I made my first one in the late 1960s.

But this time I was in Korea, not in uniform, nor on defense-industry business, but just as a human being, totally at peace.

I have always been impressed by the masters of the *yon* (Korean kite) and *pae* (Korean reel), both in the States and abroad. But here on Korean soil I was speechless, not only because of my limited Korean but also because seeing these masters at work on their own fighting field was total absorption, total fascination, total awe!

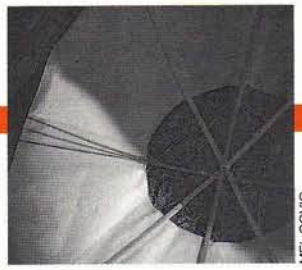
Even in my humble hands, the Korean fighter kite is the fastest kite I fly. Imagine it, then, in the hands of about 30 experts in the heart of Seoul.

The love and respect these fliers show for their kites, their reels and their line shows in everything they do, right down to the highly crafted containers for their equipment: custom-built boxes for their kites and cylinders for their reels. The patient attention with which they fine-tune their bow settings and bridle lines was an inspiration. And their flying skills matched these preparations as their kites sped around big pieces of sky at a speed the eye could barely follow.

MEL GOVIG

Cases custom-made for Korean kites and reels.

Familiarity breeds *love*. Absence makes the heart *ache*. I long for the time I can again fly with these speed merchants. Perhaps then I'll have the courage to bring a Korean kite that I have made and risk it in friendly combat. It is much more pleasant to come to Korea to fight kites than to fight people.



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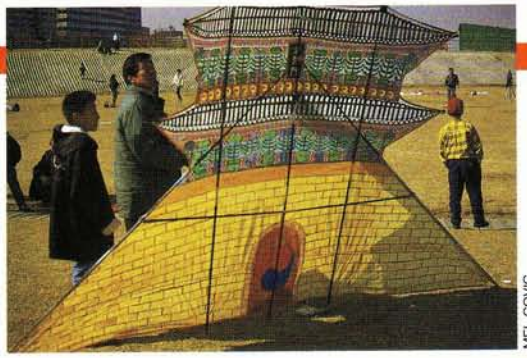


MEL GOVIG

Creative Korean kites...

...fly at SILK. Above: left, detail of a novel touch, a splayed cross spar; center, an 8.6 m (28 ft) kite weighing less than 5 kg (11 lb) flew remarkably well in light breezes. It is the third bird in a series by Kang Bum Goo, using mixed materials: painted Tyvek, polystyrene, ripstop nylon, gold cloth, bamboo, carbon. Right, kite model of Seoul's Great Gate. Below, Yun Chank Shok and his wife pose behind his nylon and fiberglass kite.

Kites from abroad...

...fill SILK's skies. Left, a train of figure kites from China awaits launch. Dozens of helpers stand for hours before the wind is strong enough; they will be rewarded when it takes off and flies perfectly. Below, Korean kites in train, made by Japan's train expert Eiji Ohashi.

MEL GOVIG

Seoul, kite fighting no longer enjoys the popularity it did before electric power lines, television and video games, many enthusiasts still compete—but not many children, who prefer other outdoor activities. Flying fighter kites is an adult male pastime in which the older, more experienced and skilled can compete with freshmen who may be in better shape but certainly don't have as much practice.

Clubs & Tournaments

A dozen local associations and clubs all over Korea organize competitions. Winners are awarded impressive cash first prizes, as much as a million won (about $1,250 US). Betting on kites can also be heavy, but as far as I could see, not during official competitions.

Every year, the 10 major nationwide kite fighting tournaments held all over the country attract as many as 1,000 participants. Smaller local competitions usually attract no more than 200. Each battle is between two kites with fights limited to five minutes—10 minutes for finalists. Contestants must not move away from the battle. (In former years, they flew from platforms about four feet high, four feet square and 50 feet apart. Discipline now seems to have replaced the need for platforms.) Whenever a kite touches the ground, it's out. Flying directly above one's head also puts the competitor out. Cut kites that fly away are rarely lost—spectators or children retrieve them—so a kite may well last the whole season.

There is also another much more spectacular open competition called the "Battle Royal," in which an unlimited number of participants put their kites aloft together. In Seoul, any fighter kite, including foreign kites, can join in this free-for-all.

The SILK Battle Royal

Out of the 50 entrants, the only foreigners who dared to take part were the well-known Japanese Takeshi Nishibayashi, a few kite-fliers from Tahara, Japan (with their exceptional rectangular kites that fly horizontally and carry hummers), and a couple from the Philippines. All of them were cut less than two minutes after the melee began—that is, except for 78-year-old Nishibayashi, who flew a Korean style fighter! Until he was 12, Nishi lived in Korea. His early addiction to the Korean fighter explains how he could manage to end up as one of the 10 last kites in the air after 20 minutes of flight.

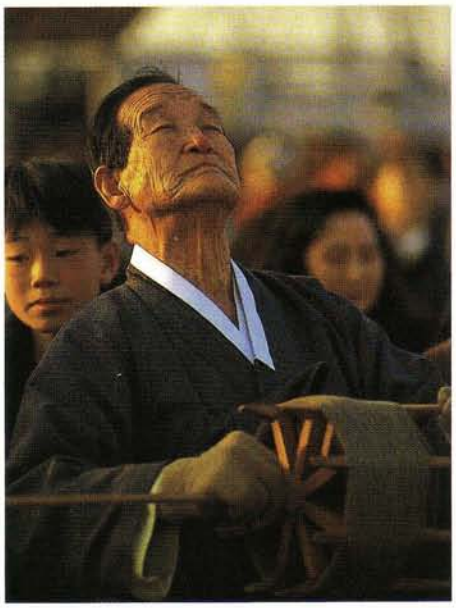
The lack of wind didn't make things easy. A serious wind shift even obliged judges to interrupt the battle and set up a relaunch after the remaining participants moved to the other side of the field. Contestants started thinking of the 800,000-won (about $1,000 US) winner's purse and the fighting grew weaker as they avoided risks. The judges reacted by yelling for the four remaining competitors to fight. This wasn't enough. They then limited the match to four minutes, after which, if there were more than one kite in the air, none would get the prize!

Tension increased from two interruptions. One angry participant complained he was disqualified because his kite overflew him. Obviously, he didn't know the rules, but there didn't seem to be a rule book anyway. The other disruption came when a child's drifting kite crossed the field and tangled a line! Finally, Yeoh Seng Kim, of Ch'ungmu, maker of the handsome five-foot traditional *yon* displayed on the stage at the welcoming banquet, was declared the winner.

A BRIEF WHO'S WHO OF KOREAN KITING

Do You Know Mr. Roe?

At the age of 91, Mr. Roe Yoo Sang, (pronounced Mr. "No") is Korea's most famous kiter, and probably the oldest active kitemaker in the world. He's chairman of the Korean Folk Kite Preservation Association. He was declared a Living National Treasure by Seoul City. He makes only the classical Korean kite painted with its traditional decorative patterns. One of his five sons, Roe Sung Kyu, 50 years younger, also makes these traditional kites as well as various paper and plastic kite kits for thousands of children to whom he teaches kitemaking. Surely Sung Kyu will later inherit his father's prestigious title.



Left, Mr. Roe Yoo Sang, age 91 and still an active kitemaker and flier, shows his skills. Below, Roe Sung Kyu, one of the elder Roe's sons, constructs a kite celebrating the 600th anniversary of Seoul, to be cut free high in the sky during SILK's opening ceremony.

Kim Kum Pok, 84

One of the most enthusiastic kiters on the field at SILK, Mr. Kim dispensed wise technical advice to groups of youngsters, who were amazed at his kiteflying expertise.

Who's Mr. Woo?

When we asked who is the most outstanding fighter kite expert in Seoul, we were often given the name of Mr. Woo, a retired furniture maker. To prove we had come to see the right man, the first thing Mr. Woo did when we arrived at his home was show us a foot-and-a-half-thick pile of diploma-style prizes and golden trophies he had won in competitions. Framed on his living room walls was a series of his exquisite miniature kites. Other beautiful full-sized kites hung in every corner. We sat on the heated floor with his wife, a couple of kite friends, and Park Hee-Gyoun (our sympathetic Korean translator) until late at night while Mr. Woo showed us many fascinating little-known details about the Korean fighter.

Although he doesn't make his living from kites, he is certainly expert at flying and making competition craft with amazing flying abilities and construction features. Mr. Woo's aim is not so much to make decorative objects as to make kites with excellent performance. He said it took him more than 13 years to achieve this level of expertise.

Mr. Woo says the Korean fighter has as many as 70 different variants (not even considering the graphics).* He never sells his kites through shops, but makes them for friends and club members, strictly on special order. He makes these kites to fit the flier's personality and chooses the kite's proportions according to the behavior his client wants, but the choice of the graphic design is Mr. Woo's.

Some 30 years ago, he and his friends created a local kite group, the Touk-Sum Fighter Kite Association, which has about 30 members today. Mr. Woo became famous after winning more than 100 prizes in competitions with his climbing attack. He later taught it to club members, and it then became widely used. Formerly, diving attacks were the most successful.

Although he is only 60 years old, Mr. Woo is already looking for a reliable youngster who shares his passion for kites and to whom he can entrust his secrets. (I suspect he will wait until the last minute for that!) But he said he wouldn't like his own sons to become professional kitemakers. He knows how hard it can be to make a living from it.

Discovering the Korean Kite

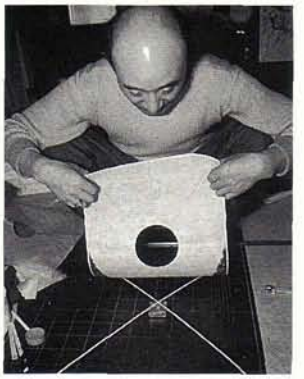
You might think there's little to learn about traditional Korean kites. There are actually only two basic models: the *Kaori Yon* (ray kite) and the *Pang Pae Yon* (shield-against-bad-luck kite). The first is a square kite flown point up and fitted with three tails. It's usually made for children and is named for the fish it resembles. The second is a decorative rectangular kite displayed to protect the home against evil spirits, but it's also a remarkable fighter kite.

Below, Mr. Woo competes in the quarter-finals of the SILK tourna-

A close look at the Pang Pae Yon reveals a thousand interesting details.

Graphics: These "shields against bad luck" show either colorful traditional geometric and abstract graphics, or ink paintings of birds, flowers and

**Mr. Woo may have a different definition of "variants" from ours in the Western world. To quote from* The Survey of Korean Kites *by Choe Sang-Su (Seoul: Korean Folklore Society, 1958), page 15: "There are more than seventy kinds of Korean Kite. Unlike those of other countries, the Korean kites have the same form and shape although the sizes vary." Most of these traditional kites are described, classified and illustrated in Choe's book. By Western standards, however, the number of actual* designs *is about five. The dominant form is the rectangle with central circular hole.*



Left, Mr. Woo shows how he puts something under the crossing point of the diagonals before gluing the paper sail over them to keep the kite slightly bowed when it dries.

Right, Mr. Woo shows his device for preparing cutting line. The line is pulled from the first cylinder down inside a can containing epoxy resin (plus hardener) and artificial diamond powder. The line then runs through a cotton cloth to clean off excess resin, then through a simple guiding mechanism to ensure a very regular winding onto a second cylinder, where it dries. With this device, Mr. Woo can make 24,400 feet of cutting line a day.

other motifs symbolizing for instance, the midwinter-blossoming *dong baek* flowers, which represent patience. Competition kites have a splendid, minimalist appearance. Their graphics done in poster colors (mostly red and black) remain extremely simple. There are hundreds of different designs, each having a special name. Some patterns are painted not directly on the sail, but on a separate sheet of paper. This is then cut out and pasted on the kite. This adds extra weight, but makes the work easier.

Proportions and Shape: Although its shape stays basically the same, proportions vary considerably and govern the kite's behavior. The standard proportions (width x length) are 2 x 3; but 2 x 2.5 gives more speed and maneuverability and is preferred for real fighter kites. Some almost perfectly square fighters are also made.

To my knowledge, the only variants are made using (1) a series of small triangular paper flaps on both sides of the kite ("legs"); (2) flaps on its trailing edge; or (3 and most commonly) two triangular spikes, at each bottom corner of the sail, along the diagonal sticks.

Sizes: Korean kites come in these sizes:

- Small: 30 cm x 45 cm (11.8" x 17.7");
- Medium: 34 cm x 49 cm (13.4" x 19.3");
- Large: 38 cm x 56 cm (14.9" x 22.0");
- Special: 58 cm x 86 cm (22.8" x 33.8").

The last three sizes can be used in competitions. The judges decide the size for competing kites depending on wind conditions (the stronger the wind, the larger the kite). Mr. Woo says a larger kite is more powerful and attacks better from beneath while smaller kites make better diving attacks.

The Hole: Hole size is also important. Standard diameter is a little more than one third the kite's width. The bigger the hole, the stabler and easier to fly the kite because a large hole reduces speed. Therefore, some competition kites have much smaller holes (down to only one fifth the width) to increase maneuverability and speed. This is offset by their being more difficult to control, particularly in light winds.

Frame and Sail: The frame is made of five bamboo sticks of various diameters but symmetrical stiffness. The vertical is the stiffest and, like the diagonals, is slightly tapered toward the trailing end; whereas the middle spar, which has no bowing line, is made very thin because it must bend back easily.

The sail is made of Korean handmade paper, called *sunji* or *sun hanji*, remarkably light, stiff and strong. It is simply folded on the sides, without any reinforcing line, at least on regular-size kites.

A good kite needs a slightly convex face. First the leading edge spar is glued on the sail, then the diagonals, the spine and the middle spars are attached lightly. The shaping is done by steaming the center of the sail to give some slack around the hole. Then the diagonals are glued firmly, tensioning the paper as it dries and slightly bowing it back.

Bridling and Bowing: The central bridle, attached to the middle of the hole, is always slack but comes under tension when the kite is in the air. Silk cutting thread is used for the four bridling lines of competition kites.

Adjustments for wind conditions are made on the aft line. This line can be easily detached from the kite. Some kitemakers even punch two sets of holes for the bottom line; the lower the bridling point the more stable the kite.

The leading edge spar of the kite is bowed by a tripled line. Some experts like Mr. Woo also sometimes attach a very thin metal cable along the bowing line just to make sure it can't be cut by an opponent's line. If this were to happen, the kite would flatten and become uncontrollable. Competition kites nowadays have much less bow than beginners' as well as "old style" kites.

Reels & Mr. Park

Most of the efficiency of the Korean fighter comes from its extraordinary reel. With such a reel, the best kitefliers can wind in and let out line at giddying speeds. Many make their own reels; others simply buy them from the few specialists. Some even have them custom-made with engravings or mother-of-pearl inlays. These superb reels can be real art pieces. The long rod protruding on one side comes off for carrying. Sometimes the regular wooden rod is replaced by a solid fiberglass rod or a stainless steel tube. Being heavier, these give better balance. Most fliers have special cylindrical cases into which they fit a couple of reels and rods. During transport, the cutting line is carefully protected by a wide elastic band wound around the reel before stowing.

Looking at some experienced fliers, I thought using this reel would be quite easy. After trying it myself, I realized it takes a lot of practice, because you must always keep your eyes on the kite. When reeling in cutting line in strong winds, you must be very careful to wind it parallel. It is so sharp that when wound diagonally it cuts itself.

Mr. Park in front of his Seoul workshop.

Mr. Park Man Ho, 49, is the only full-time professional reel maker in Seoul. His small workshop is a fascinating place filled with wood machines and sawdust. Mr. Park uses many different woods, and the choice of these, along with the size of the reel and its number of branches, determines price.

Out of the 600–700 pieces he makes every year, about 500 are the simplest four-

branch model, made of Korean pine, and are sold to children. The six-branch maple reel, selling for 30,000 won (about $38 US), is the standard for serious kitefliers, followed by slightly larger models in Canadian oak. Then come the splendid six- or eight-branch models of stronger and also much heavier woods, such as black or red ironwood from Indonesia. With eight branches, these top-quality reels can weigh up to two and a half pounds and cost as much as 120,000 won (about $150 US), without line!

The Cutting Line

Most Korean kiters make their own line. It's a time-consuming process and the materials for a good line are expensive. A reel contains at least 2,000 to 3,000 feet of cutting line.

Nylon is the cheapest, but worthless for serious fights. Kevlar is rarely used. Silk remains by far the preferred line, despite its high cost: 700 meters (about 2,300 feet) of well-made silk cutting line costs around 50,000 won (about $63 US). It's still cheaper than Spectra, but you normally don't get your Spectra line cut and shortened so often. Before being covered with the abrasive coating, the twisted silk thread is remarkably soft and even slightly springy. After coating, it becomes thinner and as stiff as wire! It isn't stretchy and won't melt from friction as would nylon.

There are two thicknesses of line. Wind strength and the kite size determine which to use. Although the silk line is the same as it was centuries ago, the coating has evolved considerably over the years. In the old days, fish-bone glue and porcelain powder were used. Ground glass followed porcelain when Americans brought glass soft-drink bottles. Epoxy resin then replaced the old-style glue. Finally, some 15 years ago, kitefliers pushed the game one step further by abandoning glass in favor of synthetic diamond powder. This makes Korean cutting line the strongest and most dangerous in the world. It's a real weapon, not to be used by the inexperienced. During competitions, attendants keep spectators away from the lines.

Is There More?...

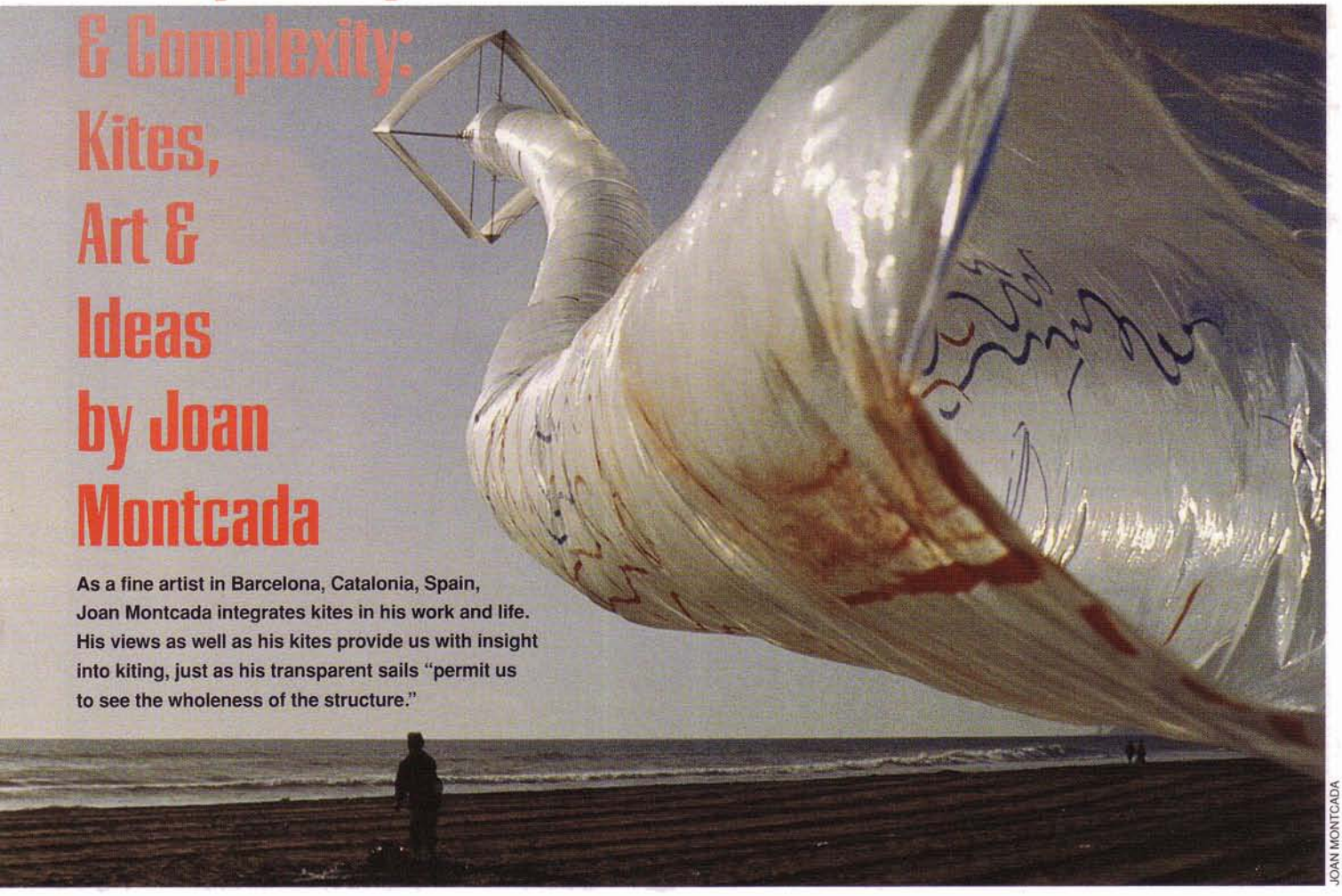
After learning so much about the Korean kite in Seoul, I only wonder if there might be more to discover elsewhere in this country. South Korea, only slightly larger than Indiana, has a population of about 50 million.

And then there is North Korea, only about 20 percent smaller in area and having about half the population—another big country.

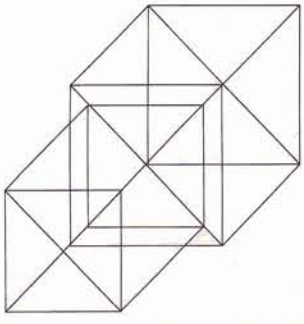
Are the kites and traditions the same outside of Seoul? Would there even *be kites*? Let's find out! ♢

Transparency & Complexity: Kites, Art & Ideas by Joan Montcada

As a fine artist in Barcelona, Catalonia, Spain, Joan Montcada integrates kites in his work and life. His views as well as his kites provide us with insight into kiting, just as his transparent sails "permit us to see the wholeness of the structure."



JOAN MONTCADA



JOAN MONTCADA

Kites in the Beginning

It has been historically demonstrated that the kite is the first flying artifact conceived and made by humankind.

I recall a kite, if not the oldest that comes to mind, made in Minorca in the Balearic Islands, in a small white village called Torret. The day was clear, the sky was an intense blue and there was a constant wind. I tied the kite from the top of a 14th century pirate lookout tower, and it was flying all day.

Certain habits are persistent reflections of man's essential tendencies to expand and communicate and balance spiritual needs by means of ritual, dance, etc. The idea of raising a body of variable weight into space is one of the most desired, for it transcends the two dimensions in which people have naturally had to move.

Only 100 years ago, when flight became successful, the world experienced a real flare of enthusiasm. And despite the spectacular progress of aeronautics, excitement prevails still, as confirmed by the multiplication of wing deltas, parapents, ultralight vehicles, sky-diving and even sailing boats.

Kites are also an increasing field of interest all over the world—as shown by the growing variety of festivals. It seems that dialogue with the changing moods of the wind in space makes the emotional subconscious react in joy and freedom.

In a global vision, it is very gratifying and encouraging that the old traditions of making kites are maintained in many countries, especially in the East: Japan, China, Thailand, Bali, Malaysia and many others. These almost always have answered to mythical, heroic needs. I think such solid history helps fuel the general enthusiasm for kites. But how I wish the present appreciation for kites could result in the magical sense that must have been stimulated when flying kites in ancient times!

Kites by Joan Montcada: top, Modular Head Kite with painted flexible structure 35m (115 ft) long, at Castelldefels beach, Barcelona; left, Transeòlic kite 170cm high (5½ ft), from which Montcada derives his logo, above kite.

JOAN MONTCADA

JOAN MONTCADA

JOAN MONTCADA

This page, clockwise from left: People kite, painted polyester, 16m long (52 ft); Stained Glass modular kite; Nyinyola Spatial Structure, acrylic painting on paper, 110 x 70cm (43" x 27"); Montcada's workshop in Barcelona with kites and paintings.

MARTA MONTCADA

Arriving into Kites

Of what we could call basic kitemaking techniques, I only used them during my initial period. I followed the Catalan tradition—as used in most places all over the world—of making my kites from splinted reeds and light/strong paper.

When I devoted myself to kitemaking in a more systematic way, I used rounded beech, pine, ramie, *perigota, manzònia* strips and in some cases, fiberglass.

Now I am mostly interested in carbon fiber, a material of great quality for constructing my modular structures.

I feel more in accordance with three-dimensional structures related to modular aerodynamics from the first flying objects and airplanes. Of all the goals attained by different pioneers, I feel great admiration for the kites and philosophy of the engineer Lawrence Hargrave and his experiments in Sydney, Australia.

What opened me to more possibilities was when I discovered ways to dismantle kites. I was introduced to this technique by a Valencian painter, Arturo Martinez, a great initiator of classic Mediterranean kites.

Flying in the Mountains

In regard to techniques , I am more inclined toward Western ideas; but in regard to the spirit and respect towards ritual, I incline toward Eastern philosophy.

A unison of factors motivates my work. As a professional artist, my vision is pictorial and volumetric. My hobby of mountain hiking draws me to the orographical relief of landscape, and the importance of atmosphere and meteorological phenomena. The combination of these concerns leads me to my interest in kites.

Although the beach or flat open spaces

Right, Ketil Olav Sand, Marta Moncada and Joan Montcada at a kite festival in Risør, Norway, with Montcada's Modular/Groc kite. Below, Montcada works at Yolanda Ríos Gallery, Sitges, Barcelona, 1992.

often provide the best landscapes in which to test new kites, I prefer high relief landscapes, which entail more variety and require a more refined sense of thinking.

When it flies in a mountain environment, the kite is a confirmation of that which cannot be seen: the movement of the wind, which can be descending, channeled, whirling or a result of hot air currents. And when the kite falls, we still might deduce a picture of the wind's dynamics and try again.

Unavoidably, however, such conditions make retrieving a fallen kite complicated, requiring inventiveness and precaution. I tend to recover a hanging kite by means of a higher flying kite.

"There is always someone who does not react to kiting, who does not find it serious enough. Maybe it is difficult for that person to look up into the sky."
—JOAN MONTCADA

It can also be a good challenge to fly the kite with the idea of overcoming all obstacles we encounter during a hiking day—or, on the other hand, flying the kite from the crest line *beneath* the flier. I have done this alone or with my wife Mercè, who cooperates enthusiastically in everything.

Also it is exciting to fly a kite vertically on thermals caused by a steep rock heated by the sun; that is what I did on top of a mountain more than 2,500m (8,000 ft) high. The kite disappeared, sucked up into/by a big cloud.

While it is difficult to imagine, a kite festival held in a canyon or atop a mountain 2,500 meters (8,000 ft) high would be new and exciting for me.

The Naming of Kites

It is odd that different countries have different and specific words to name kites. In Catalonia, the most well-known name is *estel,* and also *grua* and *miloca* in the Balearic Islands, *catxerulo* in Valencia, and *cometa* in the rest of Spain.

In my own words, I have always thought it necessary to clarify the word *estel* to distinguish modular structures from the traditional kite here, the hexagon with tight sail and long tail. For this reason, I have created the word *esteleòlic,* from *estel* (which also means star) and *eòlic,* from *Æolus,* the Greek god of the winds.

In the same way I created the word *transeòlic,* linking the Latin prefix *trans* (which means through) to name my kite formed by two transparent cubes superposed. From its design I have created my logo.


PER KR. LUNDEN

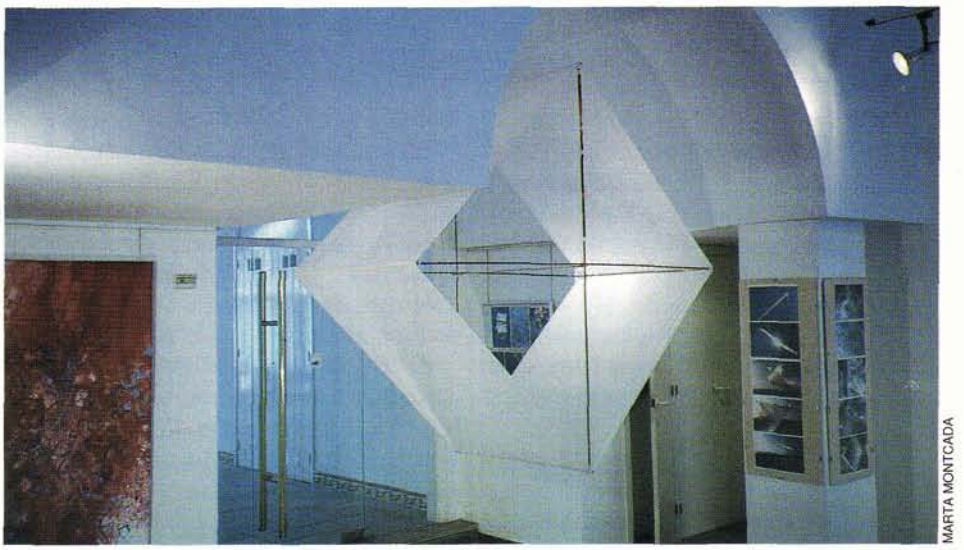
Complexity & Transparency

Because of their pure function, kites are structured systematically and for this reason they can seem simple. But in reality they are sustained by configuration laws submitted to a complex diversity of factors. If these are not adequately arranged, the instrument doesn't work; its function, which seemed easy, cannot be carried out.

Regarding my transparent sails, I note that while they do not let us appreciate the *chiaroscuro* of the modules, they do permit us to see the wholeness of the structure. The drawing of the supports and other opaque elements creates an arabesque by which we obtain changes in linear perspective, by superposing the planes in movement.

According to the lighting conditions and/ or the inclination of the flying object, the shining reflections over the flat surface make the planes visible and manifest the tension they receive from the wind. Thus the eye is filled with successive images produced by movement and the clouded sky.

I find it interesting in some cases to enclose drawings in the transparent sails. The pictorial aspect creates a whole new outlook; seeing lines and smudges of gestural strokes flying weightless has a special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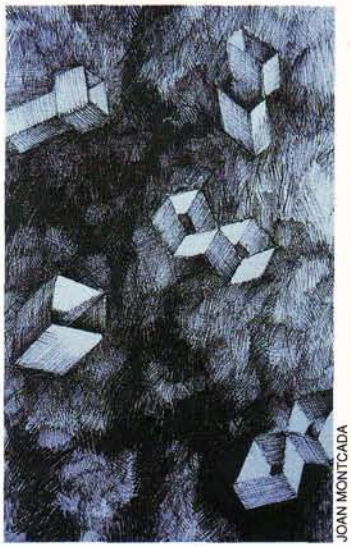

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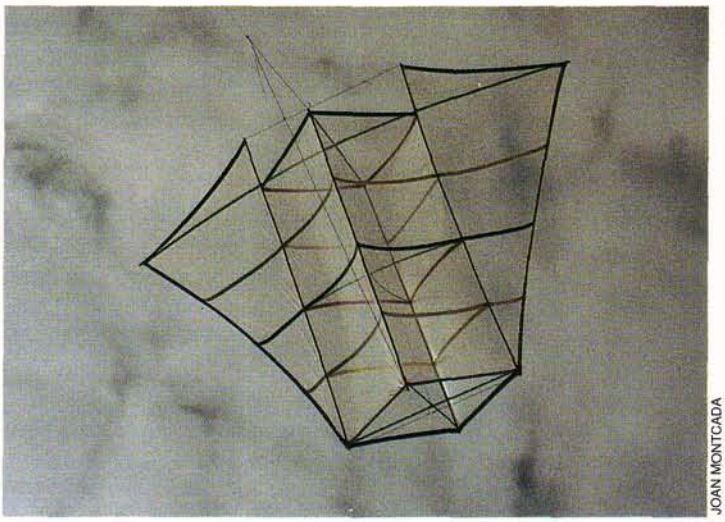


JOAN MONTCADA

"Kites construct space."
—JOAN MONTCADA

Far left: drawings of imagined *esteleòlics* flying, including (at top right), an imagined kite that later became the Double Rectangle (see cover). Left, Transparent Prism, from a series of Montcada transparent kites.

attractiveness, especially when superposing sky with clouds of various hues.

Kites in my Painting & Drawing

The relationship between flying *esteleòlics* and my painting work is a question of sensations, with resonant connotations in the style of Taoists. My painting exhibits a captured reality, parallel to another field, from its own interior landscape, which now is manifested with renewed intention from the inner spring of feeling, from the inside to the outside. In this same way, it occurs in the reflexive and static faces of human figures.

In some of my work I have paid special attention to the empty spaces, as an essential element of the landscape. They are areas left blank, but not like an aleatory (accidental) background. They are silent spaces which also respond to concrete measures of relationship.

Nyinyola & Catenaries

Once while flying an *esteleòlic,* I was admiring the beauty of the subtle curves made by the string's catenaries when I thought the impossible: painting such a pure drawing by using the same string as a *nyinyola,* up in the sky. What impact that would create!

I should clarify that *nyinyola* is the Catalan name of an instrument used by carpenters, builders and stonecutters to make a perfect straight line. A hemp string is impregnated with dusty pigment or wet with ink. When tautened at each end, it is hit from the middle like the ping of a guitar's string; the "note" is impressed in a straight line. I have adopted it in some of my paintworks related to kites and space.

The catenaries should be further valued as an aesthetic element within the whole spectacle, in addition to their function of maintaining the kite's efficiency. The catenaries act like sensitive antennas which capture and amplify what occurs in the heights.

Recent Thoughts & Experiences

Because I tend to identify myself with a kite while flying, during one period I had the desire to make photographs to see what the kite is seeing, with quite convincing results. However, that was not enough for me. During my stay in the Alp Aeroclub in the Pyrénées-Orientals, and due to my friendship with the architect and pilot, Joaquim Vinyet, we made some acrobatic

J O A N M O N T C A D A

Joan (the Catalan equivalent of John in English) Montcada, born in Barcelona in 1925, is a noted artist.

He studied at the Barcelona School of Fine Arts and has received many prizes and awards, including the Joan March Foundation Research Grant in 1972 for a project on the teaching of graphic expression.

His activities embrace three areas:

- Work in murals, stained glass, and ceramics in private and public buildings.
- Teaching, since 1965, first at Llotja and the International School of Mural Painting in Sant Cugat, then as Professor of Drawing in the Faculty of Fine Arts at the University of Barcelona.
- Research in forms and procedures as well as in three-dimensional kites and paintings of them.

Montcada also has produced work in photography and documentary films. He has participated in kite festivals in France, Norway and Japan.

In 1990, in collaboration with artist and printmaker Marta Montcada, he produced an audio-visual of 700 slides in double projection, titled "The Kite: Structure with Flying Capacity," presented for the first time at Barcelona University.

MARTA MONTCADA

Joan Montcada with Transeòlic kite, Sagara, Japan, 1989

A number of exhibitions have featured the work (paintings and drawings) of Joan Montcada, the most recent being:

1992: Yolanda Rios Gallery, Sitges (Barcelona area);

1993: Les Voltes de Casa Bas, Capellades (Barcelona area);

1994: Art/21 Gallery for Contemporary Art, Barcelona;

July 1994: Art Gallery 13, Ventalló (Girona area), participation in an open air performance "Scarecrows by 35 Artists," featured outside the Gallery. Joan and Marta flew a kite 31m long with about 400 birds painted on its surface.

Leaflets for his exhibitions include quotations from Montcada, such as these:

"In the last two years, parallel to my pictorial and teaching work, I have developed plastic possibilities in the creation of modular structures, which have their justification in full flight.

"Kites construct space. They do so not only by means of their color and configuration, but also through their dynamic interaction with the light and the atmospheric conditions, as well as the patterns made by the strings that detect with their fluctuations the strata of changes in wind direction."

—Translation assistance by Marta Montcada

flights (looping, free spiral fall, etc.) in a Reims-Cessna FRA 150, and also flew with an ultralight. Certainly, kites enjoy themselves while flying!

There is a relation between my kites and my drawings. Occasionally, from sketches made previously, representing imagined scenes of *esteòlics* flying, I might choose one of them because of its unusual shape, as a challenge to build it and fly it, even though at first glance it would be difficult to imagine it being possible to make.

In an era of interplanetary voyages, where air travel has acquired an efficient and unthinkable perfection, the kite's magic continues to captivate. My daughter, Marta, and I had these observations in a Boeing 747 which was taking us to Japan to participate in the international kite festivals there in 1989.

We found that not all people in different countries consider kites the same way. Coming back on Japan Air Lines, we received much kind attention from the staff, concerned about finding a suitable place for the kites, which we carried in transparent bags. And when going through the streets of Japan with kites in hand, we were regarded with respect and excitement, an attitude not very usual to find in other places, surely due to an ignorance in valuing these objects.

MARTA MONTCADA

Scott Skinner signing the Transeòlic kite at the Sagara Kite Festival, Japan, 1989.

There is always someone who does not react to kiting, someone who does not find it serious enough. Maybe it is difficult for that person to look up into the sky.

As in many things, at the beginning one cannot improvise if there is no commitment to carrying on and overcoming failures. Improvisation without minimum technical knowledge results rapidly in abandonment.

Kites do not work in the style of a mechanical artifact, working by impulse of a motive force in order to overcome its surroundings. On the contrary, kites integrate completely with the atmosphere's dynamics, which provide their reason for being.

The *eòlic* structures, either of stable or acrobatic flight, transfigure space in a new dynamic scope, which covers us over like a dome, compounding the clouds, the sky and orography as a whole body.

If one wants to improve the knowledge of the wind, and therefore enjoy more of the atmospheric variety and control of flight, I think it is indispensable to take a course in meteorology—such as one I took at the Science Museum in Barcelona. It all helps to make a catharsis and not simply experience an exciting flight.

Have you ever observed after an enjoyable flight, when everybody has finished, how empty the sky is left? Sometimes, with all the equipment on my back, I turn around to check that I have not left any kite flying up there!

SPECIAL GUEST

My Family of Custom Kite Fittings

By Bobby Stanfield

For most of my kites I use truss construction. If any point on a kite isn't connected properly, the whole thing collapses. This makes me something of a nut about reliable fittings.

I used to go to hardware and electronics stores and roam around or even sit among boxes of parts and study them.

My first teacher was Kirk Charles, a Georgia Tech engineering student and competitive kiteflier who pushed "high-tech" to the limit. At first the challenge seemed overwhelming, but I took it a piece at a time and it became enjoyable. Kirk got me interested in machinery and close tolerances, and I am very grateful to him.

I approach fittings systematically. I ask myself: What does this kite *need?* To satisfy that need, I consider the fitting's: (1) weight, (2) strength, (3) drag and (4) what I call "tidiness," a term that combines compactness, relative simplicity, material consistency and visual/tactile appeal. It's no surprise I find myself making most of my own fittings. Sure, they take a little time to make, but when you figure the time saved in setting up on the field, with all the people watching, it's worth it.

Your basic needs are to connect shafts to shafts, and fabric to shafts, to get the tension correct where it's needed, to set dihedrals, to dismantle the kite to a size conveniently carried and to make the finished kite work as an entity, not an assemblage.

You should consider when to use a complex fitting and when to simplify. On a smaller kite especially, it's easy to go overboard and add too much weight.

Bobby Stanfield is a Georgia boy now living in California who has been a major competitor everywhere for the last 10 years. Bobby's kites are noted for their craftsmanship, flight, design—and fittings. Here Bobby generously shares his methods "just to help folks get started."

MEL GOVIG

Bobby Stanfield at the Seoul International Kite Festival in February 1994.

To acquaint you with my methods, I'll describe the fittings I use throughout all my kites. You can get the materials to make these fittings from electronics, hardware, sporting goods and plastics stores as well as fishing supply and archery shops. If you make them, you'll need such items as:

- ABS plastic rod stock
- aluminum arrow shafts, ID to fit your spars (I recommend both an inside and an outside ferrule for strength.)
- aluminum thumb screws, those that fasten screens in doors
- polypropylene wire ties used to bundle wires in electronics kits
- polypropylene cable clamps, used for fittings needing unusual angles
- ½" split rings
- screw eyes
- line guides for fishing rods
- nylon wrapping thread (a specialist can help you, such as Glenn Haynes of Clemens Custom Tackle, Allentown, PA)
- cyanoacrylate ("Super Glue," thin)
- two-part 5-minute epoxy
- "slam" rivets from hardware stores and most leathercraft stores (such as Tandy)

About the Drill Press

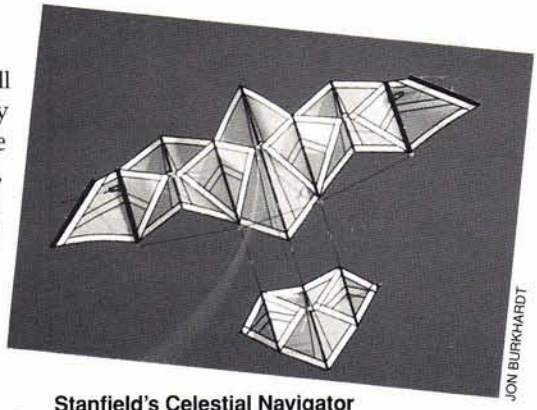
First, observe the safety precautions that came with your drill press.

When you go to buy a vise for your drill press, consider removing the plate and taking it with you. This assures the hold-down holes on the vise line up with holes on the plate. Wing nuts and washers on ¼" bolts are enough to secure the vise to the plate. Be sure you get a machinist's vise with V grooves, horizontal and vertical in the stationary half of the jaw.

Obviously, your shaft and ferrule sizes determine the right size for drill bits and plastic fittings. Take along a good set of calipers or a micrometer when shopping. I carry my calipers with me to check the stated size of the drill bits. Two different ¼" bits can vary from each other as much as a few thousandths of an inch.

To Work the Plastic

To begin, cut ABS blanks to length with a hacksaw. (Cut them slightly longer than finished length.) Then, chuck the blank, leaving about ¼" to ½" exposed. Tighten



JON BURKHARDT

Stanfield's Celestial Navigator shows its good bones and skin. The fittings that hold it all together are nearly invisible.

chuck by hand. Slow your drill press speed to about 450 rpm. Then, with the drill press turned on, file the exposed end smooth. With this done, clean up any sharp corners with a file. Now repeat on the other end. Do all of these you'll need at one time.

The next critical step is to find center. I put a small drill bit (1/16") in the chuck and an ABS blank into the vise. With the machine turned off, I lower the bit so it's just above the ABS blank's end. Move the vise and/or the drill press table till you reach what looks to be center. Tighten everything up and test-drill. If you're lucky, you're ready to go. If you're like me, you'll make a second or third adjustment.

Take pains with this effort, because every hole drilled after this adjustment will be as correct, or incorrect, as you made it. I drill all the fittings I describe here either from the end or the side of the piece.

If you're end drilling, and the hole in all your pieces needs to be the same depth, it's important that your blanks be gripped by the vise in exactly the same position. I put my ABS blank into the vise and rest it on my file so the blank doesn't slip. Then, I tighten down the vise and set the depth gauge on the drill press.

When drilling from the side, I slide my ABS blank into the horizontal groove of the drill press vise and up against a stop so each setting is the same.

To finish your drilled holes, chuck your countersink in the drill press and handhold your pieces up to the countersink to deburr them for a clean, finished look.

When you tap a hole for thumbscrews, first drill a pilot hole. Many hardware stores give away charts showing the correct size for

the bit. Tapping is just a simple matter of screwing the tap into the hole. Back it out after a few turns to clean away debris. Repeat until threaded.

Fittings 3 and 4 require a tight fit between metal ferrule and plastic. After fitting it into place (use a vise to push fit), make the fit permanent with cyanoacrylate glue.

I cut ferrules from metal archery shafts the same way I cut ABS blanks. The archery shop I patronize is very cooperative when I bring in carbon shafts and need metal arrow shafts for tight fitting ferrules.

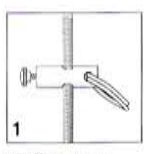
Bumps & Ties

Some of my fittings have what I call "bumps" (in technical terms, a "stop"). My bump is a very lightweight and strong way to attach sails to shafts or to make stops for fittings that need a precise, permanent location. The bump itself is five or six (more for larger kites) wraps of nylon winding (correctly called *serving*) thread, the kind you can find in fishing supply stores. Wrap it around the shaft, saturate it with thin cyanoacrylate glue and cut off the loose ends with a hot knife. The bumps should rise about 1/16" above the surface of the kite spar. I buy the glue *thin* (it gets thick overnight) and apply it with a toothpick. Clean up spills with cyanoacrylate remover.

You can permanently install a shaft to fabric, with needle and polyester thread. Stitch through the fabric, around the shaft just above the bump at the top and below the bump at the bottom. Normally, four or five wraps is enough.

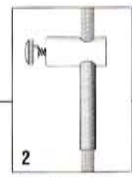
Easier yet is to just use a polypropylene wire tie instead of needle and thread. Simply punch slits into the fabric with a flat-tipped hot knife to precisely position the holes for the tie. This way, you can remove and reinsert a shaft and you won't need an end cap.

Using the Fittings



sliding tensioner with split ring and locking thumb screw

Fitting 1 tightens or loosens sails or wings as needed. You get better flight on some kites by tightening the sails; this reduces drag and improves symmetry. Other kites, such as the Eddy, like billow in their sails. Fitting 1 lets you "instantly" adjust for moisture or skin fatigue affecting billow. Just put the split ring through a tab on the fabric, then tighten down on the spreader with the thumbscrew to get the tautness you want.



ferrule with locking thumb screw

Fitting 2 holds together a two-piece shaft not secured by sails at each end, as, for example, the area between the fore and aft sections of a box kite. Although the main role of Fitting 2 is to give you a smaller "travel package," you'll find it also makes assembly less risky. The fore section and the aft section can be assembled separately and then joined together—very useful for complex configurations in tricky ground wind.

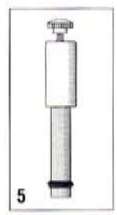
end cap with split ring

I call Fitting 3 my standard end cap. It's put on like Fitting 2, but I use it where sail tension isn't critical.

Fitting 4 joins two pointed sails together at the end of a spreader. Again the split rings go through the tabs on the end of the fabric and the plastic goes over the end of the spreader, but the bonus is that the screw eye is a handy bridle attachment point.

end cap with two split rings and screw eye

Fitting 5 is for "vertical adjustment" on a longeron. Put a fixed bump on one end of the longeron where you permanently attach the sail. At the other end of the longeron, fitting 5 is an *adjustable* bump. As mentioned before, the plastic fitting over the metal ferrule is a tight fit. It also needs to be permanently bonded to the ferrule with cyanoacrylate glue. The threaded portion of the plastic need be only about 3/16" depth. Then, wrap a bump on the ferrule.



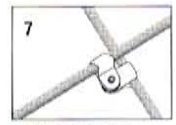
end cap with ferrule, thumbscrew and "bump"

To install, first plug the end of your longeron. Take the thumbscrew out of your fitting, slip the ferrule over the plugged longeron and secure the bump to the fabric. Now put the thumbscrew in and tighten until the sail is smooth. It's a good idea to loosen the fitting after flying the kite to "rest" the fabric.

Intersecting Connectors

Ready-made items are often useful. I make Fittings 6 and 7 with polypropylene cable clamps from electronics stores. They come in a range of sizes, including 1/8" to 1/4" diameter. I put them together with two-piece "slam" rivets. They're supposed to be hammered together with a special tool, but as usual I need to be different. I press these rivets together nicely with pliers, or better still, vise grips, with the teeth ground off.

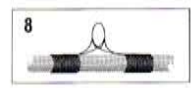
cable clamps for butt or angle under 90 degrees



cable clamps joined back to back, allowing spars to cross

You can use these fittings in about as many ways as you can imagine. Use them where one spar butts or intersects with another at any angle. Rivet them so the shafts either butt or pass. For installation, just slide the fitting to where it's needed. A bump keeps it from slipping.

Line Guides



fishing rod line guide

A fishing rod's line guide fills the need when you want one set of spreaders instead of two per cell in a box kite. In this system, spreaders extend about three or four inches through the fabric next to the longeron. There they fit into an end cap (Fitting 3 without the ring). In the hole where the ring was, I tie 150-lb-Spectra line with a lark's head. I tie one end of the Spectra directly to the guide on the longeron. The other end first passes through a tension adjuster before I tie it to the second guide. This way I save weight and can adjust horizontal tension.

But another reason for the guides is that carbon fiber has low impact resistance. This means it's best not to apply too much pressure at one point, especially with a thin-walled shaft. A guide spreads out the pressure, so it's handy where a bridle connects directly to a shaft (as on an Eddy kite).

To install, I temporarily hold the guide in place with a small piece of plastic tubing. This just holds the guide in place while I wrap or serve the other end with nylon thread. I then soak the wrapping in thin cyanoacrylate glue. After gluing, cut off the excess thread with a hot knife, remove the piece of plastic and wrap the guide's other end the same way. When you put several guides on a shaft, align them by looking through them all at once.

In Closing...

I confess that of the many things I have to do in life, *writing* is my least favorite. Please don't ask me for additional written information. You are welcome, however, to telephone me at 714-833-8860.

Good flying and God love ya. ▽

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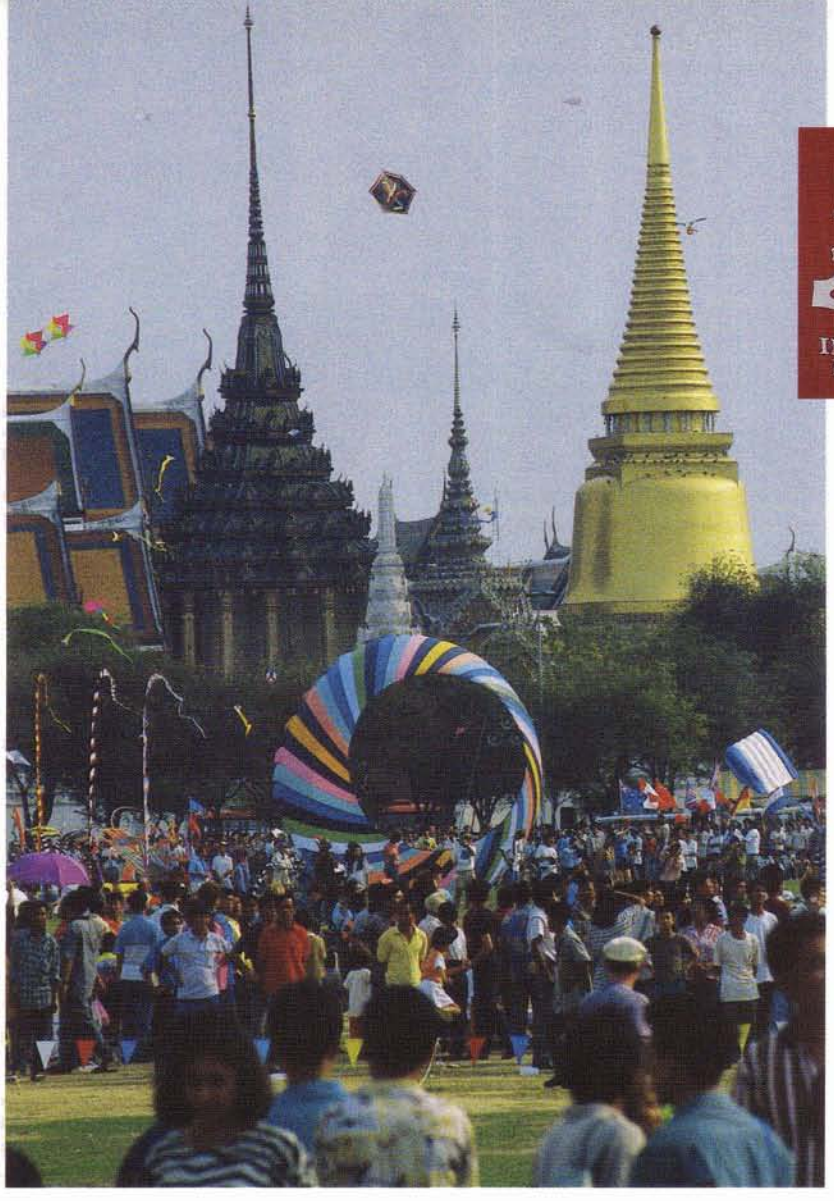
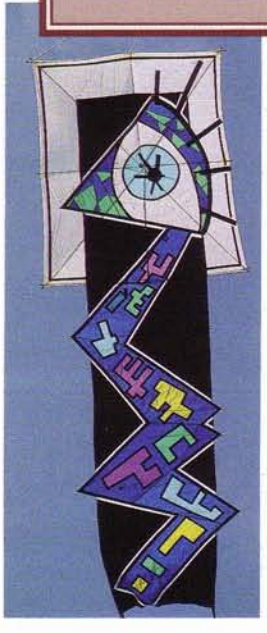


THAILAND INTERNATIONAL KITE FESTIVAL

WHERE HISTORY GLEAMS

The 4th Thailand International Biennial Kite Festival Bangkok 26-27 March 1994

Article & Photographs by Simon Freidin



Over 100 preeminent kitefliers from all over the world make this meeting of East and West truly different.

From top clockwise: Bol by Michel Gressier (France) in front of the Grand Palace; festival logo banner; Eye in the Sky, one of a pair of kites by Gill Marcus (Israel); charming Kiteroach by George Peters (USA); Marionette Hands kite, playing the flier, by Ton Geers (The Netherlands).

Holding a major international kite festival where thousands of kitefliers meet on weekends is rather unusual. Other Asian fields such as Bali's, Hamamatsu's and Sanjo's, only see kites for a few weeks a year.

But moving the Thailand International Kite Festival to Bangkok put the festival on a field with a centuries-long history of kiteflying. For the event's many international visitors, this was *the* famous place, Sanam Luang, the Pramain Grounds, right in front of the Grand Palace, a field which

An inflatable blue devil kite, with sunglasses, sneakers and tail, by Robin Parent (Canada); and a striking sode dako (kimono kite), one of a series by Janneke Groen (The Netherlands).

season after season has witnessed sophisticated Thai kite battles for the coveted King's Cup. History gleams as brightly here as the golden palace spires in the sunshine.

To underscore this unique place, *chula* and *pakpao* kite fighting* occurred every evening of the festival. Over 100 kitefliers from all over the world had gathered, guests of the Tourism Authority of Thailand and Thai Airways, for the biennial meeting of East and West, making Thailand's festival truly different.

Fitful and thermal-filled daytime breezes made the kitefliers' efforts difficult. At one stage a small "tuk-tuk" (taxi) was brought onto the field to tow kites into the sky. Only towards dusk did the grounds come alive, when steady evening winds picked up and held the sky alight with kites. Perhaps it was just as well—the locals didn't become a massive crowd until dusk, when the heat of the day had passed and work was over. In the evening the crowd was easily 20 deep around the edge of the field. The organizers spoke of making the next festival an afternoon and night fly, better suited for the crowd and the breeze.

Even so, many new and visually exciting kites appeared. Notable among the "new" was Peter Lynn's patented kite-powered trihull "kite-surfer" boat, and a group kite project orchestrated by Israel's Gill Marcus and Bianca Severyns. They memorialized Leland Toy's death and his Edo group-fly at the festival two years ago by passing out 25 Tyvek panels, to be painted by the kitefliers.

*For a full description, see "Thai Kites: Ancient Tradition, Perennial Excitement" by Ron Spaulding, Kite Lines, *Winter-Spring 1987, pp. 61–71; and "Scenes from Pattaya" by Valerie Govig,* Kite Lines, *Summer-Fall 1987, pp. 51–60.*

These were assembled into a kite and flown on the festival's last day.

Of course, a big festival such as this attracts many kites. Commentator Shakib Gunn of Singapore took particulars about 150 major kites from 80 fliers. He then smoothly communicated all the details and background to the crowd.

Also new was the appearance of two kiters from Nepal, flying Nepalese (Indian-style) fighters of about two-foot size made of Nepalese rice paper and bamboo. They used deft techniques with their large spools.

I've given you only the briefest glimpse of this great biennial event, and I haven't done justice to the myriad of things that occurred, the efforts made by the kitefliers and the variety and quantity of kites that were flown. The photographs may help tell you more of the story. But you had to be there. ◇

Above, pointillistic banners by the team from Italy. Below, Thailand festival organizer and kite visionary Ron Spaulding.

FOR THE RECORD

Multiflight Again

Another August, another Washington State International Kite Festival at Long Beach—and another Ray Bethell world record.

Bethell hails from Vancouver, B.C., Canada, where he has demonstrated his unusual multiline kiteflying skills since 1980.

"I would guess that without a doubt he is the most photographed and videotaped person in Vancouver. People who return to Vancouver each year always come down to Vanier Park to watch him fly," says Bethell's friend Ivor Killacky.

Bethell is a frequent flier in all senses of the word. He has traveled to Australia, England, New Zealand and many parts of North America to give shows and enter freestyle kite events—and often win them.

But no doubt the most widespread attention given to Raymond G. Bethell has been for setting records in his particular niche, flying more than one stunt kite at a time.

- In 1991, he flew two dual-line stunters simultaneously for 4 hours, 19 minutes.
- In 1992, he flew three Peregrine Falcon stunters for 5 hours, 40 minutes.
- In 1993, he flew three Peregrines for 8 hours, 40 minutes—*nonstop*.

When Bethell showed up at the 1994 W.S.I.K.F., everybody knew what to expect: Ray Bethell would beat his previous record.

This time (on August 18, 1994) he used three Kestrels. He flew them from 7:10 a.m. to 7:12 p.m., for 12 hours, 2 minutes—again *nonstop*. A total of 131 overlapping witnesses logged in and out, assuring unbroken coverage. They saw three kites continuously doing wraps, dives, passes—a real show—without a single crash or landing.

Bethell had tuned his kites to fly independently in winds from 1–15 mph without change of bridle settings. In this case, winds blew 2–3 mph at the start, then at around 10 a.m. dropped to 1 mph. ("I thought I was going to lose them," Bethell said.) Then the wind came back and finally steadied at 8–10 mph. "The only reason I stopped," Bethell said, "is that the crew and witnesses were getting hungry and tired standing around watching me have fun. Next time we will go all the way!"

Meaning what? "I could have gone 15 hours. I was going to do it blindfolded. Next year I hope to do four or five kites—even seven is a possibility—if I live that long."

Ray Bethell is 66 years old. —*V.G.*

LIBRARY OF CONGRESS

GEORGE LAWRENCE:

A Giant in Kite Aerial Photography

BY SIMON BAKER

CHICAGO HISTORICAL SOCIETY

Every student of kite history knows that George Lawrence, the famous turn-of-the-century photographer, used kites in his aerial work. But two questions have been hanging unanswered in the brief spaces given to Lawrence in kite literature.

1. Did Lawrence use *kites* in taking his astonishing photograph of the 1906 San Francisco post-earthquake fire?—or did he use balloons?

2. If Lawrence used kites, what was the size of the camera he lofted? Was it his monster 900-pounder? Or just a moderately big one?

Simon Baker of East Carolina University has collected and analyzed George Lawrence information for years. He has the answers.

My curiosity about George Raymond Lawrence, the kite aerial photographer, is a story going back more than 10 years and it begins with my reading of Beaumont Newhall's book *Airborne Camera*.

One of the most spectacular photographs in the book is of San Francisco after the great fire following the 1906 earthquake. I had seen it before and assumed that the camera was carried aloft by a balloon over San Francisco Bay. Airplanes in 1906 were not yet being used to make aerial photographs this large; the negative was a staggering 18" x 48".

Newhall related that the camera was lifted into the air by *kites*, but he had little to say about how it was kept steady to make such a sharp image or how much it actually weighed. For answers to these and other questions, I began a long research.

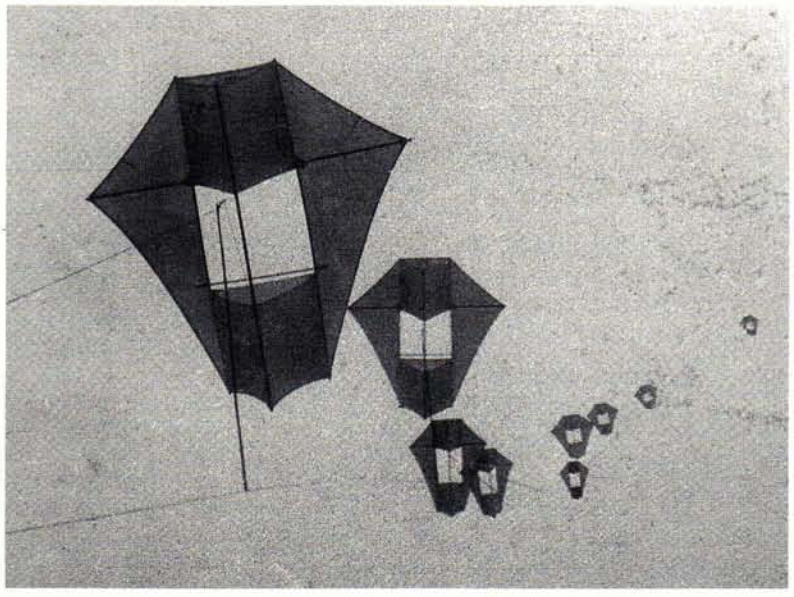
First I went to my university library and found nothing on Lawrence. Later, on a trip to Washington, D.C., I visited the Library of Congress and discovered that its huge catalog of books also had nothing by or about him!

However, the Library of Congress people did direct me to an obituary for George R. Lawrence published in the *New York Times* of December 16, 1938. This provided me with a brief outline of the high points of his life and career. The librarians also found a pair of short articles in *The Encyclopedia of Photography* entitled, "Biography of George R. Lawrence" and "Kite and Balloon Photography." They also suggested that I visit the Prints and Photographs Collection of the Library of Congress and examine its catalog of holdings. They reasoned that, since Lawrence was a commercial photographer, he might have sent copies of his products to the Library of Congress in order to obtain copyrights on them.

The Prints and Photographs Collection did and does indeed have many examples of the work of George R. Lawrence. There are photographs of big banquet groups, state legislatures in session, and the Republican National Conventions of 1904 and 1908. All of these large interiors were captured on oversized negatives with remarkable clarity and detail. The means employed was a system of electrically fired flashguns using an improved flash powder invented by Law-

"SAN FRANCISCO IN RUINS" is the title of the world-famous photograph, left. George Lawrence's panoramic camera produced a mammoth negative of 18 x 48 inches and was raised 2,000 feet over the bay by his "Captive Airship," or kite train. Even in this reduction it is possible to see that block after block of the city was burned flat and totally destroyed. Lawrence sold copies of this photo to newspapers and individuals and is reported to have earned $15,000 from these sales. (This was the equivalent of approximately $210,00 today.)

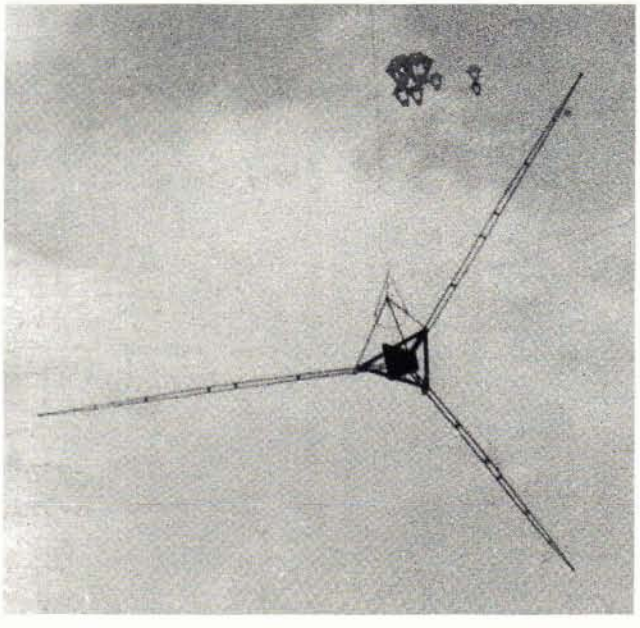
Inset, the fabulous photograph on display at the 1960 exhibition of the work of George Lawrence at the Chicago Historical Society. His son and daughter-in-law are looking at an original contact print.



U.S. NATIONAL ARCHIVES

Above, a train of nine Conyne kites is sent aloft to raise a camera which hangs suspended below the bottom kite. Each kite is attached to the main line by its own short line and is prevented from becoming entangled with it by a light bamboo rod.

Below, the kite train and camera-steadying mechanism together make up what Lawrence called his "Captive Airship." Three equally spaced 15-foot-long booms radiate out from the cradle which holds the camera. At the tip of each boom is a lead weight and a silk cord 120 feet long is also attached. The other ends of the three cords are tied together directly below the camera and a three-pound lead weight is attached at that point (not visible in this view). In this case, a flat plate camera is being flown rather than a panoramic camera.



U.S. NATIONAL ARCHIVES

rence. There are other photographs showing large crowds in attendance at horse races, baseball and football games. In order to make many of these outdoor photographs, Lawrence carried his cameras aloft on guyed ladders or a portable collapsible tower. This tower was of his own invention and construction reaching more than 200 feet into the air.

Also in the collection are large photographs of entire industrial plants, located mostly in the Midwest. Of greatest interest to me were the aerial photographs which are remarkable for their size and clarity and the fact that the cameras were lifted into the air by what Lawrence called the "Captive Airship" or kite train. My curiosity was piqued and I had to know more about the man and his method.

Having learned from his obituary that Lawrence lived and worked in Chicago, I sent letters to every museum and scientific society in the city to learn who might have information about this native son. The only one responding positively was the Chicago Historical Society. This organization owned a number of original Lawrence photographs and had exhibited them in a special show in 1960. Some time later, while on a visit to Chicago, I went to the Historical Society and examined their holdings.

At that time I also met a commercial photographer named Thomas Yanul who was working on a biography of George R. Lawrence. Yanul very kindly shared his information with me, and what I know of the operation of the aerial panoramic camera comes from him. He had personally seen and photographed one of the few surviving panoramic cameras.

I also learned of the existence of two U.S. Navy reports on the operation of the "Captive Airship." It seems that the U.S. Army and Navy, at the prompting of President Theodore Roosevelt, invited Lawrence to demonstrate his system in 1905. These reports are housed at the National Archives in Washington, D.C. and I obtained copies of them. They represent the only firsthand factual information I have been able to find about how the kites were flown and how the stabilizing system worked.

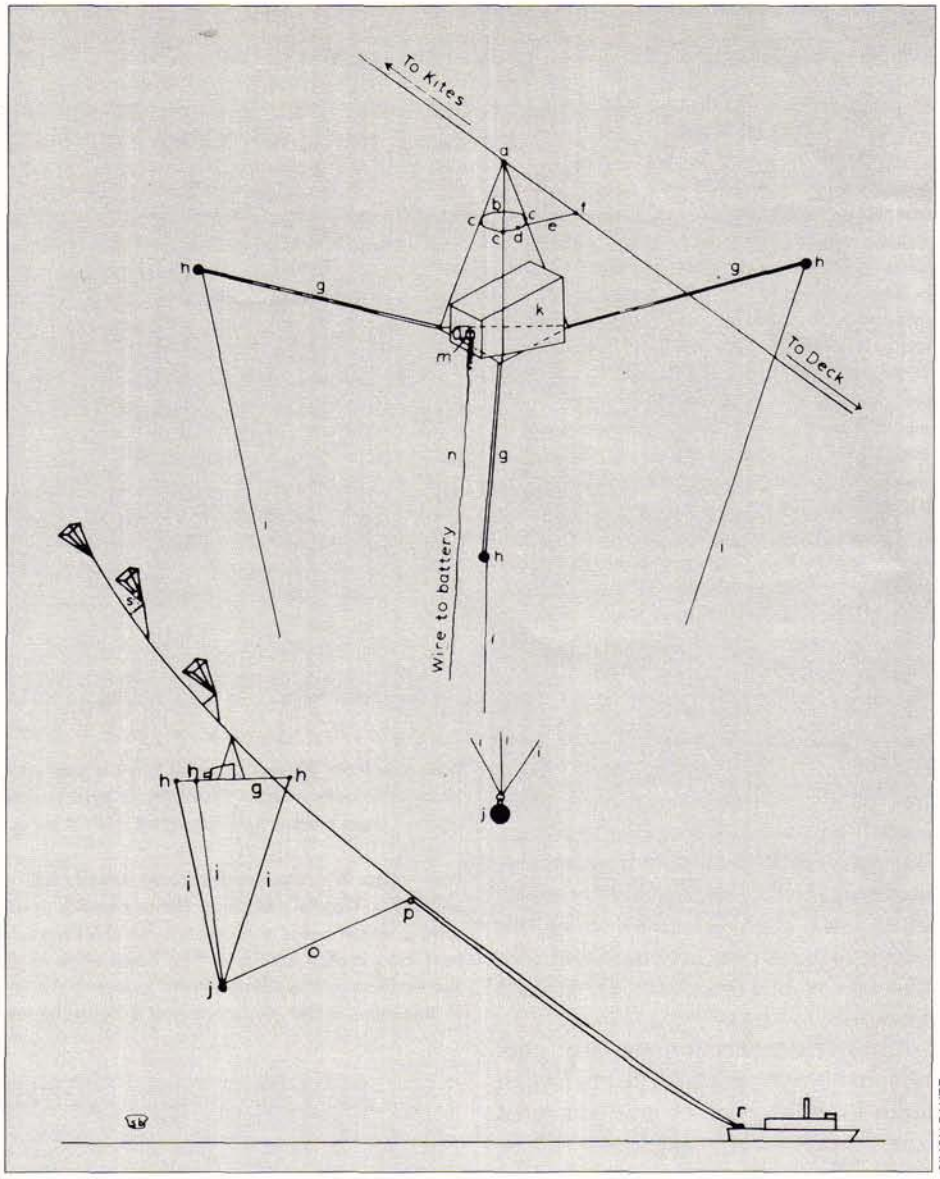
The report of Naval Lieutenant L. H. Chandler of May 22, 1905 (Record Group 74) is very complete and comes with illustrations of the kites and the steadying apparatus. Lieutenant Chandler commented on the weight of the latter by saying that he could lift it with his left hand and that it did not exceed 15 pounds. Further testing at sea was recommended by Chandler.

George Lawrence, accompanied by two assistants along with cameras, films, and steadying apparatus, came on board the

Right, a diagrammatic representation of the "*Captive Airship*" *being flown from a ship.* The parts indicated are as follows: s, spreader rod to keep kite clear of the main line; g, the long booms extending 15 feet out from the base of the camera cradle; h, small lead weights of several ounces at the end of each boom; i, 120-foot long silk cords; j, the three-pound lead weight; o and p, a line and pulley to keep j from dragging in the water on launch and retrieval; and r, the winch.

Right inset, details of the steadying mechanism showing the two-point attachment to the kite line at a and f. The camera can be pointed by making adjustments at b, c, d, and e before it is sent aloft. A flat plate camera, k, is mounted in the cradle in this view. The camera shutter at m is operated by electromagnets receiving current through the wire, n, which is joined below this point to the main piano-wire kite line, which has an insulated copper wire as part of it. A battery on the ground provides the necessary current to operate the shutter. The other parts of this steadying mechanism, g, h, i, and j, are: 15-foot booms, lead weights of several ounces, 120-foot-long silk cords, and a three-pound lead weight, respectively. This mechanism prevents the camera from turning and swinging like a pendulum in spite of the movement of the kites.

Diagrams and details after the report by Lieutenant L. H. Chandler, U.S. National Archives.



SIMON BAKER

CHICAGO HISTORICAL SOCIETY

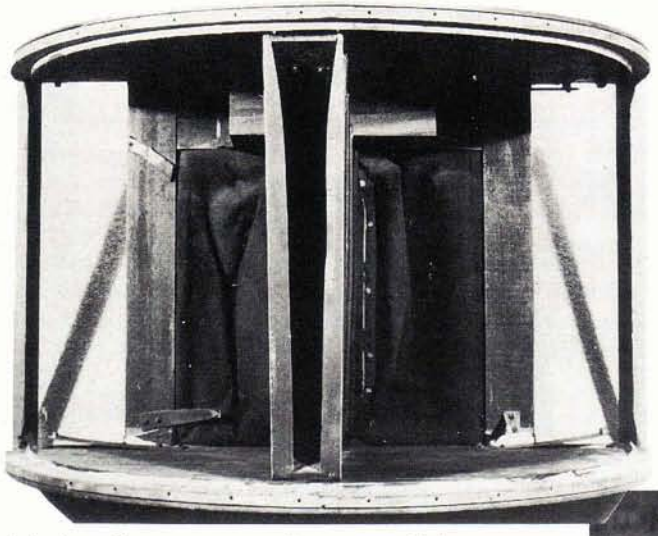
Above, George Lawrence, wearing the derby, in the field with an assistant in Zion, Illinois (north of Chicago) in about 1903, making experiments with his "Captive Airship." When the kite train flies, the pull is so strong that it can only be controlled by the use of a winch. In fact, it is often necessary to anchor the winch as in this case, when it is tied to a tree stump.

U.S.S. Maine on August 25, 1905. Here a team of officers, consisting of Lieutenant Commanders W. H. G. Bullard, A. L. Willard, and Lieutenant J. H. Holden, observed and worked with Lawrence until he left the ship on October 7, 1905. Their report to the Commander in Chief of the U.S. Atlantic fleet (National Archives Record Group 74) is dated January 12, 1906. They timed the process from the ascent of the first kite until the camera was landed back on deck as averaging about one hour and a half. They also described the panoramic camera being used as having a 19-inch focal length, producing a 20 by 48 inch plate, and weighing 49 pounds.

Lawrence, it seems, built about seven versions of this panoramic camera. Some were smaller and some were larger than the one he used to demonstrate his system to the military. He used wood and aluminum in the construction of his aerial cameras and the weight of 49 pounds is authoritative. H. H. Slawson's article "Kite and Balloon Photography" appearing in *The Encyclopedia of Photography* speaks of "seven different aerial cameras, which weighed from 400 to 1000 pounds." These numbers were picked up by several other authors and appear in the few articles written about Lawrence and his methods.

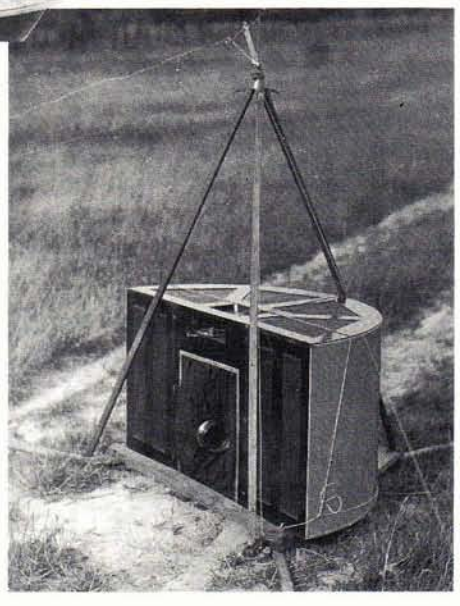
There is some confusion here with a huge camera designed by Lawrence in 1900 for the purpose of photographing a new train of the Chicago and Alton Railway. This camera required a crew of 15 to move it around and set up, and weighed 900 pounds; 1400 pounds with the plate holder in place. It produced a contact print of eight by four-and-a-half feet and was obviously never lifted into the air.

Lawrence was interested in obtaining large panoramic views and he used ladders and his portable tower for this purpose. Soon he realized that he would have to get higher to obtain views of really large areas so he turned to hydrogen-filled balloons. On June 21, 1901, while photographing the



THOMAS YANUL COLLECTION

Above, a panoramic camera with its aluminum back removed to show the interior. When loaded, the film plane is curved to conform with the back. The focal plane shutter consists of a flattened cone which is mounted directly to the back of the lens and swings around with it. The image reaching the film passes through the slit and that part of the film in front of the wide portion of the slit receives a longer exposure than that in front of the narrow portion.



CHICAGO HISTORICAL SOCIETY

Right, an early version of the steadying mechanism with a panoramic camera tied in the cradle. The lens of the camera is cocked to one side and held in place by an electrically activated solenoid. To make an exposure, a current from a battery is used to activate the solenoid. Once released in this fashion, a spring motor drives the lens through a very wide arc of more than 120 degrees. As the lens swings through this arc, the flattened cone shutter mounted directly behind it travels across the face of the film.

Chicago stockyards from an altitude of 900 feet, he was being hauled down on completion of the task. About 200 feet above the ground, the network of ropes holding the gas bag severed, allowing it to escape, and Lawrence fell. At about 30 feet above the ground, his fall was broken by a network of telephone and telegraph wires. He hit the ground shaken but not seriously hurt. A second balloon mishap a month later in Minnesota seems to have convinced Lawrence that he should look for some other method of getting his camera into the air.

Silas J. Conyne, a Chicago inventor, patented a kite in 1902 for the purpose of raising aloft advertising banners to attract public attention. These kites appeared promising to Lawrence as a means of raising his cameras. He obtained the right to build Conyne's kites and embarked on a period of experimentation outside of Chicago in Zion, Illinois. Sometime between 1902 and 1904, he worked out the technique he was to use successfully until he went out of the photography business in 1910. He modified and improved well-known techniques for flying a train. A series of kites were attached by short lines and prevented from becoming entangled with the main kite line by the use of bamboo spreaders. By these means he was able to attain heights up to 2,000 feet lifting his large but relatively light panoramic cameras and the heavy piano wire cable of several strands. Depending on the wind velocity and the load to be lifted, Lawrence could fly as many as 17 kites in a train; however, five to 10 kites usually sufficed.

From the sharpness of his aerial photographs, it can be seen that Lawrence had devised effective means for holding his cameras steady while exposures were being made in a windy environment. The mount hanging suspended below the lowest kite in the train allowed the camera to be pointed and fixed in any direction before being sent aloft. Once in the air, a system of booms, lines, and lead weights prevented the camera from excessive horizontal turning, while at the same time dampening the tendency of the camera to swing in the wind like a pendulum.

Lawrence solved the problem of tripping the shutter by incorporating an insulated wire as part of the steel kite line, and using it to carry an electric current up to the camera to release the spring-driven shutter.

For the purposes of aerial photography, Lawrence modified an existing type of panoramic camera which had a curved film plane and a lens mounted in a horizontally rotating barrel on vertical pivots. These lens barrels were mounted below the horizontal midline of the film plane, unlike commercially available panoramic cameras in which the lens was mounted opposite the midline. This was done so that the camera, which was usually level at the time of exposure, would produce a view showing more of the earth's surface and less of the sky. A simple focal plane shutter, consisting of a metal tube in the shape of a flattened cone, was mounted directly behind the lens inside the dark camera. As the lens turned through 160 degrees on its pivots, the image passed through a vertical slit in the rear of the flattened cone just in front of the film. The length of the exposure, for any part of the film, was determined by the width of the slit and the speed of traverse at which the spring mechanism drove the lens and the flattened-cone focal plane shutter. In order to reduce the comparatively abundant sky light and allow for a longer exposure of the darker land surface, he varied the width of the slit. The image reached the film upside down so he made the slit wider on top to increase the length of exposure of the darker land surface.

In his photographic career, George R. Lawrence was characterized by qualities of imagination and inventiveness. He took existing technological developments of his day, modified them and combined them in new ways to produce unique results. Being a commercial photographer, he kept the details of these techniques for himself.

When we compare his aerial photographs with those of other kite photographers who preceded him, it is clear that in this line of technology the ultimate development was achieved by Lawrence. His photographs were unique when he made them, and they compare favorably to similar types of aerial photographs made decades later—even today—by users of far more sophisticated technological devices than were available to him. ♢

The Kite Lines Bookstore

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IF IT'S ABOUT KITES, the Kite Lines Bookstore probably has it—the common, the rare, the foreign, the domestic, the informative, the artistic, the good—and the bad. We carry nearly all the kite titles in print, even ones that give us a lot of trouble to obtain.

The Bookstore gives no endorsement to any title, but we do guarantee your satisfaction with our service. We want you to feel like you're in your local bookstore. Pick a book. Look it over. If it's wrong for you, you can put it back on our shelf. No problem.

Kite books often go out of print without warning—if you want any of these, we suggest you snap them up now!

SPECIAL PURCHASES!

Edo Dako Dai Zenshu (The Big Complete Book of Edo Kites) by Masaaki Modegi, in Japanese (and some English). One of the most exquisite works of kite literature yet from Japan. About 140 kites photographed and cataloged. Excellent construction detail drawings. Richly printed on heavy paper, elegantly bound and boxed. Hardcover, 159 pp., **$198.95** (no airmail shipping)

Pictures for the Sky, by Paul Eubel and Ikuko Matsumoto, in a new English edition, revised from *Bilder für den Himmel (Pictures for the Sky)*. Incredibly beautiful full-page color photos of kites made for the traveling exhibition. Includes the work of 100 international artists collaborating with 36 Japanese kitemakers. Softcover, 406 pp., **$78.95** (no airmail shipping)

From AUSTRALIA . . .

Make Mine Fly by Helen Bushell. This 1988 edition is a collection of tips, techniques, and hints (gathered since 1977) for beginners, experts, groups or individuals. Includes plans for the famous patented Trefoil Delta, plus several paper kites. Softcover, 90 pp., **$22.95**

Kite-Folds by Beth Matthews. This improved edition has plans for 12 small kites, easily made from a single sheet of paper, plus the "Skyvelope." Clear instructions, lovely color photos, addendum on kites in teaching. Softcover, 26 pp., **$13.95**

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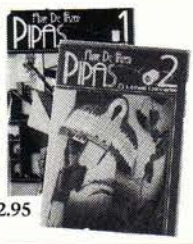
Bermuda Kites by Frank Watlington. Plans for five island kites, plus variations and hummers. Traditional materials, flying tips, a little history. Softcover, 24 pp., **$4.95**

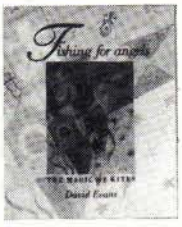
From BRAZIL . . .



Arte de Fazer Pipas 2 (The Art of Kitemaking 2) by Silvio Voce, in Portuguese. Making 10 non-Brazilian paper kites, 56 pp., **$6.95**
Arte de Fazer Pipas 1 has a few traditional Brazilian kites, 50 pp., **$6.95**
Both books as package, **$12.95**

From CANADA . . .

Go Fly a Kite: The Kite Builder's Manual by John Boxtel. Pleasing drawings but plans use old techniques and no dimensions. Softcover, 80 pp., **$12.95**



Fishing for Angels: The Magic of Kites by David Evans. A very pretty, colorful book. Great lore and tips (just avoid the three kite plans). Softcover, 63 pp., **$14.95**

CANADA continued. . .

Kite Crazy (the book) by Carol Thomas. Accompanies the video. Plans for fighters, dual- and quad-liners. Sound writing, black-and-white drawings. Softcover, 176 pp., **$32.95**
Kite Crazy (the video) by SOMA Film & Video, Canada. Famous kiters teach how to make and fly 1-, 2- and 4-line kites. Good clear instructions and lovely footage, VHS format, 102 min., **$32.95**
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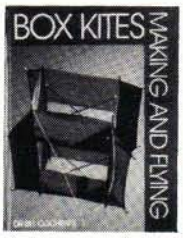
Kite Cookery by Don Dunford. Plans for four kites, with building methods. Includes Dunford's idiosyncratic aerodynamics. Softcover, 47 pp., **$4.95**

Kites: A Practical Handbook by Ron Moulton and Pat Lloyd. Good information in slight disorder. Excellent drawings of 25-plus kites. Fine sections on sport kites and parachuting teddy bears. Outdated appendixes; some color photos. Softcover, 255 pp., **$27.95**

Mark Cottrell's books are homely and self-published, with plans that may call for a magnifying glass—but they are also some of the most honest, entertaining and useful in print:
Kite Aerial Photography. Three kite plans and a system to compare trade-offs among features in a rig. Source lists. Softcover, 44 pp., **$10.95**
Swept Wing Stunt Kites. Analysis of stunt design elements; 4 plans. Softcover, 43 pp., **$11.95**
The Kite Store Book of Kites. 10 plans for original Cottrell kites plus philosophy and a 5.25" disk for computer design. Softcover, 48 pp., **$13.95**

ENGLAND continued . . .



NEW! *Box Kites Making and Flying* by Dr. Bill Cochrane. Plans for 17 types of box kites, from basic designs to Hargrave, Conyne and tetrahedral plus three Cody styles. A little history and aerodynamics but out-of-date building methods. Color photos in attractive layout. Scanty appendixes. Hardcover, 96 pp., **$34.95**

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From FRANCE . . .

Cerfs-Volants: à la Recherche du Bleu by Gérard Clément, in French. A feast for the eyes (not the mind), this is a big, beautifully designed collection of underidentified color photographs. Some history, no plans. Dreadful bibliography. Hardcover, 117 pp., **$57.95** (no airmail shipping)

The Kite Lines Bookstore . . . *Continued*

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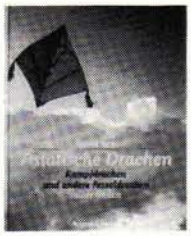
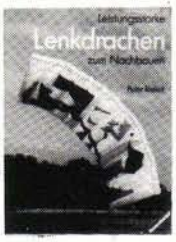
Drachen mit Geschichte (Kites with History) by Walter Diem and Werner Schmidt, in German. Extensively researched, faithfully reproduced models from our rich kiting history. Brogden, Gomes, Grund, Hargrave, Kuznetzov, Lamson, Lecornu, Sauls, others. Detailed plan drawings and wonderful historic photos. Hardcover, 160 pp., **$29.95**



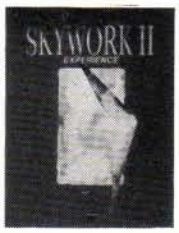
Asiastische Drachen (Asian Kites) by Franz Arz, in German. Lovely and colorful book containing 22 kite plans, including 5 fighters. Instructions call for mostly traditional materials. Excellent photos and drawings. Hardcover, 96 pp., **$24.95**

Books by Werner Backes, in German, compact and reliable, have good ideas, instructions, color photographs and drawings: *Drachen aus aller Welt (Kites from Everywhere)*. A 40-kite international sampler, including the Cloud Seeker, Cody, tetrahedral, rhombus and multicell boxes, parafoil, Roloplan and rokkaku. Also directions for trains, reels, knots and aerial photography. Softcover, 128 pp., **$18.95**
Neue drachen zum Nachbauen (New Kites to Replicate). Plans for 20 kites from available materials plus accessories. Appropriate for workshops. Softcover, 128 pp., **$7.95**

GERMANY continued. . .



Leistungsstarke Lenkdrachen zum Nachbauen (High Performance Stunt Kites to Make) by Peter Rieleit, in German. Plans for 12 original dual-liners (six deltas, three parafoils and three figure kites, including Superfly, banana, pteranodon). A stimulating, motivating, creative work. Includes fine charts plus tips on materials, sewing, knots and flying. Softcover, 96 pp., plus full-size fold-out airfoil pattern, **$22.95**



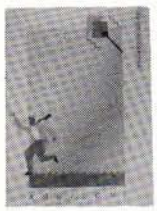
Skywork II Experience by Christine Schertel, in German. New, different volume. Plans for 12 original, tested kite designs in good variety: nine stunters and three cellular kites, including a Hargrave, Cody and the "Revolver." Attractive paintings instead of photographs. Softcover, 52 pp., **$17.95**

. . . und sie Fliegen Heute Noch — Geschichte und Geschichten um den Drachen (and They Still Fly Today—History and Tales about Kites) collected by Hans Snoek, in German. Poems, songs, tales, drawings, photos, plans from early days of Western kiting. Hardcover, 156 pp., **$34.95**
Band II (Vol. II), in German. Another fascinating scrapbook of kite lore. Hardcover, 156 pp., **$34.95**

GERMANY continued. . .

Kite books by Wolfgang Schimmelpfennig, in German, contain choice building plans, techniques and flying tips in clear, colorful format:
NEW! *Neue Lenkdrachen und Einleiner bauen und fliegen (New Stunt Kites and One-Liners to Make and Fly)*. Includes 6 stunters (one is a 3-D quad-liner) and 3 single-liners. Brief design theory. Softcover, 80 pp., **$19.95**
Lenkdrachen bauen und fliegen (Making and Flying Stunt Kites). Contains 8 dual-liners (4 diamonds, 3 deltas and a foil). Softcover, 64pp., **$19.95**
Phantastische Drachenwelt: Die Festivals, Die Drachenbauer, Die Modelle (Fantastic Kiteworld: The Festivals, The Kitemakers, The Models). A handsome coffee-table book of real substance. Contains an insert with traceable plans for 4 kites. Hardcover, 128 pp., **$37.95** (no airmail shipping)

From ITALY. . .



Aquiloni (Kites) by Guido Accascina, in Italian. A mini encyclopedia, with kites in "family" groupings. Includes theory, techniques, sources, history, plans. Good printing, some color. Latest edition in standard pocket book format. Softcover, 256 pp., **now $16.95**

ITALY continued. . .

Aquiloni Acrobatici by Cristina Sanvito and Giancarlo Galli, in Italian. The first Italian stunt kite book covers the basics and more. Graphics and drawings are neat and clear. Gives a brief history, safety tips, basic-to-advanced techniques and maneuvers plus a book list and valuable *glossario*. Softcover, 141 pp., **$19.95**

From JAPAN . . .

Tezukuri Omoshiro Dako Nyumon (A Primer of Interesting Handmade Kites) by Eiji Ohashi, in Japanese. Both traditional Asian and modern kites are among these easy-to-make figure and box kites as well as Ohashi's famous arch train. Color photos, drawings, full details. Softcover, 100 pp., **$26.95**

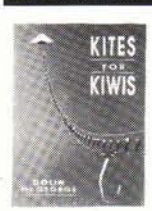
Bessatsu Bijutsu Techo (Fine Arts Journal), in Japanese. Originally a 1982 issue of an art journal devoted to kites, now published as a book. Thick and substantial: over 300 color photos plus drawings, full of detail, by Japanese kite experts. Softcover, 216 pp., **$29.95**

From The NETHERLANDS . . .

Two stunt kite books by Servaas van der Horst and Nop Velthuizen, in English, cover all aspects of the sport in up-to-date high-tech style. Well organized and printed, the books contain excellent drawings and photos, including some in color:
Stunt Kites to Make and Fly. The first book includes clear plans for 10 stunters, some with novel touches. Softcover, 96 pp., **$21.95**
NEW! *Stunt Kites II: New Designs, Buggies and Boats*. Plans for 8 kites plus advice on how to design your own. Emphasizes "power" kites, has plans for a buggy. Softcover, 96 pp., **$22.95**
NEW! Companion diskette for IBM-compatibles, prints out templates of *S.K.II* plans; also simulates stunt maneuvers, **$14.95**

Kleine Papieren Vliegers (Small Paper Kites) by Harm van Veen, in Dutch. A very original, colorful little book with clear and detailed plans for 10 artful miniatures plus a tiny reel. Complete techniques, even splitting bamboo. Softcover, 32 pp., **$5.95**

From NEW ZEALAND . . .



New edition! *Kites for Kiwis* by Colin McGeorge. Totally updated, contains 14 kite plans plus the *manu taratahi*, a native Maori design made from local vegetation. Fresh book design with color photos. A good introduction to kites. Softcover, 62 pp., **$14.95**

From SOUTH AFRICA . . .

Kites: 24 Designs by Izak C. Rust, in English. The first kite book from South Africa. Good scale drawings and color photographs. Includes the South African fishing kite. Tips on frames, tails, sails, knots, reels, bridles and flying. Annotated bibliography. Softcover, 48 pp., **$11.95**

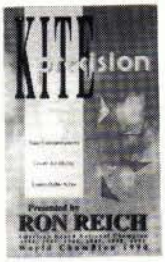
From SWITZERLAND . . .

Drachenreise (Kite Journey) by Ruedi Epple-Gass, in German. Interesting black-and-white book. Countries explored (some visited and others researched) include Turkey, Vietnam, Dominican Republic, and spots in the South Pacific, Latin America and Europe. Political overtones. A few drawings of biodegradable kites, poems and flying tips. Softcover, 125 pp., **$26.95**

From The UNITED STATES . . .

The Penguin Book of Kites by David Pelham. Called "The Bible," first published in 1976 and still recommended for all kitefliers. Plans for more than 100 kites plus solid, well-researched and -written aerodynamics and history. Color in half the book. Index and bibliography. Softcover, 228 pp., **$14.95**

Kiteworks by Maxwell Eden. Revised edition. Fifty kite plans (such as Yakko Stakk, Kaleidakite, Tri-D Box, Pterosaur) with detailed drawings from respected designers. Sewing, aerodynamics, accessories and (un)related stories. Kite paintings, a few photos. Appendixes, index. Softcover, 287 pp., **$16.95**



NEW! *Kite Precision* by Ron Reich. A strong foundation in stunt flying from one of the most celebrated fliers in the country. Fully detailed explanations of maneuvers Reich started that are now basic. Excellent sections on flying the Revolution and Flexifoil. Good introduction to team flying and choreography. Self-published with low-resolution photos, but lots of them. Touches of humor. Softcover, 182 pp., **$14.95**

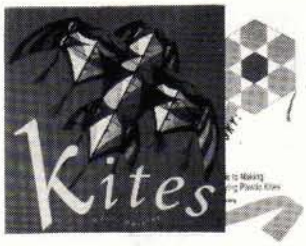
Art That Flies by Tal Streeter and Pamela Houk. Anthology of unusual kites from 1990 Dayton (Ohio) Art Institute exhibit, featuring works by three noted artists. Optical illusions, environmental works, interviews, interesting bibliography. No plans. Softcover, 139 pp., **$14.95**

The Art of the Japanese Kite by Tal Streeter. Rare profiles of master kite artists of Japan sensitively interviewed in 1971-72, just before the waning of their traditional arts. Includes 130 photos (52 in color). No plans, but some background on Japanese-style kite building. A rich contemporary history and a true joy to read. Softcover, 181 pp., **$25.95**

Books by David Gomberg are "homemade," lacking polish and photographs, but are useful to read: ***New cover! Stunt Kites!*** The first book on the subject. Thorough coverage of the basics plus advanced techniques. Maneuvers, tips, information and proven advice from 20 well-known sport fliers; lots of safety pointers. No kite plans or brand names. Softcover, 88 pp., **$11.95**
The Fighter Kite Book! A goodly amount of information, mostly correct, about fighter flying. Though flat in tone, it's a useful starting source. Contains plans for a basic fighter. Beware drawings of bridles. Softcover, 74 pp., **$8.95**

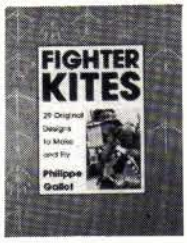
Books by Jim Rowlands, though U.S.-published, contain British quirks; have a few color photos within otherwise black-and-white pages of line drawings; have a book list and index:
Soft Kites and Windsocks. Same as British *Kites and Windsocks*. The best and most popular work from Rowlands so far. Plans for 11 kites (including whale, frog, parafoil and Flow Form), 5 windsocks, 5 drogues and 2 bags. Softcover, 104 pp., **$14.95**
The Big Book of Kites. Same as British *Making and Flying Modern Kites*. Plans for 36 kites all on the simple side, plus materials, techniques, an "evolution" of kites. Softcover, 127 pp., **$14.95**
One-Hour Kites. Same as British *Kites to Make and Fly*. Plans for 25 basic beginner's kites, including oversimplified Facet and stunter kites. Somewhat overlaps with *The Big Book of Kites*. A reference (not a guide) for workshops. Softcover, 95 pp., **$14.95**

The Ultimate Kite Book by Paul and Helene Morgan. If it weren't for the exaggerated title, this book would be easier to recommend. Colorfully done with high quality illustration and printing. Brief history; incomplete identification of kitemakers. Extensive photographs showing flying techniques. About six good kite plans, including a simple stunter and a tumbling star. Hardcover, 88 pp., **$19.95**



Kite books by Wayne Hosking vary in appearance but suffer in the writing:
New softcover edition! *(new cover only)* ***Kites***. Lavishly printed book of beautiful kite photos. Some good research on Asian kites. Kitemakers are unidentified. Absurd appendixes; 120 pp., **$15.95**
NEW! *Kites to Touch the Sky*. A homemade book containing plans for 32 plastic kites. Simple drawings, no photographs. Softcover, 96 pp., **$9.95**

Kites: The Science and the Wonder by Toshio Ito and Hirotsugu Komura. One of the few books to be scientific about kites. Uneven translation from the Japanese. Softcover, 160 pp., **$12.95**



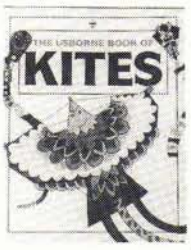
Fighter Kites by Philippe Gallot. Plans for 29 kites, tips on flying, tools, materials, games and accessories. Clear illustrations, adequate instructions, plentiful enthusiasm. Watch out for metric conversions. Softcover, 96 pp., **$12.95**

Super Kites III by Neil Thorburn. Many designs for delta-sled-box inventions of proven performance. Tested, creative techniques using mostly plastic bags and wooden dowels. Some color photos brighten this "completely handmade" book. Softcover, 123 pp., **$8.95**

Kites: An Historical Survey by Clive Hart. Revised, second edition (1982). Invaluable reference work with many black-and-white illustrations and photos. Fascinating, readable, in-depth research in early kiting. The most extensive kite bibliography in print. No plans. *Limited supply*. Softcover, 210 pp., **$15.95**

Kite books by Margaret Greger are clear, wise and reliable, ideal for beginner, expert or classroom:
Kites for Everyone. Many good kite plans, variations and accessories, plus tips and techniques. Second edition. Softcover, 136 pp., **$12.95**
More Kites for Everyone. Some old kites, some new kites, plus more tips. Plans for 17 kites from simple to complex. Softcover, 59 pp., **$9.95**

25 Kites that Fly by Leslie Hunt. Reprint of the 1929 original. Good old-fashioned kites (shield, elephant, yacht, etc.) using paper and wood. Has historical data and photos. Hunt was a kitemaker for the U.S. Weather Bureau. Softcover, 110 pp., **$2.95**



The Usborne Book of Kites by Susan Mayes. Cute, colorful collection for kids. Six easy kites, with clear and fully illustrated step-by-step instructions. All measurements given in both metric and U.S. equivalent. Good introduction to materials, wind and flying. Many tips included. Softcover, 32 pp., **$5.95**

Make Your Own Kite (new kites) by John W. Jordan. Plans for nine original kites (Flying Saucer, Space Station, Crazy Cobra, Computer Card Kite, others) using unusual but mostly-easy-to-find materials such as plastic foam. Clear instructions and amusing reading from a genuine enthusiast. Black-and-white photos. Softcover edition out of print. *Limited supply of the hardcover edition,* 90 pp., **$14.95**

Ski the Beach by Stan Rogers. All you need to know about sand skiing with kites. The only book on this topic. Safety concerns explained throughout. Necessary beach conditions thoroughly illustrated. Loads of charts, including "How Wind Energy is Affected by Temperature." Homemade layout and drawings. Scads of black-and-white photographs. Softcover, 100 pp., **$13.95**

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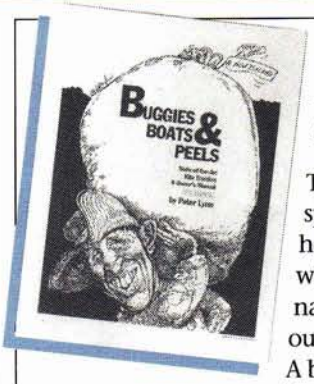

Buggies, Boats & Peels:
State of the Art Kite Traction by Peter Lynn

The Buggymeister tells you how to get started in the new sports of kite buggying and kitesailing. History, theory, how to "reach" (travel upwind) for top speed, how and when to turn, racing tactics, kite selection, buggy maintenance and more. Boat traction is treated with similar thoroughness. Complete data on the Peter Lynn Peel. A barrage of information.

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SUMMER 1989 (Vol. 7, No. 3)
India's Annual Frenzy; Stunt Kite Survey; Kite Capitals of the World; Fabulous Bali; Flying Wedge; Ohashi's Arch Train.

WINTER 1989-90 (Vol. 7, No. 4)
China by Tal Streeter and Skye Morrison; How to Dye Ripstop; Modifying a Parachute; Stunting a Flow Form.

SUMMER 1990 (Vol. 8, No. 1)
New Zealand, Berlin, Washington (England); Parachute Stunter plans; Peter Lynn's Future Tech; Bobby Stanfield.

WINTER 1990-91 (Vol. 8, No. 2)
Dieppe, Montpellier, Bristol and Berlin; Stunt Kite Survey; D'Alto's Whitehead kite; Largest Eddy record.

SPRING 1991 (Vol. 8, No. 3)
Whistling Kites of China by Tal Streeter; Gomberg on Kite Pins; Angle Estimating; Wind Shot stunter plans.

SUMMER-FALL 1991 (Vol. 8, No. 4)
Pierre Fabre in Japan; Kinnaird on Rokkakus; Kocher's Obtuse Tetra; Huntington Beach scandal; Peter Malinski.

WINTER 1991-92 (Vol. 9, No. 1)
Stunting in Italy & Poland; Gubbio (Italy); Painless Parafoil plans; Painting Ripstop; Roberto Guidori.

SPRING-SUMMER 1992 (Vol. 9, No. 2)
André Cassagnes; Thailand and the Natural Fibers Festival; Christmas Island feats; Stunter Survey; George Peters.

FALL 1992 (Vol. 9, No. 3)
Castiglione, Le Touquet, Barcelona, Ostia; Arch Ribbon; Niagara Falls; Tangles; Ianuzzi's Featherlight; Kim Petersen.

WINTER 1992-93 (Vol. 9, No. 4)
Hamamatsu; Kite Power, with traction chronology; fighters survey; Dieppe; GX-3 plans; Ron & Sandra Gibian.

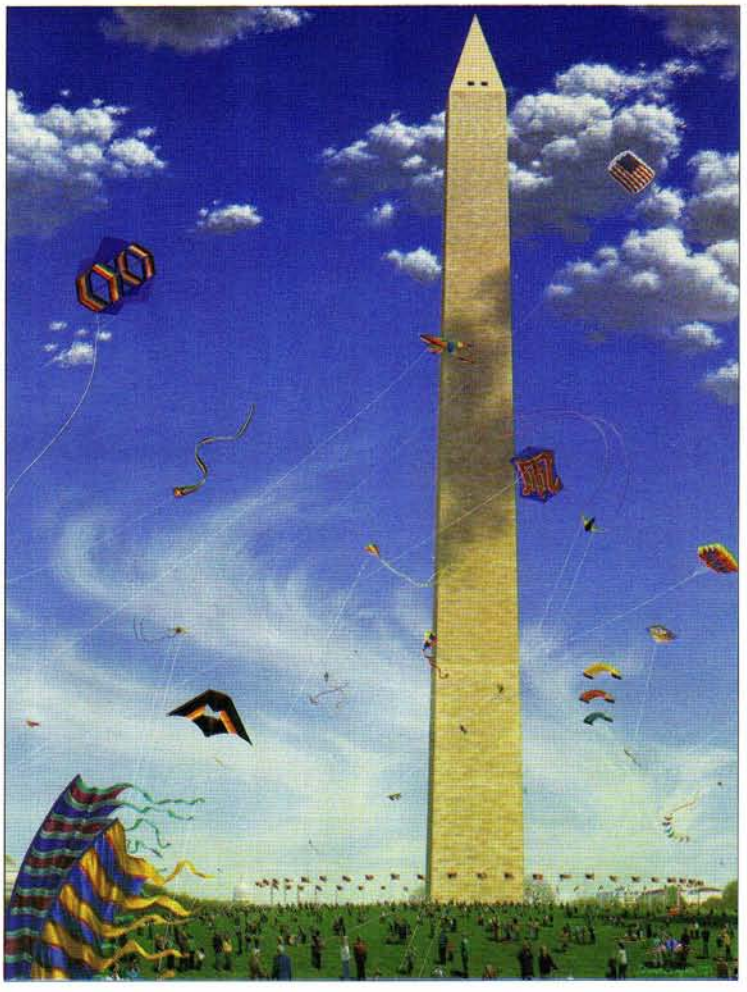
SPRING 1993 (Vol. 10, No. 1)
Guatemala; Java; Fighters by Ed Alden; Celebs in Paris Paint Rokkakus for AIDS; International Travel Tips; aerials of Ireland; quad-line Propeller; Jørgen Møller Hansen.

SUMMER-FALL 1993 (Vol. 10, No. 2)
Adrenaline tour of India; István Bodóczky's artistry; Carl Crowell's Cross Deck; Oldest U.S. Kite Festival (Iowa); Kites at the Pyramids; Tony Wolfenden.

WINTER 1993 (Vol. 10, No. 3)
North Sea events (Terschelling, Scheveningen, Fanø); Kite Camp Caravan; Rendez-Vous Mondial in Canada; Sheragy's Butterflies; Wolfgang Schimmelpfennig.

SPRING-SUMMER 1994 (Vol. 10, No. 4)
Kite Sailing; South America: Colombia & Brazil; Buggy events + Scoot Buggy & Wheels of Doom plans; Australia's Bondi Beach festival; Reza Ragheb.

"A Celebration of Spring" by Peter Sawyer



The spirit of kiting is captured at the national landmark Washington Monument by acclaimed fine artist Peter Sawyer in a hand-numbered and signed limited edition print. And for kiters the best part of this joyous scene is that it is filled, not with "approximate kites" often seen in popular art, but with real kites, carefully researched to show their proportions, bridling and flight angles as they are in real life. This handsome print from an original acrylic painting is full of precise detail that brings you the color of kites, the warmth of sunlight and the feeling of wind blowing across your cheek. For this annual celebration what better site can be found than the wide-open grounds of the Washington Monument, with that immense obelisk serving as a grand punctuation point to a memorable day.

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Arthur Vash
Cleveland J. Wall
Mike Weletyk
Mike Wright
Harold Writer
Bruce Wulfsberg
Will Yolen
J. C. Young
Anthony Ziegler

Names in italics are deceased.

Kite Lines Lifetime Subscriptions are no longer being offered. In appreciation for those who contributed to the establishment of *Kite Tales* and *Kite Lines*, we publish their names here from time to time.

EMPTY SPACES IN THE SKY

Bigler, VanSant

On May 6, 1994, the kite community of Boise, Idaho lost a friend in Dean Bigler. Called "The Kite Guru of Boise," he died at age 69 after suffering from a heart attack.

Dean Bigler was most widely known for his company, Boise Kites, and for the design, manufacture and marketing of his unusual quad-line kite, the Tetrad.

Dean was a retired certified public accountant who had many interests. He had been a kiteflier for at least 30 years. In 1987, with Mick Dahms and David Bogie, he founded the Kite Group of Boise ("KGB"). Dean was a member of several kite organizations and attended many festivals and gatherings in the Pacific Northwest area.

Although local kiters call Idaho "The Land of Minor Winds," kites are flown most of the year there, and Dean was often in the parks, his red pick-up carrying the license plate "KITES." "He was a real outgoing type," Mick Dahms said. Dean was a regular at the annual Boise Kite Festival and was always ready to lend a hand. A favorite bit of his advice: "Don't fly above cattle."

Dean's memorial service concluded with the song "Let's Go Fly a Kite" from the film *Mary Poppins*. The Boise kite community will miss Dean Bigler not only for his kites but for his ability to put a smile on our faces. —*Jennifer Dahms & Lena Dahms*

Nicholas VanSant, retired president and chairman of VanSant Dugdale & Co., Inc., one of the oldest advertising agencies in the United States, died of cancer at age 70 in Towson, Maryland.

Although he was best known for the high reputation of his firm and his many interests and civic accomplishments, he was also appreciated by kitefliers. He and his family and friends, calling themselves the Federated Kite Flyers ("FKF"), made semi-organized forays to the beach and to kite festivals in the 1960s. These inspired his son, Nick VanSant, Jr., who established Kites of the Four Winds and with his wife Sallie made the Feather Delta, the Summer Snowflake and other kites from 1979 to 1989.

The senior VanSant was also an encourager of *Kite Lines* in its beginnings, giving us invaluable advice and becoming one of our first Lifetime Subscribers. We have lost a good and valuable friend. —*Valerie Govig*

News, Rumors & Miscellany

JOY SOKERO, A TEACHER IN Troy, New York, organizes a kite fly each October as part of the international event One Sky, One World. She tells her elementary school pupils: "Since we have been flying kites, the Iron Curtain has collapsed, the danger of nuclear war has almost disappeared, the Berlin Wall has come down and the Israelis and Palestinians have made peace. So we've got to keep those kites flying!" There's been a truce in Ireland, too—Joy Sokero may have a point—but OSOW's modest office isn't taking credit for it.

DONE! THE QUILT PIECE honoring kiter Leland Toy is being submitted at the end of this year to the National Aids Quilt Project. Over 125 signed fabric hand cutouts are sewn onto the piece.

We thank Stan Swanson, Scott Skinner and others for their work on this project.

THE BONNEVILLE BUGGY ENduro in September attracted 30 hot traction artists eager to race. Everything went beautifully—except the wind. But Bob Childs will do it again next year, place and date to be decided.

Meantime, High Fly Kite Co. is organizing a buggy event at Ivanpah Dry Lake, California for March 4–13, 1995. Real races, real games, real portable toilets, real entry fees—ooo. Do we want this? Yes-no-yes-no-yes-no…

GOOD NEWS: THE "KITE Krazy" video series will be aired in the States. These shows about making and flying sport kites were fabulously popular in Canada.

Bad news: It will be up to each individual public broadcasting station whether to carry them and when. So keep an eye on your local schedule.

MORE THAN 25 FLIERS OF Hagaman parafoils joined in the sky at the Doug Hagaman memorial fly on July 2, 1994, as part of the "Shi'ch Festival of Wind" at Westport, Washington. The weekend also saw the unveiling of the Doug Hagaman memorial bench and plaque on the lighthouse trail.

THE SNORING Olympics of Kiting is still accepting candidates, but current high-ranked contenders already include Clyde Cook, Eric Curtis, David Gomberg, Mel Govig, Pete Ianuzzi, Jimmy Sampson and Peter and Anne Whitehead. Only heavy honkers and shrill tweeters need apply.

GOING BIENNIAL SEEMS TO be the new trend for major kite festivals. After 1995, the Rendez-Vous Mondial du Cerf-Volant in Verdun, Quebec, Canada will skip 1996 and thereafter will run in alternate years to Thailand and Dieppe. Anyone for triennial? Maybe the Niagara Falls International?

SUCCESSOR TO HASHIMOTO? WHEN TEIZO HASHIMOTO DIED in 1991 at the age of 87, many kiters may have believed that the era of the classic hand-painted Edo-style Japanese kite had come to an end. Perhaps not entirely, as photographer Charlene Blankenship found on a trip to Iwakuni (near Hiroshima), Japan. Hashimoto may have been the last maker of these kites in Tokyo, but elsewhere in Japan a few kitemakers still practice the traditional style. Mitsuyoshi Kawamoto is one of them. His kites, primarily painted freehand, have been shown in two one-man exhibits in Japan.

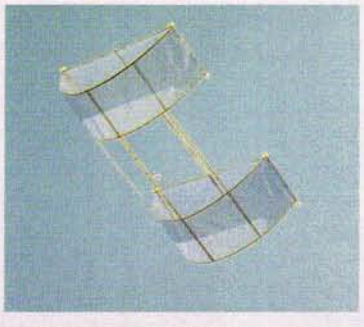
YOU MISSED A BARREL OF FUN IF YOU *missed the World's Smallest Kite Festival last June in Colorado.*

Some 28 kiters found themselves splitting bamboo, trying out tiny templates and choosing from scads of marvelous printed paper napkins and tissue papers provided.

Charlie Sotich of Chicago, Illinois, the well-bribed judge, was aided by others, such as Dan Proebstel of Colorado Springs, whose X-wing Cody variation was a minor masterpiece. In no time, everyone was floating tiny kites—and trains of kites—around the room. (Later we flew them in the hotel's tall atrium.)

Scott Skinner of Monument, Colorado turned one room into a gallery for his international collection of small kites—thumb reels, tiny dragons in boxes, a little crab with legs that come off—amazing treasures and miscellany.

Awards were cute loving cups (egg cups, if you must know) presented in 13 categories. Nearly everybody won, especially Charm Lindner of High Ridge, Missouri, who swept third place (and heaps of laughs) in nearly every category (her Elvis stamp kite seemed to have an edge in mediocrity).



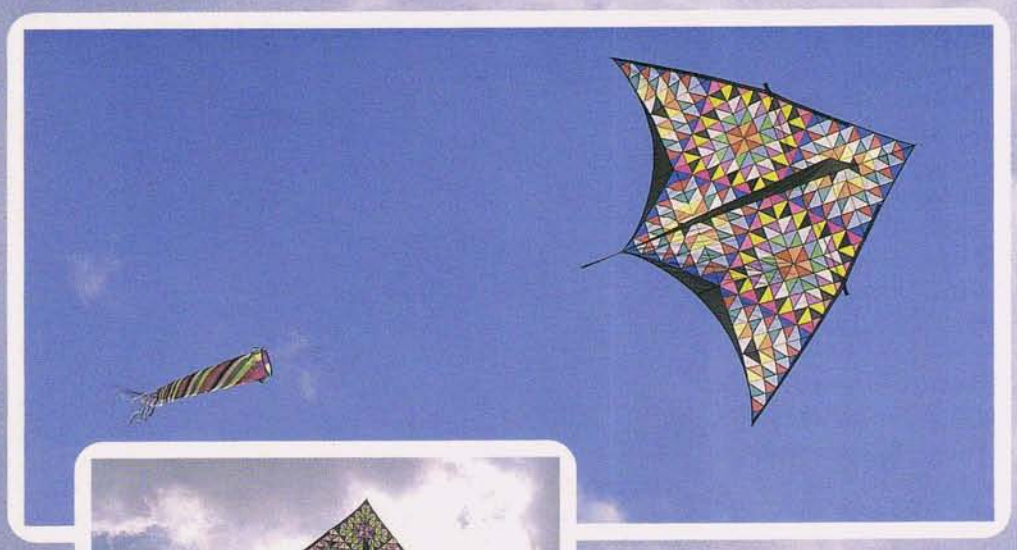
A very small collapsible version of the Russian Kuznetzov kite made by Harm van Veen of The Netherlands. Van Veen, founder of the International Friends of Small Kites, attended the WSKF in spirit by sending kites and messages.

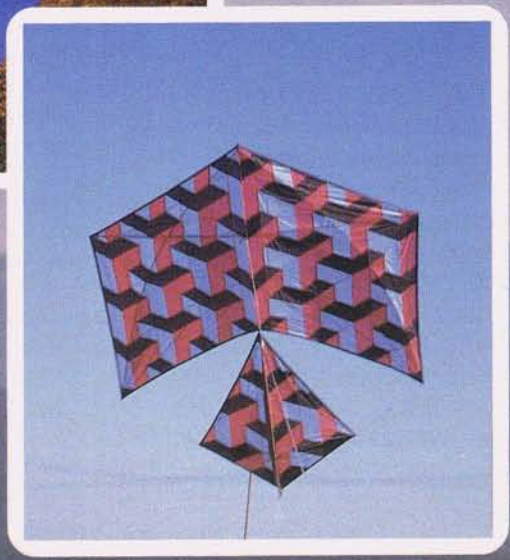
Fascinating chat included Richard and Marty Dermer of Stillwater, Oklahoma describing how their inspiration to use cat whiskers for spars led them to a friend at the Miami Zoo for the whiskers of an exotic Sumatran tiger (an endangered species). They now have a matched pair of these whiskers and are awaiting a suitable kite.

The food (including pizza by the Dermers) was excellent, and the organization, by Dawn Williams of Colorado Springs was outstanding. We recommend adding W.S.K.F. to your schedule for next year.

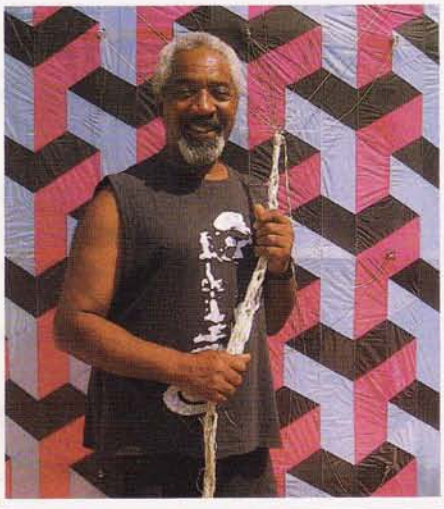
S K Y G A L L E R Y

Jimmy Sampson





Jimmy Sampson



Kitemaker: Jimmy Sampson, Ghanaian-born in England; living in Grottaferatta (Rome), Italy
Occupation: Actor-Musician
Kite experience: Made paper kites as a little boy. Making kites using spinnaker cloth since 1978. Inspired by jazz, life, geometry, and Escher.
Average amount of time spent making a kite: 15 days
Honors: "Peter Malinski looked at my Intrepid 2000 and said 'That's beautiful Jimmy'."
Favorite flying spot: Spiaggia del Riso, Villa Simius, Sardegna, Italy
Philosophy in kitemaking: "Have fun, and bring joy to others."
Photographers:
Marco Ravasini & James Sampson

SkyGallery features several outstanding kites by one maker in each issue of our journal. You are invited to submit photographs of your finest kites. Write for details: *Kite Lines*, P.O. Box 466, Randallstown, MD 21133-0466, USA. Fax: 410-922-4262

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KITE PATENTS: A one-line description, in list form, of every kite-related patent issued in the U.S.A. Information includes numbers, names and dates. More than 600 patents, more than 30 pages. Available for only $50 from Ed Grauel, 799 Elmwood Terrace, Rochester, NY 14620.

CONSOLIDATING KITE COLLECTION. Available for purchase are classic and signature kites plus books, artwork, glass, china and numerous other kite-related items. For further information contact: Margo Brown, PO Box 903, McLean, VA 22101.

ANNOUNCEMENTS

MEMORIAL BOOKS: *Kite Lines* offers a program to honor deceased kitefliers through donations of kite books to libraries. Send us (1) your paid order for the book(s), (2) the name and address of the library to receive the gift, and (3) the name of the person in whose memory you are making the gift. *Kite Lines* will send the book with a card naming you as the memorial contributor and the deceased kiteflier you are honoring. (Thanks to Kathy Nixie, kiteflier and librarian, Port Lavaca, Texas, for this idea.)

WANTED

KITE CLIPPINGS and news articles are always wanted by *Kite Lines*. Surprise rewards! Send items to PO Box 466, Randallstown, MD 21133-0466, USA.

Fly an exceptional piece of history in your sky!

Rare World War II military kites, "lost, now found!"

It's the beginning of World War II, enemy planes are strafing Allied ship decks and Harry Sauls sends his kites to war...

First tested in 1943 by the Navy, his ingenious Barrage Kites were soon flying from (and guarding) the decks of ships all over the Atlantic. With a series of kites flying from 2000 feet of piano wire and even more wire tightly strung between them, Sauls' Barrage Kites formed a protective shield that could lethally entangle an aircraft's propeller or rip its wing in half. This was a serious kite.

Thousands were made (3,300 actually) but unfortunately, in the course of war, most were lost or destroyed. A very rare few that survived were sold as war surplus. Until now, scarcely any people have ever even seen a Sauls Barrage Kite except in pictures. We believe only a rare few still exist.

Back in 1947, an Illinois farmer bought seven new to almost-new Sauls barrage kites at a war surplus store. He flew one for a few minutes and soon realized that they were a handful to fly by himself. He put them in his attic and never got around to enjoying them again. Forty-seven years later (!) he saw my advertisement in *Kite Lines* magazine and called to ask if I would be interested in the kites. (Obviously, advertising in *Kite Lines* really works!) After lengthy negotiations, I was fortunate enough to acquire the kites. But I had to promise to give them a good home, and I intend to keep that promise!

One of the kites (the grand prize) is in the original shipping case and, until now, has never been opened. This may be the only Sauls in the world in this mint condition.

There are five more available—in restorable to very good condition. The wood spars and hardware are perfect. The "mint" Sauls and the first other two kites sold will have the original Assembly Manual and the rest will have a reprinted one. The kites come complete with spare cross spars, longerons, and the extra repair fabric that came with the original kites.

These are probably the last original, flyable Sauls kites in the world today. They are at least 47 years old and are incredible pieces of kite history to own or fly—but not for the faint of heart!

PHOTO: DON WELLENKAMP

Harry C. Sauls with his Barrage Kite.

Each kite is 13' wide, 10' long, 3' deep and made of beige-colored, coated linen fabric that's beautifully sewn. The cross-spars and longerons are artfully shaped from aircraft-quality spruce, the classic choice of wood airplanes to this day. Just one of the unusual and beautiful construction details is the cross-spars—they aren't simply round in cross-section. They're a wind-cheating teardrop shape! The detail in hardware and all elements of construction and design are beautiful, unique and too numerous to mention here. See our Sauls Booklet for more information.

There are three famous WWII kites. The Gibson Girl box is the most "common" (slightly scarce). The Navy Target Kite is quite rare, especially in good and complete condition. But the Sauls Barrage Kite is the rarest of the rare. One of them will add luster to any kite or aircraft collection and will be a coup for a museum seeking to acquire important kites to advance research in kite history.

You and/or your representatives are invited to examine these Sauls kites here in Doylestown. If you are a dedicated kiter, the sight of one of these kites will send a shiver up your spine just as surely as it did for the enemy pilots of WWII. Each kite is subject to prior sale. After a 47-year wait, we expect the window of opportunity to be open for a very short time.

The one and only, just-out-of-the-case, mint condition Sauls, $10,000
Sauls in restorable to very good condition ..... $2,000 to $5,000
Sauls fully restored (by Dan Flintjer, noted maker of Cody kites) in your choice of fabric $7,000

Sauls Booklet of pictures, full specs and details of all our Sauls kites, $10
Reprint of the fully illustrated Barrage Kite Assembly Manual, $10

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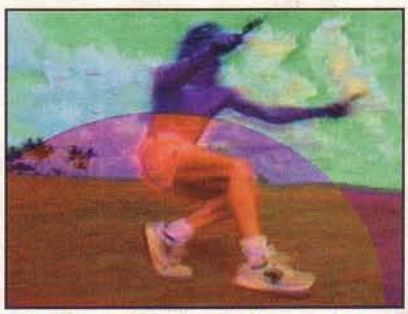

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