Kteines

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quarterly journal of the worldwide kite community



Detroit Panorama: A 4-Page Foldout

Kites of Trinidad: An Anthropologist Meets the Mad Bull and Other Kites

Kite Reels: A New Roundup

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"Soft Wind, Big Sky for a Kiter" is part of a sequence of photographs taken on the east coast of Scotland by Frank G. McShane. The beautiful eight-foot red Cody kite was made by George Coombe of Buckinghamshire, England. Frank's kite aerial photography will appear in a future Kite Lines. Frank says, "My main interest in life is photography and kiteflying. To combine both pursuits all at the same time is truly a delicious beverage."

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Letter from the Editor

Conventions don't come much better than the one this year in Detroit for the American Kitefliers Association (see pages 33-40 for more about it).

There was only one off-note. Robert M. Ingraham, the founder, wasn't there.

We had expected him. He had been hoping to come. And two leading AKAers had assured him emphatically that his transportation would be taken care of. But no one ever officially confirmed it.

I wrote to Bob afterwards to tell him he was missed and he wrote back:

"I do not like to be in this position—a sort of old pensioner who has to be helped out in a backhanded way. The truth is I just couldn't spend that kind of money... Actually, I had already made six deltas which I was going to ship ahead for the auction and they would have made up a good part of the expense. I did that in Seattle so there was little drain on AKA's money. But when I never got any word about it I just forgot about that. . .From your description I am sorry I didn't make it. I am glad you [Valerie and Mel Govig] could, at least, and hope it didn't cost you too much."

It's not surprising that after the previous convention in Houston, with its zero proceeds leaving AKA flat, the officers were feeling cautious. The cost is not the point, though. Remembering is. Effort should have been made at least to explain what was happening to this gentleman whose name was synonymous with the American Kitefliers Association from 1964 to 1977.

The convention was beautiful and nothing can or should take away from that. But we weren't the only ones who said, "Hey, isn't Bob here?" On that heart-filling weekend, this thought was a little nick of hurt—and by contrast it was surprisingly painful.

P.S. Office News-The Copier Is Here!

At last *Kite Lines* has a small office copier. Now we can make copies of rare materials for our readers or for visiting scholars who use our Kite Research Library.

That's the good news. The bad news is

that the copier is slow and uses expensive paper. So we can't make copies as cheaply as we'd like. We have set fees only to cover our expenses, with service to you our reader in mind rather than profit. Fees are 50e per copied page plus 50e per mailing of one through five pages. Each additional 1-5 pages adds 17e postage for first class mailing in the U.S. or surface mail for foreign. Payment for copies must be made in advance.

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If you need reference help to find a certain type of material, we can research for subscribers if it is not too time-consuming. Let us know your needs. We want to help you fly. \diamondsuit





Designed by Mel Govia for Cloud Pleasers.



A box kite that rewards both the eye and the hand.



"It started when a guy in New Hampshire named Alan Carter wrote to me. He was trying to make a box kite from page 183 in Pelham's Penauin Book of Kites. It would fly. but in high winds it would explode. He asked me why. The only way I could tell was to make the kite myself. That started me off on cellular kites.

"After several successful versions of this highly tensioned box, I attempted to simplify it and came up with a pleasing, practical combination of elements with an extra surprise visual interest in flight. It was luck, hunches, pieces of experience combined. And it was a bit of Hargrave, Cody, Madiot and - especially -David Pelham, each reworked and mixed together. I don't take credit for much, really.

"But I think you will like the Cloud Seeker. It flies rather light on the line compared to similar-size boxes, is very stable, has plenty of lift and life to it. And by using different colors of nylon, the blending of hues in flight is very pleasing. I also like the squared shape which - at the kite's typical angle and altitude - looks like a window cut into the sky.

"I like to make kites for my friends, but I knew I couldn't make as many of these as there would be people to want them. I was very happy that the Cloud Pleasers people saw the Seeker as a suitable addition to their line of fine quality rip-stop nylon kites. They are making the Cloud Seeker with impeccable construction that goes well beyond my sewing abilities.

"Already these consistently beautiful Cloud Seekers are coming



out and being snatched up by kitefliers who like their special combination of quality, authoritative flight, visual interest - and simplicity of assembly. The kite rolls open and you easily insert the struts. All the kites break down to within international mail limits. The kite is pre-bridled and you simply attach your line to the towing point - and let the Cloud Seeker lift out of your hands and into the sky.

"One of the special delights of this kite is that it's easy to 'train' or stack. Try two or three or more together, using my easy instructions in with each kite.

"Also a surprise is that these kites can stunt on two lines! Very novel to see boxes looping in the sky. My instructions tell you how to do it.

"I hope you will like this kite as much as I do."

You can have one now. Ask for the Cloud Seeker at your nearest kite store. Or order it shipped directly and promptly to you in your choice of colors available. It will come in its own color-coordinated cloth bag, complete with struts and instructions. bridled and ready to fly.

Cloud Seekers, like all Cloud Pleasers kites, are guaranteed. If the Cloud Seeker is not satisfactory to you after your first 15 days with it, return it to Cloud Pleasers for a refund of the full amount you sent - no questions asked.





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Model S37 37 sq. ft. of area (64 x 56 x 28") Graphlex[™] struts \$125

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A TALE SPUN BY A WINDSPINNER

nce upon a time there was a beautiful young maiden named Sarah. Sarah was as lonely as she was lovely, as her overprotective father kept her locked away in the castle until a suitable suitor came calling. Sarah amused herself by staring out her window at the world beyond the castle walls and admiring her varicolored jewels glinting in the sunlight at her window.

Sarah would not remain lonely long if Hiram, the Kite Flyer, had his way. Hiram had spied the lonesome lovely lass looking out her window as he was retrieving his kite from a tree at the edge of the castle walls. Thereafter daily he sought entrance to the castle but was turned away as he was but a lowly peasant

Each day as he was sent away from the castle gate he would endeavor to catch the eye of the lovely Sarah by flying his kite within view of her window-but his efforts were in vain.

Then one day an astute businessman came along, saw Hiram, found out about his fruitless efforts and said, "Have I got a deal for you." He went on, "You'll never catch the eye of the lonesome lovely with just a kiteeveryone knows her eyes are trained on her multicolored jewels sparkling in

everyone knows here eves are trained on her multicolored jeweis sparking in the sunlight. You, my boy, need a WindSpinner. "For just \$4.95 retail you can capture the color of her jewels and have them dance in the sunlight on your kite line." Hiram replied, "Sounds good, but \$4.95 is all I have left in this world." The astute businessman said, "Trust me!"—which Hiram did. (From here on the story gets mushy—rated PG.) The WindScience like a javale is in the sunlight indeed caught.

The WindSpinner, like a jewel spinning in the sunlight, indeed caught the eye of the lovely lass Sarah. She begged her father to have the kite fiver brought in to see her.

As Hiram was brought into the presence of Sarah and her father, Sarah said, "Hi." Hiram said, "See, we're made for each other—she knows my nickname

Sarah's father, puzzled yet delighted at his daughter's happiness, blessed their marriage and laid on Hiram a dowry of a new rip-stop Jalbert Parafoil

As Hiram rode off into the sunset with the lovely but no longer lonely Sarah at his side and the WindSpinner sparkling in the sunlight on the kite he held aloft (with a "just married" sign on it), he was heard to exclaim, "Best \$4.95 I ever spent!"

And of course they all lived happily ever after.

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Letters



QUESTION SEEKS ANSWER

A few months ago I was digging in a local junkyard and I suddenly found a yellow basket!—but not Ella Fitzgerald's. It was the basket of a collapsible yellow box kite which was marked with black letters:

Kite M-357, a part of Radio set SCA 578A. It also included two inflating tubes. Its skeleton was made of ³/16-inch aluminum tube, and had umbrella construction braces. The upper and bottom cells measured 12 x 17 inches each. Overall length was 36 inches. Two towing points were set along the front spine: at the upper end for 15-40 m.p.h. winds and a second one for 7-20 m.p.h., 81/2 inches beneath. Along the two sides of the front spine there were two strips, each two inches wide, filled with cotton, like two soft narrow and long cushions. I wonder if one of the readers can explain the reason for this fact, which can clearly be seen in the attached pictures.

> Alex Cohen Rehovot, Israel

Alex, you've made a find! You have a scarce "Gibson Girl" box kite, made to loft radio antennas from life rafts in World War II. The kites and radio apparatus were made in America and Great Britain and possibly other countries.

About the padded edges: the Kite Lines crew has been theorizing about this. I came up with a guess that the purpose of the padding might have been for flotation of the kite if it dunked in the ocean. We also checked with Paul Garber, designer



of the Navy Target Kite, for a more definitive answer and he said he could think of nothing better than the flotation theory. We open the floor to further discussion from readers.

BOAT-IN-THE-BASEMENT SYNDROME

A friend gave me a Kite-A-Maran, which is well described in the First Quarter 1982 *Kite Lines*—except for one thing.

After a look at the instructions and before the issue arrived, I decided to assemble the kite in the living room of our apartment before taking off for a weekend on the beach. About 45 minutes later, the kite was quite beautiful and I was concerned only about the weight of the two hulls and the skill level and wind required for it to fly. *But* I had not reckoned on my inability to get it through our front door! (We also tried our porch door.)

The front door is a standard door, almost two inches thick and the opening is exactly 36 inches. But when the door is open to its maximum, what with the hardware, etc., the width through which the kite had to pass was not quite $33\frac{1}{2}$ inches. It did not matter how we angled it, we could not get the kite through, presumably because of the height of the mast.

I suppose we could have derigged the mast, but as your review pointed out, it would still not be easily transported. Well, I disassembled it after a number of friends admired it as an *objet d'art* in our living room and have neither flown it nor sailed it.

I hope you are right in your prediction that it might become a collectible.

Eugene L. Lozner, M.D. Tampa, FL

You are encouraged to write letters and reply to letters in this column. Also we forward letters to fellow kiters as part of our services to subscribers. Any letter to Kite Lines may be considered for publication (subject to editing for space). Therefore, if you are writing to us, please state "not for publication" if you want no doubt to be left about it. Send your kite thoughts to Kite Lines, 7106 Campfield Road, Baltimore, Maryland 21207, USA.

CORRECTION

In Design Workshop in the First Quarter 1982 *Kite Lines*, featuring Ed Grauel's Flapper delta, we printed a typographical error, giving the wing dowels at an incorrect $\frac{3}{4}$ " dia. size. The correct size is $\frac{3}{16}$ ". The mistake was very obvious and we hope was detected as such by kitemakers. Our apologies for this mistake.

What's New: Kites, Books, Sundries

A New Roundup of Kite Reels

By Mel and Valerie Govig and A. Pete Ianuzzi

Choosing a reel is complicated and personal. It's complicated in part because there are so many models available to a diligent searcher. (This seems odd when you consider the limited market for reels. which is a submarket within the already limited group of buyers of fine kites. Yet new reels keep coming out all the time.) And it's personal because no two people ever seem to agree on exactly what is an ideal reel.

For example, if you've ever stumbled around Mel Govig's paraphernalia on the field, you'll know he regards reels as mere storage devices for line between flights. But he respects (and is slightly intimidated by) such artists of the Reel Thing as Takeshi Nishibayashi and Robert S. Price,



From top left: first row, The Kite Commander, the Reel-Quick and the Kiteway Reel; second row, the Solent and Shooters Reels, Roger's Reel and the Will-E-Winder; bottom, the Hi-Flier Kyt Reel.

eeding of Reels he Care and

Except for spools, most line winders are sold without line, leaving to the kiter the task of obtaining and winding line on the reel. Here are some suggestions.

Buy line in large enough quantities to get a good price for quality through a specialist in line such as a fishing supplier. Mail order firms may be used.* Only a few kite stores stock line separately from winders. Get good snap swivels (some insist on ball-bearing ones) from the same source. Match the heft of the line to the strength of your reel (or preferably vice versa. Ideally, your line, reel and kite will coordinate exactly, but this raises a vast subject area that will require its own article some time. Suffice it to say that you start with the line.)

To wind line on a reel, fly a kite from the original spool or cone, then wind the line back in on your reel. Or place the cone in a small box at your feet and let the line bounce around as you draw up line onto your reel, keeping enough

*For example: Ashaway Line & Twine Mfg. Co., Ashaway, RI 02804; Memphis Net & Twine Co., 2481 Matthews Ave., P.O.Box 8331, Memphis, TN 38108; The Netcraft Co., 2800 Tremainsville Rd., Toledo, OH 43613. tension (with your knees, for example) on the line to lay it smoothly in place.

Mark the reel in some way with the amount and pounds-test of line on it for handy selection later. A piece of masking tape can be marked and removed if you change to different line in the future. Of course, any reel of value should be marked with your name and address, too. Use normal common sense for care of reels, keeping them clean, out of the rain, etc.

Do as I do in using a reel of symmetrical design (such as a yo-yo): mark one side to distinguish it from the other. Then remember to let line off on one side and put it back on the same side to prevent twisting. This is the key to avoiding the dreaded kinks: keep the line in the same orientation. This principle supports the use of the old-time figure-of-eight winder: it has naturally antitwisting action because the line goes on and off in the same way. It's a favorite of such sophisticates as Adrian Conn [see page 38]. If you, like we, used to think the figure-of-eight on a stick was too primitive to be good, it's comeuppance time. There was a secret in it all along. A.P.I.

who seem to disdain the crudities of hand-over-hand hauling.

GENERAL COMMENTS

We first discussed kite reels in the Fall 1977 Kite Lines, where we defined four basic types: the bobbin, the hoop, the spool and the true reel (on an axle, distinct from the general term "reel" as loosely used for all line winders). Those groupings still apply, though the examples now available are new. However, some trends can be observed regarding all of them.

• First Trend, Aesthetics: We note with pleasure that most of today's reels are crafted as objects of beauty. They are often of wood, a material that invites the hand (not to mention the eye; we have heard that people sometimes buy kite reels purely as objects to possess or display).

• Second Trend, Hazards: These beautiful reels are not always safe-especially, of course, when the flier is handling hardpulling kites. The worst reel hazard is runaway feed-out combined with flying handles and other protrusions. This is a continuing trend and reels like this are still being sold. May the buyer (and/or user) beware. We repeat a dictum of Pete Ianuzzi: No reel should be used to haul in heavy-pulling kites under pressure directly onto the reel.

• Third Trend, Bobbins: We are seeing a veritable explosion of bobbins, as if they





Top, Halo hoop reels are similar to yo-yos. Bottom, Spectra Star does a classic in plastic.

had just been discovered. Despite their similarities, the bobbins are made with enough individuality to merit a separate data chart comparing them. However, practically speaking, a kiter probably would buy a particular bobbin not on the basis of personal preference for one over another but of availability in the local kite shop. If so, the real competition may turn out to be between the manufacturers' sales abilities. Who would guess as to which reels will win out? Might as well place your bet on your favorite—whether for its shape, its name, its handling, its pedigree. It will be an interesting horse race.

SPECIFIC COMMENTS

In price order within type groups:

True Reels

• The Hi-Flier Kyt Reel is a small polypropylene design with the look of a toy, in keeping with inexpensive kites sold mostly to children. The "suggested retail" of \$4.99, although it includes 300 feet of line, seems a little high for a toy. The "Snap-Loc" assembly requires—but survives—a powerful jam. To be fair, this seemingly flimsy reel did a decent job winding the light line supplied with it. One might compare the Hi-Flier Kyt Reel to the Gayla Kite Reel, a handy and more solidly built device, which comes with 400 feet of line and a \$7.95 price tag.



Many choices in bobbins: top left, Charlie Miller's solid and frame bobbins; top right, the Skyfield Twin-Arm Reel; center, Leading Line Kitewinders (Models 5, 10, 20 and 15); bottom, The Handle.

• The Will-E-Winder is a stronger version of the pie-tin reel idea, nice for small kites. Wilmer Heckler makes it out of painted particle board and wood knobs. We debated about classifying this winder as a true reel, which it appears to be, when in fact it's a circular bobbin and has bobbin behavior. It's about \$8, available at Klassy Kites, King of Prussia, PA and other shops.

• The Reel-Quick is made of very strong, high-pressure "Duolite" type Masonite. It has a large diameter with good winding leverage and an unusual brake disk on the inside of the reel. The holding point is near the center of pull because of the recessed handle. We thought this reel was quite a good buy at \$19.95.

• Roger's Reel is a beautiful piece of wood work. We fell in love with its handcrafted look and feel. It's a sturdy job with no unfriendly surfaces and has unusual felt bearing surfaces and leather finishing parts. Last we heard, young Roger Hollings was selling these for only \$21.95 at beach festivals and kite shops in Oregon, such as Eugene's Kites and Other Delights. "Way underpriced," said our smitten reviewers.

• The Kite Commander is a beautiful Korean reel with excellent workmanship. It combines hardwood spokes and aluminum+plastic hub very attractively at a reasonable \$30.80, including shipping. The action is good and adequate to fly fighter

kites (not just Korean ones) in their normal sizes for those willing to practice the skills required. Those skills, we might add, are well worth the time investment. • The Kiteway Reel (by "Wild Bill" Isenhart) is a well-finished wooden reel, somewhat larger than most reels on the market. The size is an advantage for reeling in, but a disadvantage in storing and transport. There are some good features on this reel: the belly brace, the large capacity and the manual tension peg and line guide, which can be used as a brake for slowing or stopping line. We thought that for all this the \$35, \$40 and \$45 prices (for different sizes) were not bad.

 Solent and Shooters Deep Sky Reels by Patrick O'Driscoll, England, are very well made, the Solent in heavy-gauge aluminum and the Shooters in marine plywood. Features include ball-bearing axles, a unique handle and arm brace with strap, a fingertip brake and separate line stop. Several sizes are sold in prices from \$56 to \$91 including air mail. Given the quality of the reels, the prices are very reasonable. These sturdy, large capacity reels do have weight, which can be a disadvantage but also contributes to their special ability to haul hard-pulling kites. The "Deep Sky" reel is a type produced by several British firms and also by a maker in Colorado (supplier to Hi Fli Kites in Aurora). But we don't see how any Deep Sky could surpass Patrick's

DATA CHART — KITE REELS, not including bobbins

			dia. (ii	a. (in.	2.	in.		up .	(ii)	('sq		*	P		ease	ction	
	Assoil	Outside	Inside "	Wide	Kolumo ,	Ubs. mil	Avg	Tieson	Weint	Line	Cord .	Hand	Brake	Wind	Gro.	Vik	Remarks
TRUE REELS			-15														
Hi-Flier Kyt Reel	Polypropylene	4.7	2.7	0.6	7.0	0.2	11.6	4.7 x 6.5	2.3	Y	Y	N	N	G	n/a	G	Toy-like.
Will-E-Winder	Wood & particle board	7.0	3.0	0.7	22.0	0.6	15,7	6.0 x 7.0	18.8	N	N	Y	N	G	G	Р	Sturdy; good handles
Reel-Quick	Duolite Masonite	11.2	9.3	1.6	48.9	1.0	32.0	11.2 x 2.9	2.8	Ň	N	Y	Y	G	G	G	Protruding bolts.
Roger's Reel	Wood & leather	5.5	4.0	3.0	33.5	0.7	13.8	5.5 x 12.0	1.1	N	N	Ŷ	N	G	G	G	Well proportioned.
Kite Commander	Wood & aluminum	5.4 sq.	n/a	5.0	59.0	1.2	21.2	7.5 x 17.3	1.0	N	N	Y	N	VG	G	VG	Excellent craftsmansh
Kiteway Reel	Walnut & plywood	11.6	8.0	1.0	55.4	1.1	30.7	11.6 x 19.4	2.3	N	N	Y	N	VG	G	F	Easy to use, well mad
Solent Deep Sky (9")	Aluminum, wood, bike hub	9.0	3.0	2.8	158.3	3.3	15.0	8.0 x 9.9	3.5	N	N	Y	N	VG	F	VG	Smooth, solidly built
Shooters Deep Sky (6%") Wood, bike hub	6.6	3.0	2,8	76.0	1.6	15.0	7.7 x 8.3	2.5	N	N	Y	N	VG	F	E	Smooth, solidly built
НООР																	
Halo Reel (6")	Fiberglass	6.0	4.4	1.2	15.5 -	0.3	16.3	1.2 x 6.0	0.25	N	N	Y	N	G	E	n/a	Handy.
Halo Reel (7")	Fiberglass	7.0	5.4	1,1	17,1	0.4	19,4	1.1 x 7.0	0.3	N	N	Y	N.	G	E	n/a	Handy.
SPOOL			i ere ere														
Spectra Star Kite Spool	Plastic	3.3	2.0	3.4	18,4	0.38	8.3	12.5 x 3.3	0.5	Y	N	Y	N	F	G	n/a	Colorful.
CODE: Y = Yes, N = No	; RATINGS: E = Excellent	, VG = V	ery Good	d, G = G	ood, F =	Fair, P =	Poor.										

^urn

Note the new measurement on our Data Chart for kite reels, above. We are giving pounds of nylon line to help you gauge how much a given reel will hold. Because the diameter of line varies, it is difficult to apply manufacturers' claims of line capacity to a reel. Pounds of nylon line on the chart will give you variable footage according to the size of the line. Line manufacturers have charts to convert line from weight to feet. Thus, if you know the weight capacity of a reel, you can find the length of line it will hold for the various sizes available. We have made calculations for nylon line only (twisted or braided, not monofilament) and not for cotton or polyester line. However, if you know the weight per cubic inch of a kind of line, you can calculate what a given reel will hold from the volume per cubic inch reading on the chart.

What's New

...Continued

for care expended in craftsmanship.

Other true reels that have survived the market a few years and deserve a look are: the Pole Reel by the New England Kitecrafting Co., available in some shops at perhaps \$20; Bob Ingraham's fine Rayco Reel-E-Z at about \$25; and the elegant Hauler by the Cloud Connection at \$39.95 the last time we checked. All of these good reels make it tough picking for us kiters.

Hoops

• The Halo is similar to the popular Cuban Yo-Yo and Peter Lynn hoops. It has a deeper line trough, and both sides are the same shape (that is, there is no spill-off side). It is made of fiberglassreinforced plastic and is very strong. It is used in the Orient for fishing but imported to the U.S. by Great Winds of Seattle, WA for kitefliers. The value is good at about \$3 and \$4 for the 6- and 7-inch diameters.

Other hoops which have many advocates are the Flightube from The Kite Factory at \$4 and the Spool Proof from Spectra Star Kites for about \$4.80.

Spools

• The Spectra Star Kite Spool is now out in plastic of several bright colors, costing \$3 to \$7 or so, with line. The longestablished wooden Shanti spools in many sizes and with various strengths of line are still the standard and run from \$4 to \$8. Also still popular, despite their crushable bamboo cores, are spools imported from India at about \$2 and up. Finally, still spinning is the nice wooden Tiger spool at about \$5, sold in California kite shops.

Bobbins

Suddenly there are bobbin line winders everywhere, the old favorite flatties in a passel of variations: with handles, with hole grips, as frames, as solids, spilling line, grabbing it, softwood, hardwoodit is definitely multiple choice. There are at least 10 bobbins now on the market. About a year ago there was only Carey's Kite Winder, a rugged molded plastic version. Now Carey's is available in two strengths, at \$8.98 and \$10.98 respectively. But besides Carey's we can consider the following (in price order):

• Charlie Miller's bobbins, at about \$3 for the frame style and \$7.50 for the solid one, are both in soft wood, well sanded. The slight frame has fixed handles while the solid bobbin has turning handles and shaped pagoda-like horns that help guide the line on and off the reel. Miller's reels are distributed widely by What's Up. • The Leading Line Kitewinders are a group of nicely finished solid bobbins made in North Carolina and distributed by The Kite Site in DC. All have line tieoff holes, a helpful touch. The simplest one is the Model 5, a small bobbin with rigid handles, priced at about \$5.95. The Model 10 at the same price is a large bobbin without handles but with a cut-out hand grip. This became a favorite of ours -compact, easy to store and use. You can stop the line by throwing a loop through the hand grip and around one end. A little fancier is the Model 15, which gives you a choice of turning handles or cut-out hole grip and is around \$8.95. Most "engi-



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What's New

...Continued

neered" of the lot is the *Model 20*, at about \$13.50, which has no cutout grip but has a removable handle which can be placed at the center for fast launch layout. You have to be careful not to lose the little attaching parts on the field in exchange for this advantage.

• The Handle is the creation of a kiter who renovates MG cars and has a taste for solid oak. The attractive contours of this large, comfortable grip hole bobbin provide a natural feel and simple handling for mid-size kites. The craftsmanship is outstanding for the \$12 or so tab. Distributed by What's Up, it's in many shops.

• The Skyfield Twin-Arm Kite Reel is a frame bobbin which, like the Leading Line Model 20, has a two-gear advantage by a removable handle, held with a cotter pin. Fine crafting shows in the finished wood (our sample was solid oak), extra feed-out handle, steel cross bars and bolts and 5-year guarantee. The Skyfield Reel seems fairly priced at \$16 postpaid, but a flat body version at \$11 (not seen in time for this review, assumed also to be a good value) may compete better with the Leading Line reels. Also a strong new bobbin by Shanti which we've seen in prototype has two handle positions. This advantage of two arms on a bobbin was

2nd grip cutout_ grip cutout DATA CHART-Dimensions KITE REELS. **ALL BOBBINS** 0 C 0 Charlie Miller (frame) wood 10 4.2 6.3 3.0 1.0 1&6 N N Simply constructed. 5.2 8.0 3.2 0.75 1 & 6 N Flaring ends. Charlie Miller (solid) 11.3 wood 7.0 2.5 N No moving parts. Leading Line Model 5 wood 97 3.4 1.0 186 N Leading Line Model 10 wood 11.2 5.5 7.5 3.4 0.7 N Husky. Large handles. Leading Line Model 15 wood 110 55 70 31 0.7 186 Extra handle for position 2 Leading Line Model 20 wood 115 54 93 38 1.0 1&6 or 5 Y N Skyfield Twin-Arm Extra handle for position 2. hardwood 9.5 5.1 8.2 3.5 1.2 1&6 or 5 Y M The Handle hardwood 12.0 4.7 9.5 2.7 0.9 none N 1 Sculptural shape. CODE: Y = Yes, N = No; RATINGS: P = Poor, F = Fair, G = Good, VG = Very Good, E = Excellent

used in 1977-79 by the L-I Variable Speed reel, if not by others before it, so the idea is not new. Apparently the design



has been independently reinvented by several makers. We hope the increasingly sophisticated kite market will give all these bobbins—and other reels—a good whirl.

A HUNGARIAN PELHAM

Sárkányépítés [Kitemaking], by Bodóczky István, illustrated by the author (Budapest: Technical Publishing Co., 1982), 207 pages, 83 Forint (in Hungary).

"It's a great book!" exclaimed my friend Kal Illyefalvi, who is Hungarian.

"That's easy for you to say," I moaned, unable to read the Hungarian text. Kal went raving on about the book's contents: kite history and types, aerodynamics, wind, safety, launching and flying, altitude gauging, trains and manlifters, kite dueling and, finally, kitemaking, using materials available in Hungary.

Without reading the book, though, one can still appreciate the delicate drawings, which are admirably correct and consistent in style. The pages of knots and reels well exemplify the artist's deft hand. Nearly half of the book is given to kite plans, which are drawn fully enough for a builder who has absorbed the techniques outlined. Some of the kites are only variants of "generics," but even so the number is extensive and includes some rather rare designs, such as the Pomorsev, a Russian box kite of 1910. Of special interest are a nicely detailed Marconi jib kite, a rotor, and a delightful two-page spread of paper kites. Several recent designs are included, such as the Waldof box kite, Helen Bushell's fluted kite, the Flexifoil (called Foilflex in Hungarianand drawn complete with bridling and control bar details), the Dunford Flying Machine, the Peter Powell stunter and some individual inventions by Takaji Kuroda (convertible cubics), Tsutomu Hiroi (raincoat kite) and Oscar Bailey (asymmetrical kite). The debt to *Kite Lines* is obvious and acknowledged.

The book ends with a bibliography and a portfolio of color photographs of kites that apparently were all made by



C Bodoczky Istvan, Budapest, 1982.

István, using materials at hand. The camera skills are adequate to show the kites, if rarely imaginative. However, the book as a whole shows a great deal of care, time and work in several disciplines: research, kitemaking, writing, drawing.

As Kal said, it's a great book if you read Hungarian, and we hope it will fly some kite ideas behind the iron curtain.

But would a non-Hungarian want a copy of Sárkányépítés? Maybe yes: for an alternative source of many competent kite drawings; for the plans not available in other books, such as the Pomorsev, the Waldof box and the Flexifoil; for the color pictures as inspiration; or just to complete a library. Not least of value, if this book reaches a wide audience, is the seed of friendship it could plant among peoples.

CORRECTION

In our review in the previous issue of *Kite* Lines of the republished Kites: An Historical Survey, by Clive Hart, we failed to note that the new volume contains more than 30 new photographs and line drawings. We regret the oversight. \diamondsuit



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THE HARPERS FERRY ONE-PIECE DELTA



By Margaret Greger

Here I am at the Maryland Kite Society's Kite Retreat in February at Harpers Ferry, West Virginia, feeling a lot like Alice in Wonderland. There are wonders to be seen here. There's Len Conover with a pole that expands to the length of the room, and he's floating his kites from the tip of it. Bill Bigge is over here, and you can barely see what he's doing—everything *he* touches shrinks out of sight. Bill Tyrrell, the legendary Fabric Lady (a White Rabbit if I ever saw one) is making plans to wrap the whole sky in the biggest American flag ever, so that the next eclipse will come to us courtesy of the Fabric Lady.

If there is a Mad Hatter's hat in all this, then it must be where the Harpers Ferry One-Piece Delta was pulled from. At least I think that's where Mel Govig found this sweet little fabric kite. Start to finish, you can make it in 30 minutes, and it will smile in the sky like the Cheshire Cat's grin.

Delta ancestry may go back to the pterodactyls, but the immediate forebears of the Harpers Ferry Delta are Burton and Rita Marks, Margaret Greger, Mel Govig and Alice Mackey. The gussetkeeled paper bag delta from *Kites for Kids*, by Burton and Rita Marks, was first translated to high-density polyethylene (bag) by me for a simple classroom kite. Then Mel Govig saw the completed kite, with the keel folded forward out of the sail material, as a pattern for a delta in fabric. It would allow the fringe to be cut offgrain along with the kite, to flare away in a lovely partial bias. Alice Mackey sewed

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the first sample, gathering from the group such tips as Angela Dittmar's for the nobreak-in-the-stitching sequence for the keel. The kite flew so well, especially for a small delta, that we were all astounded. Like the Harpers Ferry experience, this little kite shows there's no Wonderland like the colleagueship of kiting minds.

MATERIALS

1½ yards of .5- or .75-oz. rip-stop nylon fabric (spinnaker cloth, coated). Yardage 36" wide or wider will make three kites.
Dowels, ½" dia.: two 14" and two 17"

- Dowel, $\frac{1}{16}$ " dia.: one 7" (I used a bam-
- boo skewer, or '/6" dia. dowel will do)

• Thread and optional grommet

TOOLS

Hot cutter, sewing machine, yardstick or straightedge, optional grommet setter.

INSTRUCTIONS

1. Make a tagboard pattern of the kite's outline. (This is a first-time step only and also is optional if you want to work directly on the fabric.)

2. Fold the fabric end to end. Place the "fold" edge of the pattern on the fold of the material, the long edge of the pattern on the selvage.

3. Cut out the kite with a hot cutter, using a yardstick for straight cutting. Using a pencil on the fabric, mark the center spine line (base of the keel), the base line (or trailing edge) of the kite and the spreader spar pocket position lines (*Dia. 1*). With hot cutter, cut fringe. (Yardstick may be used as a fringe width guide.) 4. Without opening the kite, stitch as shown (*Dia. 2*), beginning ¼" from the top, going around the entire keel, and backstitching at beginning and end for security. Specifically, the stitching goes like this: (1) exactly on the spine line which separates the keel from the body of the kite, (2) as close as possible to the free edge of the sleeve (edgestitching) for snug casings, (3) $\frac{1}{6}$ " from the fold along the top of the keel, (4) back down the base of the keel again, this time $\frac{1}{4}$ ", within the keel, from the previous stitching. There should be room at the kite's nose for inserting the center spine and the keel reinforcement spar.

5. Open the kite, carefully separating the sealed edges (using a thin blade).

6. Using scrap material or $1\frac{1}{2}$ "-wide ribbon (preferably heavier than the kite fabric), form two pockets to be attached to the kite and to hold the spreader spar as illustrated (*Dia. 3*), stitching as shown.

7. Turn ¹/₄" hems on the side (wing) edges, clipping ¹/₄" of fabric at the kite's nose (about ¹/₄" down from the tip) and stitching to form wing spar sleeves, aligning the two stitched pockets on the marked position lines (11" from each end of the wing) and catching each pocket on its long folded edge in the seam on each wing. Stitch a second time (edgestitching) for snug sleeves (*Dia. 4*), closing the trailing tips of the wings across the base line.

8. About ¹/₂" from the keel tip, insert a grommet for towing. (A loop of cord put in with a large needle will also work.)

9. Insert dowels as follows: the 7" spar in the keel sleeve; the 14" spar in the center spine sleeve; the 17" spars in the side (wing) sleeves. The remaining 14" dowel is the spreader and goes into the spreader spar pockets. If the spreader seems too loose, use a longer spar (14½-15").

NOTES

Using 1½ yards of fabric gives you a kite or kites with 6" of fringe, but with more yardage you can make the fringe longer if desired. I have scaled this kite up 1½ times for another good little flier, framed with $\frac{3}{16}$ "-dia. dowels. Other sizes are remaining to be explored.

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

Outrigger Kite Plans; Brummitt's Kite Categories; Exhibits: New York, Paris; Profile: Paul Garber; Two Marconi Kite Plans; Glue Gun Use; Festivals of Japan-Streeter; Magazine's History-Ingraham; Tail Talk; Bag Kite. SUMMER 1977 (Vol. 1, No. 2):

Which Is the Perfect Kite?; Person-Lifting Kites; Trains: Proposed Standards for World Records, Profile: Mike Weletyk, Van Gilder's Train, Tom Van Sant's Trampoline; Pfund on Controllables; Greger's Dutch Kite. FALL 1977 (Vol. 1, No. 3):

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WINTER 1977-78 (Vol. 1, No. 4): Medieval Dragon Hart, Thorburn's Stacked Deltas; Tetrahedral Kite Symposium – Comparison Table, Tetra Plans, Tips, England's Jubilee Year; Shipping Kites–Ingraham; Making Sled Kites with Hundreds of Kids. SPRING-SUMMER 1978 (Vol. 2, No. 1):

SPRING-SUMMER 1978 (Vol. 2, No. 1): Rogallo Corner Kite Plans: Lincoln Chang's Modified Rokkaku; Profile: J. C. Young; Flexifoil Review; Spendlove's Taxonomy of Kites (poster); Kite Festivals and How to Run Them; Braswell's Figure Kiting; Cerf-Volant Club de France; Safety Issues; Publishing Kite Tales-Ingraham.

SPRING 1979 (Vol. 2, No. 2): Reels Roundup; Van Gilder's Reel Design, Tokyo and Smithsonian Kite Exhibits; Streeter in Paris; Kites in the Wilderness; Nirvana in Nags Head; Braswell's Two-String Delta; Profile: Stephen Bernstein's Chinese Bird Kite. SUMMER 1979 (Vol. 2, No. 3):

Flow Form Kite Plans; Marshalls' Nylon Cutting Technique; AKA's First Meeting and the Grand National Festival in Ocean City, MD; Brummitt-The Sky Is Big Enough for All of Us.

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Rotors Reviewed; Grauel's Shooting Arrow and Bull's-Eye Target Kites; Profile: Ham's Parafoils; Allison's death; Robinson's Facet Kite; Invention of the Flexifoil-Streeter; Events in Beulah Valley, CO; Kill Devil Hills; Seattle; Manassas; The Miracle of Sagamihara-Poehler.

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Searching for the Real Will Yolen; David-Goliath Kite Story; Tetrahedral Variations-Bevan Brown; Kite Aerial Photography: Who's Done It and How; Shirone's Largest Kite; How to Bridle a Japanese Giant-Van Gilder. FALL 1980 (Vol. 3, No. 3):

FALL 1980 (Vol. 3, No. 3): Scheveningen Festival, Kites as Art-Streeter; World Records in Kiting; E.C.C.'s Largest Kite; Expo of Asymmetrical Kites; Kuroda's Convertible Cubics; Spendlove's 14d Box; Piney Mountain's Hornbeam Sled Kite.

WINTER-SPRING 1981 (Vol. 3, No. 4): Dieppe Festival—Fissier, Sled History—Scott; Reels Update; Falcon Review; What Is DELTA?, Kiting in Banekok—Cann; Kite vs. Model Airplane— Whippo; Kite Club Directory; Cambaflare—Gilbey; Indoor Duration Record. SUMMER-FALL 1981 (Vol. 4, No. 1):

Cerf-Volant Aerial Photo Winners; Mastering Nylon – Tyrrell; The Marshalls, Father & Son, their Alternate Bridling Method; Big Compass Plans; MKS Kite Retreat; Profile: Francis Vibe; John White's HARDEC; New Records for Largest and Longest Kites; NYC Kite/Helicopter Conflict.

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 Fighter Kites. How to Pick & Wield Your Weapon, India's Utran, Gradel's Flapper; Singapore, Venice Pier Festivals.

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The Rokkaku Kite Team

Emulating the Japanese is not easy. Both in spirit and in form, Japan's kite customs almost require that the participant be born in the culture. Yet with audacity and thoroughness, Bevan Brown has repackaged some of the ideas from Japanese traditions and presented them in the form of a challenge adapted to American and western cultures.

He is not the first to do so. Larry Ambrose of Denver, CO, mounted a major battle of Edo-style kites a few years back. The Maryland Kite Society prepared a show of "bedsheet o'dakos" made by several members following plans by Pete Ianuzzi. Rick Kinnaird and his Cody Kite Crew, though they used a western kite, attained the mass frenzy that Japan knows and Bevan admires. It was seeing the Hamamatsu kite festival on video at a brunch during the 1982 AKA convention that sparked Bevan and others to develop their ideas.

The Rokkaku Team Challenge package includes:

Physical Elements

1. A large kite of 40 to 50 sq.ft. in area. This size was selected as the best balance between drama and manageability for two people. The Rokkaku is the suggested first design "because it is easy to make, flies well and is a good surface for decoration."

2. A crew of two or more people, coordinated in making and flying the kite, uniformed, choreographed, etc.

3. Optionally (as possible within established contests), awards may be given to "outstanding kites, team uniforms and accessories, team spirit, or other categories yet to be developed."

Spiritual Elements

1. Systematic competition is banned, in the true Japanese spirit.

2. Befogged and sublimated competition is encouraged. Alternative triggers to excitement are sought-or, as Bevan says, "appropriate enthusiastic noises and running back and forth."

The results of the teams' efforts will surely produce spectacular kites and a lot of fun. But the best part of the "plan" is the way it allows for uncertainty, surprise, even shock. It is a good way of thinking about kites, and at least two big Rokkakus are to come out of wraps during the spring of 1983. V.G.

A handsome rokkaku kite by Leland Toy, editor of KITE FLYER, the San Francisco Bay area newsletter. Lee has been on a motorcycle tour of kite friends around the U.S. In Pennsylvania he stayed at The Fabric Lady Co. long enough to make a rokkaku, inspired by the "challenge."

a few things to know about the Sanjo Rokkaku

By Valerie Govig

Most of what America knows of this great classic kite of Japan has probably been imparted to us by Tal Streeter. In his book,* his workshops and in person, Tal often talks of the rokkaku. The design is just over 100 years old, he says—which seems strange at first because we know the hexagon is an old kite, a favorite of Greece and Latin America. The rokkaku (pronounced with the accent on the last syllable) was originally made with two diagonal cross members, but was changed for "fighting." The two horizontal cross sticks and single spine now make the rokkaku livelier and more maneuverable.

Is the kite exclusively Japan's? True,

it is an elongated hexagon, as Baden-Powell's Levitor was, but the Levitor's proportions are different, and it appears the rokkaku and Levitor were independent developments. Too, as Streeter and others have noticed, the rokkaku could have been made by Eddy if he had thought to overlay one of his kites upside down on another to form one kite.

The name of the kite, Sanjo rokkaku, is taken from a town, Sanjo, near Shirone, in the Niigata prefecture. For the famous Shirone village battle, local kitemakers produce big, utilitarian rokkakus. Small (two- to three-foot) rokkakus, more elegantly crafted and with traditional paintings on them, are made by masters such as Toranosuke Watanabe. Raised in the apprentice system that maintains the continuity of traditional Japanese arts, Watanabe makes about 5000 kites a year.†

Tal's workshops (sometimes also led by his wife, Dorothy Ann, or his student Atsushi Morivasu) are full of the lore of the rokkaku as well as practical tips for building an "American" version using an 18 x 21-inch sheet of washi (Japanese handmade paper) and dowel (in place of bamboo). Degree of bowing varies and tails are permitted-though they are not much seen in Japan. A typically organic Japanese touch is the incomplete cutting away of the corners of the paper to fit the frame, leaving little tabs to hang loose like a lock of hair astray over an earlobe. In many respects the kite is traditional rokkaku: the upright fits behind the two cross sticks; the four-point bridle is made of two exact-length strings marked with pen and brought together and tied an inch or two aft of the top center cross point. Bridling of the Shirone fighter rokkaku diverges from this; a strong center line is flanked by two weak side legs through which opponent kites can saw to unbalance and topple the kite.

In any challenge such as this, where there is no decisive elimination of one kite by another, the determination of a "winning" kite is not always obvious. A downed kite may drag its victor into the village canal with it. The crowd's responses affect the perceptions of what may or may not be a "victory." New kites rise as soon as others are fallen and no one seems to count them or "referee" the action. American emulation doubtless

tWatanabe rokkaku kites may be purchased through the Canadian importer Fujin.

^{*}Tal Streeter, *The Art of the Japanese Kite* (New York: Weatherhill, 1974), chapters 1 and 2. Essential reading for rokkaku fanatics.

Challenge ... posed by Bevan Brown

will not employ quantities of kites but a single durable team rokkaku reinforced only by plenty of preparation for field repairs, recoveries, adjustments and psychological warfare.

Rokkakus fly at a high angle and with a pleasing stability in steady winds. They are, however, easily jarred off course in changing breezes or when struck by an opponent kite. No amount of skill or experience can prevent this, an inherent characteristic of the kite. Fliers need to be prepared mentally for a high-risk kite experience.

Tautness and slack in the right places are important for the rokkaku. The leading edge needs tautness, and fabric models should be made with straight grain there, not bias, which places stretch and distortion in the sail. However, beware of the extreme of tautness that results from making the kite to fit a bowed frame. Pete Ianuzzi's second rokkaku, made with a smooth skin, fell like a rock from the sky. His first, "sloppily made" rokkaku had flown like a bird. He learned that the

A classic rokkaku works out to about five units wide by six units tall. The cross spars are located at points about 1.25 units of the spine's length within each end of the spine. Proportions or dimensions, though, are not fixed or absolute. Bridle points are indicated by Xs for smaller rokkakus, by circles for "fighting" rokkakus.

kite should be built as a flat kite, so that the bowing later applied creates pocketing and dihedral through the kite's midsection. Rokkaku kites may utilize any of several covering materials, spars and construction methods. Those of you who have been trying to grow bamboo will have an opportunity to use it here. No "modern" synthetic spars are better than bamboo for the rokkaku, but availability is not what it is in Japan.** The important feature for any large rokkaku is tension adjustability at the corners, to allow for variation in humidity, wind and fabric fatigue. Tension can be controlled in various ways.

The rokkaku may be as decorated as you wish, like those in Japan with their bold and colorful samurai. But perhaps the most beautiful rokkaku I have ever seen was one Tal Streeter made. All red nylon, with beautifully crafted bamboo spars, it was large and stirring in its easy power as it rose, a pure shape, to meet the sun. The rokkaku IS a challenge.

**Sources of bamboo in the U.S. are: some kite shops or the Bamboo and Rattan Works, Inc., 9th and Jefferson Streets, Hoboken, NJ 07030, tel: 201-659-2710.

Design Workshop The PETER LYNN BOX

As interpreted by Mel Govig

About two years ago I was looking (as I usually am) for an unusual kite to build. Glancing back through old issues of *Kite Lines*, I chanced upon the huge box kite made and flown by Peter Lynn of New Zealand at the first American Kitefliers Association meeting in 1978.

For the first time I was struck by the simplicity of the design, and I decided to see if I could scale it down.

I based my model on 12-inch squares of fabric with ${}^{3}\!{}_{16}$ -inch dia. dowel rods for spars. I cut the sails from scrap blue ripstop nylon with unsuccessful silk screen printing on it. (After all, this was only going to be a prototype; I could make another kite later from good material.)

Well, it worked beautifully and I found myself flying it all the time. That first "prototype" has flown more than any other kite I ever built and, happily, has spawned many copies, from makers including Pete Ianuzzi, Bill Rutiser, Marty Lowell, Bill Kocher, Jon Burkhardt and, of course, Bill Tyrrell, recent builder of the 40-foot monster that ate Ocean City and west Detroit.

Inspired by the see-it-do-it copiers, I felt an urge to share what Pete Ianuzzi calls "the best box design I have ever seen."

It has been suggested that a 60-degree triangle wing would be better—that a wider front wing but 45-to-90-degree rear wing would improve it—that guy lines here or there are needed—that a slight upward tilt of the rear cell would help—and so on and so on. I don't know for sure that my version of the design is either the "best" or an accurate rendition of Peter Lynn's. I do know that it works.

A 34-to-36-inch version in .75-oz. ripstop nylon and $\frac{3}{16}$ -inch dia. dowels will fly in winds as low as 4 m.p.h. and up to 18 m.p.h. The kite flies consistently at angles of greater than 60 degrees and up to 75 degrees.

But the real fascination I have with this design comes from its pure economy and mathematical simplicity. Given a square of dimensions from 8½ inches to 30 inches, all of the dimensions of the kite are functions of the natural angles subtended by the basic square. The one imperative is to

choose sticks for the structure that will maintain the necessary rigidity.

MATERIALS

• Six squares of nylon or Tyvek in the dimensions of your choice. Here I am using 12³/₄-inch squares only as an example.

• A 2x12-inch piece of adhesive-back nylon ("crack-and-peel")

• 2 yards of grosgrain ribbon (or similar) There are only six sticks in this kite:

• Two longerons twice the length of A (see drawing), or 36 inches in this example.

• Two wing spars the length of A+B, or 30³4 inches in this example.

• Two vertical spreaders the length of B, or 12³/₄ inches in this example.

Suggested spar materials, based on the length of member B:

81/2-10 inches	¹ / ₆ -inch dia. dowel
10-13 inches	³ /16-inch dia. dowel
13-17 inches	¹ /4-inch dia. dowel
17-22 inches	³ / ₈ -inch dia. Graphlex
22-25 inches	⁷ / ₁₆ -inch dia. dowel

INSTRUCTIONS

 Measure and cut (preferably with a hot cutter or pencil soldering iron for frayproofing) your six squares of nylon or Tyvek (12¼x12¼ inches in this example).
 Stack three squares together and hot cut diagonally through all three. Repeat with the other three squares. This will give you four sets of three triangles, welded together at the long edges.

3. Stack the triangle sandwiches two by two and cut about a half-inch off one end of each stack of two. At this point you should have two sets of six sails, each consisting of one set of three sails welded together and then welded again a halfinch from the end of another welded set of three sails.

4. Cut two 37-inch pieces of inch-wide grosgrain ribbon (or similar material), or a long strip of rip-stop can be used). Sew the grosgrain ribbon, folded lengthwise, around the welded edge of the two sets of sails. This makes tubular housing for your longerons. Use a straight stitch, six to eight stitches to the inch, placed ¼-inch from the open edge of the folded ribbon. 5. For corner attachment points in this example, cut 12 pieces of adhesive backed ("crack-and-peel") rip-stop in one-by-two-inch patches. Place one piece on the corner of each sail, folded so one inch is on one side and one inch is on the other side. Iron these adhesive patches on

each of the sail corners with a dry iron on its lowest setting.

6. Now with your hot cutter, burn $a^{3/16}$ -inch hole in each adhesive patch about $\frac{1}{4}$ -inch from each edge.

7. Insert your longerons into the sleeves you formed with grosgrain ribbon. Cut off excess longerons and stitch the ends of the pockets closed with a needle and thread. 8. With a hacksaw blade, notch the ends of the vertical spreaders and wing spars $\frac{3}{16}$ -inch deep. (It is a bit tricky to notch

A 36-inch-long Peter Lynn Box in flight: top photograph views it from directly underneath;

bottom photo views it from the side rear.

small dowels, but I do it a lot and have a filed-down hacksaw blade I use for small dowels and a pair of blades I bolted together for wider notches/dowels.) Be careful to keep the notches at each end of the stick parallel to prevent twisting your sails.

9. Now you're going to make pass-through holes for the wing spars. Locate and mark the center of each upper cell at the edge of the ribbon sleeve. ("Upper" in this case is arbitrary because this kite doesn't know up from down or right from left. I like the wing stick to be at the back for aesthetics, so once it's in place the back/ face relationship is established.)

10. Using your hot cutter, melt a ¼-inch hole through the sail at your mark (not through the ribbon or through the wing or lower box sail). You are now ready to assemble your kite!

11. On a table or floor, lay the sails with the top sails up (the ones with the holes). Slide your wing spreader sticks through the holes side to side and insert the notched ends of the sticks into the holes at the wing tips.

12. Insert one vertical spreader in one

Not as taut as the smaller ones is this 40-foot version by Bill Tyrrell and Bob Sessions. It flew well in windy Ocean City, MD, in September, Here in Detroit it flies briefly. These photographs plus the drawings of the Peter Lynn Box still leave some of this kite unrevealed.

end of the kite, hitching it to three sails and stretching the fourth sail onto the spreader last. Repeat with the second vertical spreader.

BRIDLING AND FLYING

Tie your flying line directly to the kite around the tip of one of the vertical spreaders. (This is what we call a "oneleg" bridle, but it's really "no-bridle" and embarrassingly simple.) Again, the kite doesn't know the difference, but I fly from the sail side, wing spars to the back.

Go to the field and if there is any wind at all your Peter Lynn Box will rise right out of your hand. It will move around gently and pull lightly in the wind, but will react to gusts with healthy tugs.

TIPS AND VARIATIONS

If you do not wish to use the adhesivepatch-and-melted-hole method for your wing spreader installations, try wing pockets or tape loops:

For a sturdier kite (one that will fly more than the 100 hours my "prototype" has flown?), hem the edges ¼-inch all around before cutting the sails, while they are still squares. Allow an extra 1/2-inch to make 1/4-inch hems (that is, start with 13¹/₄-inch squares).

 You can use any of a variety of enclosing ties or fixtures for the longerons in the sleeves, but in any case I recommend that you use a tubular sleeve to keep the tension even over the length of the sails.

• For large versions of the Peter Lynn, use reinforcements at the sail tips and sail edges to accommodate the tensioning necessary in final assembly. Also in larger models, allow for adjustment to humidity variations by making the vertical spreaders longer and lashing the bottom end to the bottom sails with strong cord.

• A color note: before you do step 2, carefully consider your final assembly. With only two colors of covering material, you have 64 possible symmetrical variations, from all-one-color to all-the-othercolor and 62 variations in between. If you add a third color, the combinations go to over 144. That's before you add any stripes or fancy touches-which, frankly, I think do little to improve the appearance of this kite. Even though Peter Lynn put some French-curve prints on his original, I like the kite to show itself as a pure structure-best seen in a solid color. Such as plain blue (but not printed scraps!) 🗇

It was billed as the European Kite Extra- The fi

vaganza (second edition), and the festival at Blackheath in London on April 11 and 12, 1982, more than lived up to its billing. Two glorious days of kiteflying and meeting marvelous people left me and my wife Gloria with a great sense of an adventure fulfilled.

Our hosts were amazed that anyone would "cross the big pond" just to attend their kite festival. Being a bit amazed ourselves at our good fortune to be able to do it and the craziness to try, we were still more surprised by the warmth of our reception and by how much we learned in such a short time.

The Ingredients of Success_

Blackheath must be considered a nearly ideal flying spot, for many reasons. In fact, it is so good that many of its features are worth copying, if possible. It is a lovely large treeless site, nearly a mile on each side. There are several roads through the area, offering excellent access and parking right next to the flying field. The roads also provide a natural division of the flying fields, helping (to some extent) to keep the stunters to one side while the rest of us tangled lines more sedately.

.....

The field is distinctly urban, which has many advantages. The first is the ease of access from all points of London. In fact, John White arrived (as usual) by subway with his 10-foot-long packages of kites and his trusty flying crew of four children. The site is also adjacent to a number of other attractions, in particular the Greenwich park and observatory plus an amusement park. This location provides a very large source of spectators, which added greatly to the festival's success. It also provided welcome diversion for family members not yet willing to eat, sleep and drink kites for several days in a row.

The organizers of this festival added several touches that could benefit many festivals. First was the availability of shelter-fully enclosed tents to shield and warm you when the elements were too much for even the stout-hearted. Second was the display area, a small roped-off section on the grass where kites could be placed so that one could get a very close look at some fascinating designs. Third, stores and individuals were prominently but tastefully selling kites, books, line, reels and other hardware-plus food and drink-throughout the festival. The result: everybody benefited-kite-

fliers, merchants and the kite club.

The festival itself was a delight. Two full days in a row of kiteflying provided a sense of immersion, an indulgence that warmed the soul—which was useful, since it was cold! despite the warm weather the week before. But the winds were always good, if not quite enough for long trains of stunters. Our kites flew for more than six hours each day.

New Friends_

The two full days of kiteflying afforded a grand opportunity to meet people. Manufacturers—and there seemed to be many brand new ones—were there showing off their new beauties, which ought to be made available in the U.S. The booths set up by the local kite stores provided many temptations as well as focal points for serious discussions.

But the combined excitement of new faces and new kites was such a sensory overload that some parts of the puzzle got lost. I can't believe that I came back without pictures of a lovely triple Conyne, or what my notes say was a "delta box on edge" (I don't even remember what that looked like), or the frisky kiskedees that inadvertently but often cut larger kites

Top left, a complex geometric kite represents a European trend. Top center, a colorful Cody War Kite by Jack Spiers is a handful for its maker/flier. Below, festival tents provide shelter. Top and bottom right, Tony and Barbara Cartwright's Japanese Windmill kite is a kaleidoscope of surface interplay.

Blackheath"

Blackheath Kite Association

out of the skies. Similarly, while greatly valuing our new friends, we lost the names of many. We enjoyed meeting everyone, particularly:

• Our gracious hosts, Tony and Barbara Cartwright, who went far beyond the call of duty to improve Anglo-American relations. Their hospitality and friendship were really heartwarming. And, although no awards were given at Blackheath, Tony would have won the inspirational creativity award for his wonderful Japanese windmill;

• Jon and Gill Bloom, producers of the "Kitefliers Occasional Newsletter," with their beautiful kites of many kinds:

 Ron Moulton, welcoming old and new friends, practically shaking hands and autographing books at the same time;

• John Clarke, with a great variety of both reels and kites, from Welsh dragons to the Queen of Hearts to seagulls to an ingenious tiny kite made from three little honesty plant leaves;

• Keith Stewart, with his team from the Air Training Corps helping him use what looked like an inflatable Flexifoil to race his Amphi-Cat buggy around the fields;

• Jack Spiers, with his colorful "busted brollies" kites-including a Cody war

kite, a Convne, a delta and more;

• Terry Shea, not flying kites but taking care of all the grubby details so that everyone else could have fun;

11

• Alan and Carol Peacock, with their geometric wonders:

• The French group, whose smiles and lovely kites (especially the big tetra with the tricolor in the corner) more than made up for our language barriers;

 And everyone else, including those who had never flown before but were captured by the spectacle and joined in.

Similarities and Differences_

Finding that the intense enjoyment of kites spans the Atlantic was a treat. The sense of camaraderie at Blackheath was as alive and vibrant as in the U.S., if not more so. That these interests cross national and cultural boundaries, as well as large distances, is a hopeful sign in light of the many issues that divide nations. But probably the greatest excitement in cross-cultural interchange is the realization that people who share your interests may have a slightly different approach to your common joys. While more experienced kitefliers than we may have already seen what appeared to us as distinctions

or innovations, we noted the following: • More experimentation with complex

geometric shapes in England (or perhaps throughout Europe) than in the U.S., among manufacturers as well as individual designers;

• The display, use and sale of more highly crafted "deep sky" winders than we are used to seeing here;

• A refreshing openness about allowing and even encouraging the sale of kites and related paraphernalia on the flying field at the festival;

• And an interest (more fully realized in previous years) in spending relatively large amounts of money to sponsor special groups or events, such as a kite team from Japan, the manlifting kites team or a record attempt for the world's largest kite.

The Real Extravaganza_

We were greeted everywhere with the utmost openness and friendship. I like to think that this represents a bond among those who reach for the sky with their hearts on the end of a string, as many of us there were doing. Blackheath was a true extravaganza of fine kites and warm hearts.

Below, John Clarke holds up his colorful Welsh dragon kite in the display area. Top center, a box kite by Alan and Carol Peacock shows off its many wings, layers and colors. Bottom center, ready for launch is one of many spectacular flat kites by Jon and Gill Bloom. Far right, John White's Flying Trapezium, an extra-wide delta, reaches for the spires of All Saints Church.

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A Beauty of

All the elements came together in Detroit, MI, October 6 to 10, 1982, at the start of the fifth year of life for the American Kitefliers Association. The annual meeting and festival drew 190 registrants (plus a few additional kiteflying kibitzers) from Canada and Japan as well as all regions of the United States, to talk, eat and sleep kites—and certainly to fly them.

he trade members arriving early on Wednesday were given the news that trade activities were incompatible with the nonprofit educational purposes of AKA, so the business group met outside the schedule to start a separate trade association, led by AKA's management company. The group voted, however, to continue support of AKA. The dense display of kites by the trade in the Holiday Inn of Southfield, MI, was an affirmative festival in itself.

embers who arrived on Thursday were in time for the talks by Jack Van Gilder, Bill Tyrrell, Garry Woodcock, and the 3M Company, but most of the ideas bubbled informally everywhere in the kiter-to-kiter frenzy. That evening the assembly was treated to a condensed tour of the fascinating kite places of Japan and China with Dave Checkley and his slides.

The wise advance planning of Hank and Nancy Szerlag and the 5/20 Kite Group paid off the next day, when Friday's schedule was exchanged with Saturday's to take advantage of good flying weather when it was available. Friday brought a warm and sunny day on Evergreen golf course, where we kitefliers startled everyone-the golfers, the children in a nearby schoolyard, passersby and ourselves-with our finest kites. Winds early in the day carried everything up into a sky that was dominated by trains: 100 Eddys by Maurice Kartch, 100 deltas by Jack Van Gilder, 200 Eddys by Mr. Kawazoe (flown by Masaaki and Sachiko Modegi of the Japan Kite Association), plus centipedes by Rod Chima, Dave Checkley and Oscar Bailey, a pretty row of flowers by Jan and Wayne Hosking, and a magnificent procession of flags of the Canadian provinces strung out by Hugh Harrison.

Later in the day the wind slackened, but the kitefliers gamely lofted their kites with high starts and skillful handling. The participants were partly inspired, perhaps, by the ABC-TV crew with Hughes Rudd, who put together a 3¹/₂-minute segment on kites for a colorful show on the Sunday evening news two weeks later. "These people are MAD," Hughes exclaimed as Bill Tyrrell's 40-foot-long box kite (a Peter Lynn design) was hauled up on its rope by a gloved, shouting crew.

But how could video or any short account of the occasion really cast a net around everything? Well, providentially,

Sara Bailey had suggested to her husband, Oscar, the artist-photographer, just as they were leaving home for Detroit, that he bring his Cirkut camera. Made in 1915, this big varnished box camera is wound up with a key (like a music box) and mechanically advances the film in one direction, the camera head in the other, to produce a panoramic picture. Oscar buys his film spooled to fit: 8 by 60 inches long. On this occasion, Verichrome was used to capture the color of over 100 enthusiasts holding their kites. It had been announced that at a certain time the kiters would be called to assemble around the line that Oscar placed on the ground in a horseshoe shape. We came at the call and positioned ourselves, rather in haste. Quite a few people missed the moment altogether, and it happened but once. Few of us (including Oscar) believed the results would be spectacular.

Readers, judge for yourselves. Oscar generously permitted *Kite Lines* to reproduce his historic picture of this unsurpassed assemblage of kitefliers.

That night the festivities continued with the always-exciting kite auction, which raised over \$6000 for AKA.

The next day we gathered for more kiting at Bonnie Brook Country Club, another golf course. The stunting competitions delayed from Friday were brilliantly rescued when Corey Jensen commandeered a golf buggy to whisk the fliers about and make up for the fickle winds.

That afternoon the business meeting was held as a barely-noticed pause in the kiting. Jack Van Gilder was elected president of AKA for another year on the basis of 12 total ballots cast by mail. The officers' reports had been printed in advance to save time, so the meeting was finished in only 18 minutes, for which many seemed to rejoice.

Livening brought another delicious dinner, highlighted by so many awards that the unawarded person was unusual, but all would agree that a real standout was Adrian Conn. He won several awards, including the most coveted "People's Choice," representing the recognition of his peers. Many kiters did not compete, though. Possibly they felt as Les Varley did when he said, "I don't enter these competitions. If I win, then someone else loses, and I don't want him to lose. I want him to win. So I don't compete."

On the last day, tireless Pat Gilgallon gave a brunch for the remaining visitors. There were many last-minute conversations and reluctant farewells.

Next year's convention site has been selected for Columbus, OH, home of the Central Ohio Kitefliers Association, chaired by Miller and Betty Makey. They will have a hard act to follow.

By Valerie Govig

1. Leonard Conover 5. John Rausch 9. Robert Weiss 13. Liz Hegg 17. Masaaki Modegi 21. (obscured) 23. unidentified) 27.C 2. A. Pete lanuzzi 6. Nancy Szerlag 10. Valentine Deale 14. Cindy Moeller 18. Sachiko Modegi Takeshi Nishibayashi 24. Carl Poehler 28.N 25. Milly Mullarky 3. Judith Johnston 7. Barbara Younger 11. Aaron Harris 15. Ken Bannasch 19. Dan Gooderow 22. (obscured) Dave 29.B 4. David Wagner 8. Bill Sontag 12. Larry Moeller 16. Ron Witt 20. Tara Johnston Checkley 26. Ted Manekin 30. T

Detroit and this photograph made history for kiting—and for KITE LINES. We had never printed a photograph like this before. It presented several technical P.O. Box 1666-Dept. K, Homestead, FL 33030; The Cloud Connection, 1961 Hunt Club Dr., Grosse Pointe Woods, MI 48236; Tony Cyphert Kites, 4621 North 1191 E. 930 North, Provo, UT 84601; Hyperkites, 1821 5th Ave., San Diego, CA 92101; The Kite Factory, P.O. Box 9081, Seattle, WA 98109; The Kite Loft San Francisco, CA 94110; Sky Scrapers—Kites, Highland Sta. Box 11149, Denver, CO 80211; Spectra Star Kites, 3519 Caribeth Dr., Encino, CA 91436; Toud

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technical problems, which we solved after much research. Then it gave us a very big financial requirement, which for a special-circulation magazine like ours would normal 21 North Ave., San Diego, CA 92116; **The Discount-Kites-by-Mail Co.,** Box 3626, Cherry Hill, NJ 08034; **Fabric Design**, 2338 Anza St., San Francisco, CA 94118; **The Fac Kite Loft**, Harborplace–Light St. Pavilion, Baltimore, MD 21202; **Kitty Hawk Kites**, P.O. Box 386, Nags Head, NC 27959; **Nantucket Kiteman**, Box 508, Marsh Hawk's Way 136; **Touch the Sky Inc./The Kite Store**, 836 Yonge St., Toronto, Ontario, Canada M4W 2H1; **Trlby Products, Inc.,** 375 Fairfield Ave., Stamford, CT 06902; **The Unique**

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this time we're making an exception. Please thank those who made possible this expression of kiting's unity-in-diversity: Charmyr R & D—The Sky Climber,
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e just went crazy," is the way Jody Conn describes her slim, quiet husband Adrian in his first reaction to a sky full of kites. He saw them at the 1981 Freedom Festival in the Conns' home town of Windsor, Ontario, Canada. Many of the kites were flown by Bob Katkowski of the Sky Line Kite Shop, Detroit, MI. Adrian was further inspired by seeing Ken Bryan's Parafoil and by visiting the Unique Place in Royal Oak, MI. He started going to the home of his mother-in-law every night to sew kites on her Husqvarna. Then he borrowed the machine. Finally she asked him, "Why don't you just buy this?" And ever since, Adrian has been a near-permanent resident of the Conn garage-workshop.

Adrian's first kite and first sewing experience (a 50-hour job) was a ninefoot Flexifoil. He bought one as a pattern and became fixated on the design, figuring out the sewing sequence and making venting refinements and larger versions. He tried five types of spars in the course of his experiments.

His next step was to explore a doublemodified Flowform Parafoil. "I had seen an article on it in *Kite Lines* and it seemed I could improve it, do it my way," Adrian says. His Flowform is five feet tall, six feet wide and vented differently from standard.

Inspired by George Ham's Parafoils, Adrian then did a high-aspect-ratio version he called a "Paradragon," which he designed as a golden rectangle, in a ratio of five to three. He added a long "dragon" tail and a little drogue at the end to stop the flapping. "I like bold stripes," he says. "And economical cuts of fabric become part of the color scheme." He tinkered with the keels and bridling to get the kite to work as he liked.

The next phase was "The Windsor Bug" (People's Choice, above), based on the Hewitt Flexkite. Adrian attached a lantern tail composed of spherical segments. To achieve the curves he wanted in the spheres, he had to cut eight pieces of cloth for each one-"six doesn't work." To cut from flat patterns he had to calculate the sections of the spheres. Adrian then made an aluminum pattern to save cutting time. "I like perfection and everything has to fit exactly-it's the only way I can do it," he says, admitting "It's slow work." His business is embossing and making rubber and metal stamps, which call for related, exacting skills. Yet he describes kiting as "an outlet. I have to constantly be on the move."

Together for 16 years, the Conns have no children and can give their quiet evenings to avocations like kiting. Jody's first flying project, a fish windsock, recently brought her more into her husband's orbit. Adrian muses, "I never know what I'll come up with next. But all I've done is other designs with my own ideas in them." It's a typically unassuming statement from a maker of singularly showy kites. Known by the company we keep

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At Trinidad's Maracas Beach, the men of Katwaroo Trace fly the Common Kite over the palms. The kite is a descendant of the fighter kite of India.

... exploring the Mad Bull, the Common Kite and the Chickichong as part of a culture — and discovering the Flying Chataigne Leaf ... while studying the West Indian people who make them ... by anthropologist Judith Johnston

For the past 13 years I have been doing anthropological field work with the East Indian population of the Caribbean island of Trinidad.

In the fall of 1979 I was stricken with kite fever and began to fill up my house, my station wagon and often my arms with kites. With several Trinidadian friends I organized a cottage production of deltas, Conynes, sleds and diamonds in rip-stop nylon-all new kites to the Trinidad marketplace. These helped my introduction to the kites of Trinidad.

Soon curious conversations began to take place between Trinidadians and me on various street corners.

"Hey, look, a Mad Bull! Lady, is that a Mad Bull?"

"No, it's called a delta."

"Did you make that? Well, you should make the Mad Bull."

What puzzled me most about these conversations was that many urban Trinidadians endorse the view that the traditional Mad Bull is all that a kite should be, but they don't quite know what a Mad Bull looks like. Nor, at that time, did I. So I set out to learn more about this Caribbean classic and other indigenous kites. Kitemaking is an amateur activity

in Trinidad. Those men who want to make kites have learned as boys, by watching older kitemakers. The opposite was true for me; like many *Kite Lines* readers, I came to kitemaking as an adult stimulated by written material (in my case it was the Newmans' book *Kite Craft*). Once bitten by the kite bug, I read everything I could find in print, and I continue to do so.

Actually this is a curious way to learn; we are drawn to imagine an experience by an abstracted description of it on a printed page,

Jonas Sampath, sugar cane farmer, trims bamboo for a kite. Children are tolerated at the work table only if they stand silent and immobile. The only words they are apt to hear are "Don't interfere with that!"

which impels us to seek out actual experiences, which then stimulates us to vicariously add more experiences by reading more abstracted descriptions. In this process we move fluently from image to image and broaden our sense of possibilities very quickly.

But at least two things are lost to us. First, as individuals, we don't learn at our own pace; our training has taught us to consume everything available, to stuff ourselves, to eat a whole book in one day. So we miss some of the unfolding of our own thoughts-they are preempted by what we read. The other loss is one of clarity and quality; the accumulation of ideas, creations, kites that work, kites that almost work, adds up to far more than we can know well and truly evaluate. We are not very likely to develop a sense of the authority inherent in good design, but rather to develop an ever-increasing appetite for more design.

Trinidad's kitemakers do not use literature about kitemaking but they are sure they are on to a good thing when they begin a Mad Bull or a little Common Kite. The activity of making the kite, like a ritual or a game, lets the kitemaker partake of an impressive piece of cultural production. As long as the crafter stays within the traditional definition of the kite design, he works with a certainty much deeper than if he relied only on his particular personal skills. The kitemaker takes pride and pleasure in his handiwork and finesse with cutlass, knife and knots-but there is no motivation to be "original," to explore the edges of a form's possibilities. There is no creativity, little egotism. Indeed, a kitemaker would refer to his skill by saying that he "has a little idea about it."

The men who have learned how to make kites have selected themselves as carriers of the tradition. No one is pressured to learn this or other crafts, such as tatting fish nets, making drums, or decorative paper cutting. Each craft is learned directly from an older practitioner, by observing and assisting. As a result, the forms of these crafts are stable over generations. Time hones an elegant integration of form, technique and available materials. These crafts rarely fall into the hands of artistic explorers and agitators. Change comes slowly and most probably from shifts in the availability of particular materials. The four kitemakers I observed all carried the repose of confidence in their heritage.

THE MAD BULL

Known abroad as the Bermuda three-stick, this kite in Trinidad is called by the more apt title Mad Bull. I found four opportunities to see and photograph the making of this kite. Each time the kitemaking process combined fidelity to a tradition with personal variations of technique and skill.

Materials

The work begins with the selection of stick material, either coconut broom fronds or bamboo. Only one kitemaker, Shamshadeen Nizamudeen of Chase Village, prefers the coconut broom. The others prefer bamboo, and offer the following advice about how to select and cut it:

There are said to be two kinds of bamboo, "male" and "female." You look for the lighter, more pliant female bamboo. If you must cut it fresh from the tree, do so on a moonless night, taking care to select a mature tree rather than a half-young one. Cutting at this time will prevent the piece from being full of wood lice. It is preferable to use bamboo which was cut some time earlier and is thus only "half-green" now. Since bamboo is used to create canopies for guests at weddings, funerals and religious

Left, Gangai Ragobar trims bamboo for his Mad Bull. His workbench is one of the cars he dismantles and rebuilds. Right, Gangai has created the kite's basic frame and now he examines and reties the cross bow.

services, it may be possible to find some at a neighbor's home.

Kite tissue paper can be bought at most general stores, along with crochet or sewing thread. Flour and water will serve as paste, although cockroaches are "overfond" of this paste and care must be taken to hang the kite out of their reach. The only other material needed is tail cloth. This will come from discarded clothing of cotton or polyester knit. For tools, the cutlass (machete), a paring knife, a pencil, scissors and measuring tape will suffice. Young boys and girls will be dispatched in all directions to obtain these items; when they reassemble, the boys will be put to the task of splitting the bamboo and paring sticks.

A typical length of bamboo in Trinidad is about 3 to 4 inches in diameter and hollow. The thickness of the outer wall when the piece is "half-green" is about half an inch. The length of the bamboo is marked by nodes, knobby joints, at intervals of 15 to 18 inches. These joints are tougher and thicker than the rest of the piece. The kitemaker takes advantage of the nodes to create a dihedral angle for the kite by cutting the length of bamboo to include one joint as the center of the cross spar. Thus the finished length of the vertical support sticks is likely to range between 26 and 30 inches. To go beyond that would require the inclusion of two nodes in addition to the center one and these would need arduous paring.

The sticks themselves are trimmed to a flat shape, a bit wider than their thickness. Gangai Ragobar of McCauley Park Trace trimmed his to $29\frac{1}{2}$ " x $\frac{1}{2}$ " x $\frac{3}{6}$ ". Jonas Sampath of Forres Park Trace worked for an hour to bring his sticks down to $26\frac{1}{2}$ " x $\frac{3}{2}e^{3}$ " x $\frac{3}{2}a^{2}$ ". Each of them prepared extra sticks and chose among them when the paring process was near completion.

Five sticks are used: two for vertical support, one for horizontal support, one to form a bowed cross spar at the head of the kite and the fifth to serve as the "headstick," extending far above the kite proper. The vertical and horizontal sticks will be joined at their centers and then splayed out to form the three-stick shape of the kite. The diagram shows the major decisions setting the angle of splay between the two vertical sticks and the length of the horizontal stick.

Proportions

Shamshadeen's miniature broom frame shows a horizontal stick which is 86% the length of the vertical sticks. He has set the vertical angles to approximately 52 degrees, leaving each of the vertical/horizontal angles at about 64 degrees. When he later tied string around the perimeter of the kite, he put a bit of English on the two vertical sticks by pulling them slightly inward across the top. In making these angle decisions, Shamshadeen relies on eye judgment; he uses a tape measure to locate the midpoints of sticks and to affirm the balance of the horizontal sticks.

Jonas Sampath used a horizontal stick the same length as the verticals, but like Shamshadeen he set them at an angle of 50 degrees between the verticals and 65 degrees between vertical and horizontal.

Gangai Ragobar's kite is fully symmetrical: he employed three sticks of identical length and set them at 60-degree angles. None of these Trinidad kites were centered low as shown in some kite books.*

The Center Joint

The angles are not firmly set until the perimeter of the kite has been outlined with string, but prior to this the center joint must be firm-

*David Pelham, *The Penguin Book* of Kites (New York: Penguin, 1976), p. 165; and L.S. and J.H. Newman, Kite Craft (New York: Crown, 1974), p. 59.

ly tied. For his delicate broom fronds, Shamshadeen used sewing pins to hold the sticks in place while he tied them. Jonas marked his center points and then notched the sticks slightly, ¼-inch to each side of the center. These notches help anchor the actual tying. Gangai Ragobar took an additional step to define the center joint. He carved indentations into each piece to create a mortised joint which dovetails all three sticks into their intended angular relationship. On all of the kites, the horizontal stick was positioned behind the two verticals.

String-Framing

To prepare the ends of the frame sticks for the string, the kitemaker notches them slightly, either at the sides just short of the tip, or if the stick is broom, inward at the tip itself. Beginning at any stick, the string is tied from stick to stick around the perimeter. The string is not broken off until each length of string has been carefully measured and readjusted. While Gangai checked these measurements a third time, he commented, "It will fly no matter."

Shamshadeen became dissatisfied with his frame during the stringing process. He had used crochet thread and now considered this too heavy for the broom framing sticks. So he carefully removed the crochet thread and began again with sewing thread. When this frame was almost fully tied, he noted that one broom stick tended to buckle slightly. When he could not correct this by readjusting string pressure, he carefully unwound the string, disengaged the broom sticks, selected new ones from the broom and serenely began again.

All six edges of the perimeter are defined by stringing. Shamshadeen then began a second round of

After stringing the kite's perimeter, Shamshadeen anchors more thread from the broom tips in loose loops which will be drawn toward the center to create a pattern.

loops linking every edge section but the top one. Each loop was about 25% longer than the distance covered. When these were completed over five edges, he broke off the thread and began again at the center joint. This time he looped the thread from the center out around the slack string and back to the center, then out to the next slack loop until five loops had been drawn taut toward the center joint. These strings formed the surface on which variously colored kite tissue would be pasted. Gangai created a pattern of interior strings by notching each stick at a point 51/2 inches from the perimeter; he then passed a string across five sections of the kite face. The sixth section was left unelaborated until the addition of the vaulted arch of the headstick and bowed cross spar.

The Cross Bow

If the kite frame appears properly taut and balanced, the preparation of the cross bow begins. This stick will be bowed into an arch anchored at the tops of the vertical support sticks at a 90-degree angle to the plane of the kite face. The cross bow will be prepared to the same width as the other spars, but ideally should be thinner and suppler. Gangai pared the ends of the cross bow to assure these characteristics.

At one end of the cross bow, slight notches are made ^{1/2}-inch from the tip of the stick; with the aid of these notches, a firm tie is made from one end of the cross bow to the upper edge of one vertical stick. Jonas and Shamshadeen both placed the cross bow into abutment with the inside edge of the vertical stick, but Gangai placed his cross bow next to the vertical stick's outer edge. With one end tied, the stick is bowed into a curve to locate the second end point. In Gangai's view, "More higher is better"; his cross bow was 20 inches long and bowed over a 14¹/₂-inch span, with the arch 6 inches at its highest point. Shamshadeen's cross spar spanned 6 inches with a high point of almost 2¹/₂ inches. Jonas spanned 11 inches with a height of 4³/₆ inches.

The Headstick

The last major frame piece is the headstick, which extends from the center joint over the cross bow to a point well above the kite. It is first trimmed and pared like the other sticks and then one end is fastened by notching and tying to the center joint. Next, the headstick is notched and tied to the center point of the bowed cross spar. Now the headstick is bowed downward to the plane of the kite face and its final length is decided and marked.

Jonas cut off the headstick at the cross spar, leaving the kite frame with an arched vault but without an overhead projection. Shamshadeen's headstick measured 115/s inches and thus extended not quite 50% beyond the length of the kite. Gangai's headstick measured 29 inches long, extending slightly more than 50% beyond the length of the kite. The headstick tip is notched on each side; string is then passed from one vertical support tip to the headstick tip and down to the other vertical support tip. Gangai also reinforced the headstick's position by extending the interior stringing done earlier to include the headstick and the span behind it. Shamshadeen wrapped thread around the

Above left, Shamshadeen's kite frame has thread wrapped around the headstick's upper arc to facilitate pasting tissue over this curve. Above right, Jonas ties the cross bow into place, to abut the inner edges of the vertical spars. Dihedral angle is formed at the kite's center. Below left, Shamshadeen takes pleasure in the meticulous papering of each section of kite face. Although parts of the design are mirror repeats of each other, he never cuts two tissue pieces at once, preferring to fit each side individually. Below right, fringes of tissue in many colors can be added one on top of the other at the kite's lower edges. Shamshadeen crushes the fringe in his fist to give it a lively appearance before applying.

whole length of the headstick so that tissue paper would adhere to the curved surface.

Papering

Kite tissue paper imported from India seems to have been a staple in the Caribbean forever, always available in six or seven colors. It is most frequently used not for kites but for the intricate handcut tissue banners which decorate the ceilings of Hindu homes and temples.

Shamshadeen began to paper his kite by pressing a piece of tissue over a lower section with his fingertips. Using the lines impressed into the tissue as guides, he cut the needed pieces with 14inch hem allowance. With flourand-water paste, he placed the piece over the strings and folded each edge over upon itself. Pieces which adjoined sections already folded over the string were trimmed by 1/2 inch and pasted atop the previous edges. Working one section at a time, Shamshadeen created a symmetrical pattern of colors over the five sections of the kite by using interior string frame. The sixth section he envisioned as a female face; after papering each side of the vault, he added an eye with glittering lashes; a smiling mouth was pasted just below.

Shamshadeen also pasted fringed

tissue strips over the extension of the headstick above the bowed cross spar, to the string running from the tops of the vertical support sticks to the tip of the headstick, and to the string running across the top of the kite behind the vault. This last fringe creates the "hummer" sound of an angry insect in small Mad Bulls and the deep roar of an irate bull in the large ones. Finally Shamshadeen added fringes to the lower tips and side tips of the support sticks. For these he cut many colors of tissues to approximately 2x6" and fringed them lengthwise. After cutting, he crushed them up in his fist and then carefully separated them for individual application in layers.

Gangai added extra fringes by looping string loosely along the side edges and pasting folded tissue over the strings. Tissue paper pompons and a gold star cut from a cigarette-pack liner completed the kite surface.

Bridling

All of the Trinidad kitemakers used the same formula for determining the length of the three bridle legs. Using needle or coconut broom to pierce the paper face, the kitemaker attaches the bridle legs at the center joint and the two points where the bowed

cross spar meets the vertical support sticks. The length of the lower leg should equal the distance from the center joint to the junction of headstick and bowed cross spar, while the length of the other two legs (or one string forming two legs) should reach from their starting points at the upper edge to the center joint. In effect, the three

Jonas bridles his papered kite with #0 crochet thread. The headstick of his kite does not extend beyond the bowed cross spar.

legs are almost equal. If the arch of the bowed cross spar truly represents a half-circle, the three legs will be equal; if the arch is less than a half-circle, the third leg will be slightly shorter than the other two. Flying line, called marline, is bought by the pound at hardware stores and seems about equivalent to 50-lb.-test line.

Tailing

The tail or tails on the Mad Bull are suspended free of the kite itself. Each kitemaker attached a line to the lower ends of the vertical support sticks and allowed considerable slack in it. Although the men did not measure the slack allowance, it was roughly double the width of the bottom edge of the kite. The amount of tail these

> A Mad Bull is made in record time (30 minutes compared to the adult average of 5 hours) by Oscar Rambharan, 16, his brother Wayne and neighbor Azad Mohammed, both 10. They had never seen a book about kites until the author showed them her copy of Pelham's Penguin Book of Kites.

The small Mad Bull made by Shamshadeen is seen here in front of the larger one made by Gangai. Both kites took off with the diving, swooping, rapid ascent that is characteristic of Mad Bulls. Once up, however, the kites are very high and stable fliers.

kites need and can carry is extraordinary. The kite designs of Peter Travis^{*} suggest the tail-hauling power of this type of kite.

Trinidad winds are strong enough for all the tail one desires. The island's location off the northeastern edge of the South American continent provides highly reliable NE winds, that is, winds from the open Atlantic Ocean across the Trinidad plains toward the eastern coast of Venezuela, From December to July, the dry season, these winds average 16 m.p.h. every afternoon, with a slight reverse breeze from the west in the evening and early morning. In the rainy season, from August to December, the direction shifts slightly to NNE and becomes more variable, with winds up to 40 m.p.h. In these wonderful flying conditions, 100 feet of tail distributed over two or three strips of cloth is not unusual.

THE COMMON KITE

In Trinidad, I asked what had become of the Indian fighter kite. I found it in a diminutive form and curiously titled, but as zesty and vivacious as its prototype.

Known to Trinidad as the Common Kite, this little fighter is made quickly and with an economy of materials which suits it to the budget and attention span of young schoolboys. Like the Vietnamese kite reported by

*David Checkley, "Flags, Banners & Kites Exhibition in Seattle," *Kite Lines*, Vol. 1, No. 3 (Fall 1977), pp. 48-49. Margaret Greger[†], the Trinidad Common Kite replaces the bamboo cross bow of India's classic fighter with a coconut frond spike bow, and reduces the size of the kite in accord with this more delicate spar.

Two examples of the Common Kite were made on two separate afternoons by my Trinidadian friends Shamshadeen Nizamudeen and Gangai Ragobar. Each man intended to demonstrate for me the far more exalted craftsmanship of the Mad Bull kite; they produced the little Common Kite as a kind of warm-up while waiting for the young boys to fetch the Bull's bamboo.

Materials

The kitemaker of any age begins to make a Common Kite by senda younger boy to the grocer for a piece of "shop paper," a light-weight brown paper of 10½ x 14" used to wrap sugar and salt. In the interim, the kitemaker selects four or five spikes of coconut frond that are used to make local brooms. (Indeed, the spikes are called "broom" and the Caribbean kitemaker begins most kites by raiding the household broom for the desired spikes.) The household broom consists of perhaps 100 spikes about 36 inches long bundled tightly together at the tougher spine junction end. A broom may be bought at the local market or spikes may be taken from the broom of a friend.

Now someone is sent for a spool of thread from the sewing basket. Another youngster is dispatched to the kitchen for flour paste. The go-fers then reassemble around the kitemaker in silent witness.

The Bois Canoe

Another choice for spine material is the leaf stem of the *bois canoe* or *Beulah tree*. The leaf stem of this tree is used in the Caribbean to make kites and birdcages. The dried leaf itself is used as a medi-

[†]Margaret Greger, "The Vietnamese Kite," *Kite Lines*, Vol. 1, No. 3 (Fall 1977), p. 64.

The leaf cluster of the bois canoe or Beulah tree is a friend to kitemakers. The dried stems are used as spars in making kites.

cinal tea and may be smoked. Although the mature tree stands about 40 feet high with foliage only in its upper reaches, the useful stems with drving leaf may be collected from the ground below. The stems average 17 inches in length, making them particularly appropriate for the cross bow of the Common Kite. The diameter is about half an inch. While its outer surface is firm, the inner core has a corklike consistency which makes the stem lightweight and easily pierced with broom. To use the bois canoe stem as cross bow, it should be split vertically into quarters. (I think Kite Lines readers who like to use balsa blocks or plastic tubing to hold crossing sticks in alignment would enjoy exploring new structural possibilities with the stem of the bois canoe.)

The Trinidad Common Kite made by Gangai Ragobar. The lovely mottled color developed when Gangai left it out in the rain.

Construction

First the shop paper is folded to define a 10¹/₂-inch square and the excess strip is trimmed away and saved. This fold defines the vertical spine position on the kite. Two pieces of broom are then trimmed to the length of this spine and tied together with sewing thread. This is done by knotting the two together at one end, then winding the thread around the two at intervals of about one inch, then tying off at the other end.

The next step is to lay the spine (bound broom or bois canoe leaf stem) in place along the paper fold and to paste one-inch squares of paper (from the excess strip) over the upper and lower tips.

The kitemaker's skill is exhibited in the next step, the shaping of the cross bow. Two pieces of broom are selected and held together in an arc over the upper half of the kite, connecting its two horizontal corners. The length of this arc is about 17¹/₂ inches. The two brooms are tied together at one end, then the thread is wrapped around the bow at intervals and tied at the other end. Without being broken off, the thread is bow-strung across to the first tie point and knotted, establishing the desired curve.

The cross bow is now ready to be placed on the kite and pasted in place with five small squares from the excess strip of shop paper. A sixth square or rectangle is pasted over the junction of cross bow string and vertical spine.

Finally the last of the paper strip is used to make fringes for the lower edges of the kite. Shamshadeen used a second piece of shop paper to create two additional half-circle fringes. These are pasted onto each lower side of the kite surface with a 4-inch overlap and attention to balance.

By now the boys sent off for

bamboo have returned, so attention shifts to the real kite of choice-the Mad Bull. The Common Kite is left to dry. (Gangai, who had made his Common Kite out of kite tissue, casually left his handiwork out in the rain.)

Bridling

Bridling is done with #0 crochet or sewing thread on the face of the kite. To bridle, the kitemaker threads a sewing needle and passes it under and over at the junction of the cross spar broom and the spine broom. The second tie point is at the lower end of the spine, about a half-inch from the tip. As shown in the diagram, Gangai allowed 5½ inches for the upper leg and 10¼ inches for the lower leg. He added a tail half an inch wide by about five feet long.

In flight this little Common Kite rises, dives and dances in response to the most delicate touch. The Common Kite is indeed the des-

cendant of the Indian fighter, as East Indians of Trinidad are descended from the indentured laborers brought from India to the New World between 1847 and 1917. In Trinidad, the Hindi word for kite (patang) has dropped from usage, but manjha, the kite string saturated with ground glass to cut down the kites of competitors, is well known, and manjha is sometimes used. Razors are occasionally sewn onto the edges or tails of the Common Kite as well, a practice which Dinesh Bahadur* suggests is South American rather than East Indian.

The small size of the kite as it is made in Trinidad is consistent with use of broom as the cross spar, since the portion of broom length which is uniform in thickness and flexibility is no more than 24 inches. This does not explain why larger fighter kites are not made with bamboo in Trinidad.

The Learning Process

Perhaps the answer lies in the traditional learning style of East Indians. Children are not urged to learn tasks or skills early in life. Active teaching is rare outside the formal school system. Learning is considered to occur best through a process of self-selected selfknowing; a youngster interested in an activity or skill will watch unobtrusively as others do it. Later the young crafter will try out an activity and with any success will soon attract his own crew of silent little observers.

Verbal articulation of the activity by the doer does not occur, partly because it is thought to be a detour from experience to words and back to experience, and partly because the tradition of respect toward elders requires that they not be directly pressed for information.

The active kitemakers in the barracks of the sugar estates of the last century may have utilized the coconut broom cross bow because it was quicker to prepare after long hours of estate labor, or because it needed less paper, or simply because some of the people were Madrasis from South India where coconut broom is more intimately known. Because the tradition of learning depends upon direct observation of processes with relatively little discussion or written abstraction, any methods which happen not to be used by earlier carriers of the tradition are lost to later generations.

Another aspect of this tradition of learning is that creativity as we think of it, the invention of prodigious varieties of form, is dis-

*Dinesh Bahadur, Come Fight a Kite (New York: Harvey House, 1978), p. 30. couraged by the isolation of the crafter from a dialogue about what he or she is doing. On the other hand, this learning tradition assures that the skills and methods carried down over time evolve only very slowly and conservatively. There is less dross in what is actually learned and valued. Thus the Indian fighter kite is alive and well in Trinidad.

Another kite I found in Trinidad is the Chickichong or Dinky, a Caribbean schoolboy's first kite. The beloved characteristic of this tiny kite is that it can be made by a determined back bencher right in the classroom, indeed almost under the teacher's nose if one is careful not to drop the spool of thread. In the open air classrooms of the tropics, the Chickichong may even be launched before official discovery.

The paper is a page torn from a copybook (traditionally 7×8 "). A margin of one inch is folded back along each side. For tail a second piece of copy paper must be patiently torn into one long strip by folding a half-inch margin along one edge, tearing almost to the end of the fold, turning, folding and tearing again, and so on.

THE FLYING CHATAIGNE LEAF

Wayne Baldwin's intriguing story of kite fishing in Palau* led me to tropical adventures with kite materials foraged from the flora of Trinidad. I learned how to make a very simple but soul-satisfying kite, the Flying Chataigne Leaf.

With my Trinidadian friends, I studied Baldwin's *Kite Lines* photographs of breadfruit leaves transformed into kites. No Trinidadian we knew had ever done it-but why not try? Breadfruit trees abound in Trinidad's tropical terrain. Leaf size varies from tree to tree. Due perhaps to soil variations, the leaves range from 15 to 36 inches

*Wayne J. Baldwin, "Kite Fishing in Palau," *Kite Lines*, Vol. 1, No. 3 (Fall 1977), pp. 32, 39.

The Flying Chataigne Leaf rises over Tacarigua Recreation Field.

from stem junction to tip. While standing on top of a chicken coop to reach for specimens, we noticed an even more likely kite candidate-the chataigne, a cousin of the breadfruit with a distinctive fruit and less deeply indented leaf margins.

Baldwin reports that the Palau people dry their leaves between woven mats. We stacked ours amid layers of newspaper weighted down with a spare tire. In four days, the leaves had dried on the outer two-thirds of their surface. We were too eager to wait for total dryness, so we proceeded to the next step. (If you intend to fly leaves during a week's Caribbean vacation, remember to forage for specimens on the first day.)

Coconut palm fronds are used by the Palauans to reinforce the kite surface, and we followed their example. Unlike the kite leaf itself, these fronds do not need to be collected from living trees. Browning fronds can be found on the ground below most palm trees. Each spike can be easily detached from the frond spine with a pocket knife. It is then trimmed to pare away a soft undefiber. We prepared about 12 of these for each kite, sharpening one end of each spike to pierce the leaf surface. (We could more easily have raided the household broom for spikes.)

With the leaves, broom, sewing thread, *Kite Lines* and white wine in hand, we constructed the chataigne leaf kite.

Treating the leaf's stem as the top of the kite, we first wove broom across the surface of the leaf at intervals to include each lobe of its perimeter. Then we introduced three brooms at intervals from upper left to lower right and three at the reverse angle. One broom was entered along the vertical spine. We then reinforced several broom junctions with sewing thread and trimmed the ends of broom to approximately 5 inches beyond the edges of the leaf. We took about two leisurely hours at this, primarily because the weaving of each broom above and below the leaf's surface must be done with care to avoid tearing the leaf.

For bridle and flying line, we used #0 crochet thread. For tail we resorted to plastic. At the flying field, we discovered that care must also be taken to avoid catching the bridle string on any of the protruding broom ends. A twoperson launch and a steady breeze of about 12 m.p.h. solved this problem, but I wonder how the Palauans do it from canoes. In flight, the chataigne leaf kite rose swiftly and steadily as its diamond shape suggests. The visual impact of the kite aloft was something quite beyond what we had anticipated. The kite was a visitor from our prehistory—a moving evocation of primordial human intelligence at play with nature.

THE PAST AND THE FUTURE

As Jonas Sampath, Gangai Ragobar and Shamshadeen Nizamudeen each made kites, we talked about politics, food prices, unions, agriculture, marriage, religion and why young people are not as interested in kites as they used to be. No one could explain why fewer youngsters are interested in learning to make Mad Bulls, but people commented on the parallel decline in the popularity of pitching marbles. Perhaps the most important reason for the decrease in kitemaking is Trinidad's aggressively expanding economy since the oil boom of 1974. Hurried electrification and telephone programs have sent wires by the dozens across once-open recreation grounds and school yards. The technological upgrading of industry and government operations has made formal schooling increasingly important and competitive. The flow of money and ideas from New York and Toronto has brought to Trinidad such fads as roller skating and video games.

Even rip-stop kites are becoming known; as I departed for New York from Trinidad's Piarco Airport, I sold a Conyne to the baggagechecker and another one to the security guard.

Amrta Ramlochan, age 3, of Katwaroo Trace, flies her first kite.

JUDITH JOHNSTON teaches anthropology at Adelphi University in Garden City, Long Island, New York, specializing in East Indian culture and the Caribbean. She made her first kite in November 1979 and started Happy Kites, a cottage kite production company, in March 1980. All drawings are by the author. Also all photographs are hers with the exception of those identified in caption credits.

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MAEBASHI CITY HAS FAMILY FUN

Seen at Maebashi City's kite contest are many interesting kites made by adults. However, most of the prizes are awarded to the children.

The morning of May 9, 1982, dawned to a clear sky and a light wind—just the kind of day for an outdoor event. And such an event was about to start at Maebashi City (two hours from Tokyo) as the organizers prepared for the Seventh Annual Maebashi City Kite Fly Contest.

Spawned as a community project to offer fun and games for the whole family, the kite contest impressed city officials as a good thing when persons attending demanded more of the same. Thus it became a yearly affair with attendance increasing each year.

Blessed with a large park facility, the city had plenty of room for the hundreds that attended the kite fly. There was even room left for more than one baseball game. Sponsors of the event are the City Council and the Junior Chamber of Commerce. Prizes in three categories were awarded—and won mostly by children! for original design, group-made kite and a one-design kite, which this year was the airplane kite.

The soft wind that welcomed the day rose slightly toward noon, allowing most kites to get aloft. The biggies, however, never really caught their piece of the

Above, elephant kite which flew well and won a prize for original design. Below, one of the many student groups attending the contest.

action and remained land-locked for most of the day.

Having no trouble at all flying was Mr. Kihara of Tokyo, whose insect kites are made from the lightest materials he can find. For example, the dragonfly's body is made of styrofoam and the wings are light paper with bamboo reinforcement. He also uses balsa wood and very thin plastic sheet for some kites. For string, he takes silk stockings apart and uses the Right, insect kites by Mr. Kihara. The dragonfly is a "great flier," says author Hoffman. Below, an unusual "koi" (carp) kite.

individual fibers. He also uses very light synthetic materials such as nylon.

Kihara's reels are, I think, unique. He uses flat spools from thin fishing line with wooden dowel attached to the center, much like the stick-and-plate act a juggler uses. By holding the spool parallel to the ground, he lets out or spins the stick with his right hand while guiding the flying line with his left. Since he never flies too high or far away—mainly because he can't see the kite at a distance—small spools and short lengths of line are used.

During the Maebashi contest when Mr. Kihara was demonstrating his bug kites, one of the people watching said to be careful "or a bird will take it for the real thing" and try to eat it.

Naturally, these kites only fly in very light winds. In order not to be left out, Kihara always has one or two Japanesetype square kites for the heavier breezes.

I was invited to this contest as one of several judges and after enjoying a great day in the sun I am now looking forward to returning to old and new friends. For anyone planning a visit to Japan in May, put Maebashi City on the list of places to see. You will not be sorry.

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Letters and posters had proclaimed to Caen, to France, to the world that in a large field called The Prairie there were to be kites, parachutists, wind machines, inflatable buildings, wind vanes, wind sculptures, hot air balloons, boomerangs—anything that uses the air to work. This was not to be an ordinary kite event!

The idea grew from a festival of kite films in 1979 sponsored by an organization called Atelier d'A. It seemed to them that a festival for flying kites would be more fun than just watching them on film.

Workshops were started four months beforehand, set up at a place in the center of town called Eole 5. Here teachers, parents and children were taught how to build kites. Many of the kite builders were doing it for the first time. Starting with simple deltas, sleds and hexagon kites, some of the students went on to build kites of their own design. Teachers went back to their schools to teach students from 3 years old to high-school age how to make their dreams fly. In support of this grass-roots effort, some members of the Cerf-Volant Club de France came to offer assistance for the workshops and to fly their beautiful kites on the festival days of May 1 and 2.

During the week before the kiteflying, there were film showings and expositions. For the weekend, parades of arriving participants, began to appear at the Prairie. Displayed inside an inflatable building were beautiful Chinese, Japanese and Filipino kites provided by Tsutomu Hiroi of Japan and Jose Maceda of the Philippines. In another inflatable building one could build kites, buy them readymade or get books on kites and kiteflying.

Meanwhile, unusual wind vanes were turning, boomerangs were whirling back

STEPHEN HUFFSTUTLER (below) went to his first kite festival in Dieppe, France, in 1980. Then his wife by chance saw a poster for the fete in Caen, home to the Huffstutlers. Thereupon they built their first kites: he a French Rescue kite two meters wide, she a one-meter-square kite. Hers flew well. His flew in circles to the right. After hundreds of friendly suggestions and many adjustments, the kite now "flies both left and right," Stephen says.

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to their throwers, parachutists were maneuvering to land in the center of the festivities and kite fanciers were getting their kites ready.

The afternoon saw 108 kitefliers from the French kite club, 11 members of the Dutch kite club, 40 students from the Ecole des Beaux Arts in Caen and hundreds of kiteflying families trying to catch the wind with their creations. The students from the Ecole des Beaux Arts flew their kites wearing costumes and makeup to match. It seemed that the crowd was determined to fill the sky with every conceivable kite design, though rain was threatening to dampen spirits and the wind was blowing strong. Soon the rain did fall, but afterwards the festivities returned with fireworks and an attempt to launch a hot air balloon.

Sunday the wind was not as strong. The French and Dutch clubs, after recovering from a dinner that included singing and piano-playing, flew Codys, Flexifoils, Parafoils, French military kites, large sleds, variations of Hargrave box kites, Bell tetrahedral kites, square-shaped flat kites *en train* and many other beautiful kites. Since this was not a contest, the kitefliers could fly as many kites as they could find room to handle.

In another part of the field, children played with an inflatable "worm" which seemed to jump about among them. In the evening there was a light show which incorporated kites and inflatables. Later a film on Japanese kites was shown on a large screen.

It was estimated that 20,000 people came to fly or watch the kites and other activities. From this festival, a kite club is being developed in Caen, and hopes are in the air for another festival in two years. Two stores in town now sell fine kites and another shop is selling Tyvek. The wind in Caen will never be the same. \heartsuit moves as the blower speed is changed. 2. Coeur de Ciel Parafoil flown by **Dominique** & **Philippe Pallut.** 3. Self-imprint student art on a Japanese-style kite. 4. CVCdeF kiter Colette Geffroy. 5. Ecole des Beaux Arts fantasy. 6. Chinese kite on static display. 7. Girouette (wind vane) sculpture turns and has independently moving parts.

1. The worm

Addendum: ALTERNATE KITE GREASING PROCEDURES

By Kathe and George Qualls

A technique which we have found to be a lifesaver in the lubrication of large kites is apparently not widely applied. Although we dreamed it up, it is likely others have hit on the same practical idea in the past.

In flying first our M-9 delta-Conynes (83 square feet) and then our M-12s (148 square feet), we were often worried when winds gusted to 20 m.p.h. To protect both the kite and the kitefliers, we tried to lubricate for maximum expected wind speed, but this left much to be desired, as the kite often came down between gusts.

A two-minute brainstorming session gave birth to the next natural step, which was to stop using the Japanese synthetic lubricants we have all become dependent upon in these last few years and get back to something more basic and indigenousin this instance a perfectly ordinary mixture of mayonnaise and peanut butter. It must be admitted that this discovery was due less to rigorous "brainstorming" than to some rather sloppy picnic arrangements on the kite field. In my case, it is sufficient to state here that the mixture clarified itself aloft with the peanut butter adhering to the "windward" surfaces and the mayonnaise to the "leeward." This change from mixture to prime ingredients was a fascinating thing to watch. Many on the field called the gradual change from a light tan to the clear definition of brown and white a truly moving aesthetic experience. The manner of control should be obvious to all those who have been into lubricants for the past decade; we simply changed one of the Lubricant Control Cords from white to brown! In other words, "Grab the brown one when in trouble!"

This concept worked so well that we decided to expand the application to kitefliers as well as the kites themselves. We have found this procedure produces a really thrilling symbiotic relationship between the flier and his kite although it does demand a high level of both teamwork and discipline. The teamwork comes in with careful application; we have, as the result of many experiments, found that the peanut butter works best on one's back and it is obviously beyond most of us to get a smooth and even spread without assistance. The discipline comes in always keeping the mayonnaise out of the wind.

Postscript: Since the appearance of the above article, we have had many indications of similar experiments both in this country and around the world. One of the most intriguing of these was performed by Jimbo and Sue Ellen McPhearson from Little Falls, Arkansas. They report that their kites work almost as well as ours when they substitute Log Cabin syrup for the mayonnaise and a thin coating of deviled ham for the peanut butter. It is our feeling that it probably works all right but that it is not as pretty as our recipe. Another one from France, however, does sound quite fetching: Marie and Pierre Lechien report they have had great success with a bottle of Chateau Lafite-Rothschild 1928 and a film of paté.

PRACTICAL NOTES ON KITE GREASING:

<u>A.</u> We have found it almost impossible to go out on the kite field for a lubricating session without the comfort and assistance of an Alvar Aalto Tea Trolley. It works beautifully for storage and mixing. We keep the more solid ingredients (peanut butter, pate, pablum, etc.) on the top tray and the wine, mayonnaise, hot sauce, etc., on the bottom. This separation works as a safeguard against premature combination of the elements.

B. This shows lubricant application on a field model lubricating rig. The best ones we find come from Italy. Gucci makes a particularly elegant one in lizard skin. Some people may feel that lizard skin is a bit pushy and expensive but some standards must be kept.

C. This poor creature illustrates the most prevalent pitfall of working in the "symbiotic mode." He has held his lubricated kite between his lubricated body and the wind. It is a clear example of gross incompetence.

D. Here we have an example of good lubricated kiteflying. The flier's posture is correct and he is shown on the "cutting edge" of the art attempting to transfer ingredients from one kite to another while they are aloft! Needless to say, this has not yet been accomplished, but don't turn your back on the gallant attempt.

E. This is really bad form. The flier here has committed a cardinal sin by using the ingredients internally rather than externally.

THE QUALLSES are Philadelphia zanies. They are believed to be responsible for the recent shift in the public perception of Philadelphia as a city inherently devoid of zanies.

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Fighter Kites Follow-Up

By Mel Govig

A number of readers have responded to my article on kite fighting in the First Quarter 1982 *Kite Lines.* Here are some of the points raised.

First, my Easy Learner Fighter called for $\frac{1}{16}$ "-dia. fiberglass rod, but I had eyeballed it—and miscalled it. The rod is more nearly 2mm or $\frac{3}{32}$ -". And for a rip-stop nylon version of the kite, cut a 17" square (the 24" is the diagonal).

Second, some disagreement has been voiced with my ratings table, to which I can only say, "I calls 'em as I sees 'em." In fact, I have never met a fighter kite I didn't like. One aspect that I regret I didn't rate is predictability (kite-to-kite similarity). On this I would give top ratings to the Vic's Fighter Kite.

The biggest area of discussion concerned adjustments. Use of weights was mentioned by Louis Denov, Vic Heredia, Wayne Hosking and others. I have tried a small (¼"-dia.) ball of modeling clay on fighter kites. Placed at the head, it extends the kite's turns into long, graceful arcs. Placed at the tail, it produces tight, fast spins, losing but a few feet of altitude. It makes the kites neither unmanageable nor unmaneuverable, but it changes the diameter and therefore the speed of turns. In view of this, I believe the effect of reversing the longeron in the Aussie Fighter kite is due more to weight than to flex.

Some additional adjustments have been suggested for fighters that fly to one side only. Jack Van Gilder notes that the imbalance may be from a warped spar, in which case the problem can be corrected by twisting the spar against the warp until it lies flat in the plane of the kite. Also Jack suggests that if you put plastic tape at the shoulder on the side toward which the kite turns, you will both tighten the cover and stiffen the spar on that side. Because it is a compound correction, it should be done in small steps. Vic Heredia says that burning a hole (with the cigarette of an unreformed friend) on the side toward which the kite won't turn corrects paper fighters. Lastly, Van Gilder, crediting Takeshi Nishibayashi, suggests that a short (two- or three-inch) two-leg bridle at the cross spar will let you make lateral corrections.

It's great to see there are so many informed fighter fliers out there and a pleasure to share their expertise. May the good word on fighters keep spreading. \heartsuit

Empty Spaces in the Sky...

Frank Watlington, "Bermuda Kites"

Frank Watlington, known to the kite community as the author of "Bermuda Kites," died in November, 1982 at the age of 66. He was best known as an innovative oceanographic engineer who made the equipment to record the first songs of the whales. Frank had been a longtime friend of Kite Lines. His thorough appreciation and knowledge of Bermuda's traditional

kites were transmitted by his attractive little book on the subject, which he printed and sold at low cost in order to make it available to many people, including children. He is survived by his wife, two children and two grandchildren, all of whom grew up flying Bermuda kites.

Harry F. Booker, Sterling Heights, MI

Active member of the 5/20 Kite Group Harry Booker died at age 71 on December 6, 1982. He and his wife Georgia had become kite enthusiasts about seven years earlier. Since then he had become an integral part of the local recreation department's annual kite clinic. Harry made most of his own kites and he shared his experience, knowledge, patience and enthusiasm in teaching hundreds of children to make kites. He brought adults into kiting as well and attended the AKA convention in Detroit in October 1982.

Harry Booker once said of kites, "You are only limited by your imagination," a philosophy that he not only lived but passed on to others.

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NTE News From Here and There

COLORADO

Frances A. Weaver writes to us from Pueblo:

A municipal kitefly. That's what we had here in Pueblo during Pueblo Days in mid-May 1982. Since our steel mill has suffered from foreign competition and the local economy had the blues, we welcome new business with open arms-and the Hi-Flier kite company had just moved to town.

In celebration of the new kinship of Hi-Flier and Pueblo, a kite festival was sponsored by the Pueblo Exchange Club and kites were provided free by merchants. Everyone in town was urged to join the fun. The object was to fly as many "Pueblo Kites" at one time as was possible.

It was an amazing project: Hi-Flier produced more than 16,000 kites bearing a Pueblo logo; the Exchange Club members sold the kites to merchants; the kites were given to customers by businesses all over town; and on May 15 a mass kite-in was held on the campus of our university.

According to most estimates, 2500 or more people arrived carrying their Pueblo kites. There was registration for drawings but no kiteflying contests. Shifting midday winds (a frequent occurrence close to the mountains) delayed launchings slightly, then the sky filled with hundreds of identical kites. Each carried the message of the day: "Pueblo-On the Way Up!"

The only kite club in the area, the Beulah Valley Association for Tethered Flight, flew demonstration kites, but the event was essentially for novices. The kiteflicrs ranged in age from toddlers to grandparents, all out to enjoy the day and each other. There was a

Hi-Fliers brighten the skies in Pueblo, CO. The fly is unusual because all the kites are alike.

great feeling of mutual concernalmost affection!

It was a memorable day, one that bears repeating. The Exchange Club promoters and Hi-Flier representatives counted 600 of the identical kites in the air at one time. Nobody tried to count the tangles of lines. That was a part of the fun, tolerated with good humor. There are still thousands of the Pueblo kites around town, waiting for the next good breeze.

We all feel better now, thank you.

MARYLAND

September 25, 1982 saw a new and exciting beginning for the Ocean City, MD Kite and Seafood Festival (called the Grand National when it was held in 1978). This time there was no competition, but prizes were offered to kiters who set world records. Also participants who registered in advance were given a seafood dinner after the fly. That, and the beautiful sunny weather, was enough to attract hundreds of enthusiasts and kites from up and down the eastern seaboard.

A crew from New Jersey had brought some Summer Snowflake kites to fly in triples, for an effect that startled the manufacturers, Nick and Sallie Van Sant, who were visiting the festival from Massachusetts. Other beautiful kites seen were Jon Burkhardt's long-tailed craft, Rainbow stunters as flown by the skilled George Fohs and the Sunfest cobra kite flown by the Kite Loft. Bill Tyrrell and Bob Sessions, with help from a volunteer crew, succeeded in flying their spectacular 40-foot Peter Lynn box kite for about a half hour. Its pull was not the expected record breaker, but the sight of it hovering like a cloud and casting its giant shadow on the sand brought thousands of oglers to the boardwalk and beach. The crowd attending the Sunfest, a Chamber of Commerce promotion, were treated to outstanding kites aloft all day in brisk winds. The festival is expected to continue as an annual Ocean Ciy event.

At the end of the day, the kiters enjoyed kite conversation along with delicious seafood in a courtyard restaurant. Arne Brenten averred that the event surpassed any he had seen before for quantity, quality and spectacle in kites. Some of them were still flying as he spoke-a big Bermuda by Mel Govig, a handsome Cloud Pleasers delta, a "Go Kart" advertising kite with kids holding it for a try (which failed) at the duration record. Kiters would occasionally leave their tables and run out to the beach to see if the kites were still flying. They were and we were for a long time after. V.G.

MICHIGAN

Laurie Akerros Katkowsky writes of unusual kites and kiting:

We had been invited to help open the annual Detroit/Montreux Jazz Festival by flying kites atop Detroit's Bob-Lo River Boat, helping to create a "spectacle" while several jazz bands entertained a thousand Detroiters on the three decks below

What to do to create a spectacle at a time when Detroiters' spirits were at an all-time low after a recession-ravaged summer? We had our work cut out for us!

In our second floor loft in Greektown, we of the Sky Line Kite Shop staff went down on our hands and knees to do hours of cutting, piecing and assembling of 40 yards of black and white ripstop nylon to make jazz kites.

Ticketholders for the jazz cruise boarded the boat to find eight people on the top deck proudly flying two 50-foot piano-keyboard snake kites, an 11-foot-wingspan delta, a large diamond and a twocell four-wing box, all in piano keyboard design. Flashcubes were popping, fingers were pointing. faces were smiling, and by the look of the crowd's reaction we had done our job well.

Heading along the Detroit River, we must have been a sight to behold. On our right, the city of Windsor, Ontario, Canada had a marvelous view of the kites and the boat, and the sounds of the jazz were surely reaching the shore. On our left, Detroiters shared the same delightful experience.

When the boat reached the mouth of Lake St. Clair, we turned back up river, now heading directly into the wind. Being avid stunt kitefliers, we had to give our dancing kites a try! Despite all the rigging lines on the top deck of the boat, we managed a launch and put on a show that some folks are still talking about. In the moonlight, on a clear, early fall night, three stunters danced up around the stars, dipping down and skimming across the river, then swooping back up beyond the first and second decks. As I flew, I could hear the oohs and aahs of the crowd lining the sides of the boat. It was magic! I don't ever remember a more thrilling kiting experience!

We saw more open mouths and smiling faces the other three days of the festival. We flew on Hart Plaza while some of the "greats" of jazz performed in several am-

phitheaters around us. Hundreds of people stopped by to thank us for helping provide, for a brief time anyway, a respite from Detroit's troubled times. We'd be happy to see the idea repeated by kiters in other cities.

Witty airs: piano keyboard kites fly at Detroit/Montreux jazz fest.

NEW YORK

Letter 1 from Rick Kinnaird dated August 20, 1982: "Yes, sir, boys and girls. Rick Kinnaird's gotten himself involved in another giant wham-bam project-making a large (60-foot-diameter) aerial sculpture to look like a flying saucer which will be flying October 3 at Potomac Park, Washington, DC and October 16 in New York City. We are going to need a team of about 30 people to help inflate, hold down, etc., this piece. Qualifications are rigid and very demanding. You must be able to consume unknown quantities of alcoholic beverages and be able to deal with constant change and chaos. . .it will be one helluva party."

Letter 2 from Rick, dated September 17, 1982, announcing changes: "The Washington date is cancelled. The SSAS (Space Ship Aerial Sculpture) will be 40 feet in diameter, not 60 feet.'

Letter 3 from Rick and Eileen Kinnaird, dated October 8, 1982 gives a work calendar, deployment schedule and equipment list. Gas lift is to be replaced by aerodynamic lift in certain wind speeds, it says here.

Verbal reports following the lift confirmed a fairly successful

Come Fly with Us! Join the American Kitefliers Association and enjoy kite friends around the world. Your membership includes a bimonthly newsletter, a membership card, a 10% discount at participating kite stores and a chance to attend the annual national meeting and kite festival – all for

\$10 a year. Write to:

launch of the SSAS. Meanwhile, Marty Lowell was flying a Willem de Kooning painting (facsimile) with no difficulty in another part of Sheep Meadow, Central Park.

It was all part of an arty promotion that seemed to show that you can find grantors to support some very strange activities.

For those who missed it, the consolation was that getting Rick's zany mail was probably the best part of the whole caper.

CANADA

Letters from Denis Trudel tell of the formation on August 5, 1982 of the "Federation Quebecoise of Kite." He says:

Our organization is nonprofit and has for its principal mission to create a first international kite festival in Quebec.

This event, provided for 1985, will join together on Quebec territory the most beautiful kites of the five continents. Quebec, as a transition land between the Old and the New World, lends itself admirably to this great event.

We know there exists a kite tradition in almost all countries of the world. We hope for your collaboration in finding organizations or persons who could take part in this event.

Address of the new Federation is Casier Postal 555, Limoilou, Quebec, Canada G1L 4W4.

IRELAND

David and Erika Maher write:

We enclose a photograph of our son Erik being presented with the highest trophy at the Irish Kiteflying Championships held in Dublin on August 29, 1982. It was the first time that the title has been won by a child. Erik has been flying kites for about four years, was

Con

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: Very, very good stability

: 50 lb line recommended

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80 in. wingspan

Erik Maher at age 10, National Kiteflying Champion of Ireland.

10 years old at the time and is an avid reader of *Kite Lines*.

The National Championship has been held for at least six years. Points are awarded in categories for largest, smallest, most beautiful, most original, fastest ascent and most maneuverable, and an overall winner is declared. Most years there has also been a Junior Championship for contestants under 12 years of age. This year our son Erik had more points than any other competitor so the committee awarded him the overall championship. It was a very blustery day and the older competitors had great difficulty, particularly with their larger kites, which aided Erik's achievement, as his Flowform won the largest kite category. He also flew a Flexifoil Skysail and two home-made deltas.

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The championships are sponsored by Aer Lingus (national airline), the Jury's Hotel group and Valley Ice Cream. Erik was awarded the Joe Bergin Memorial Trophy, named in memory of Joe Bergin, a dedicated kiteflier who worked for Aer Lingus.

Erik's prize was a weekend for the family at the popular Jury's Hotel in Cork, with flights to and from Cork via Aer Lingus. Erik's father won a similar holiday at Jury's Hotel in Limerick.

Attendance at the competition was around 1500 to 2000. Erik's presentation was shown on the national television news the night of the championship.

TAIWAN, R.O.C.

Kin Kan Hsieb, President of the Taipei Kitefliers Association, sends the following news:

The biggest of the Taipei City Kite Competitions was held on November 7, 1982. The emphasis was on the kite's Chinese character, innovative design, craftsmanship and performance. Winners were also judged on the appearance of the kite, the way it takes to the air, its style and the way it flies. The entry form stated that all kites must be made by the participants themselves.

An estimated 30,000 people attended the event and over 1000 kites were entered in the contest. Ten judges winnowed the entries from 1008 to 660, then to 330 and finally to 164 kites before naming the champions. There were 132 prizes awarded to students and 32 prizes to nonstudent kite enthusiasts. Demonstrations by over 12 kite experts were also part of the Taiwan event.

Scenes of kites both massive and creative in Taiwan, R.O.C.

Traction and Duration Records Both Broken on August 28, 1982

By coincidence, two world kite records toppled on the same day, August 28, 1982.

The first, for kite traction, distance by water, was achieved by Greg Locke and Simon Carter of the Brighton Kite Fliers of England, copiloting an 18-foot Dart catamaran as it was towed by kite from Selsey Bill to Port Slade near Sea. The distance of 25.56 miles surpassed by 9% the previous record set by Samuel Franklin Cody, who crossed the English Channel under kite tow on November 5, 1903.

A Stratoscoop kite (Parafoil derivative by Greens of Burnley) with closed leading edge and measuring 2.7×2.3 meters towed the voyagers for 5 hours 13 minutes. Winds of 16 knots were prevalent but fell off at trip's end. The boaters tacked upwind at 15 degrees during the excursion.

The second world record, for duration of kite flight, was broken by the Edmonds Community College Kite Team flying a Parafoil in Long Beach, WA for 180 hours 17 minutes. The mark broke the previous record of 169 hours set on May 7, 1977 in Fort Lauderdale, FL by a Will Yolen-led team. ECC power Harry Osborne reported the story exclusively to *Kite Lines*:

The effort was planned to coincide with the first annual Washington State International Kite Festival, promoted by the Long Beach Merchants Association and marked by good attendance and kites of every description, including-particularly-Parafoils. Doug Hagaman flew 8 to 10 of his beautiful softies. High above the festivities flew the 25-square-foot blue and yellow Parafoil, the enduring one of the three Jalbert-designed kites Osborne had selected for the duration attempt. It was now just hours away from tying the world record. At 9:50 p.m. (P.D.T.) on the 28th of August, when the 169th hour was reached, several dozen people gathered, the last seconds were counted off and the champagne bottles were opened. The mayor made a toast to the crew while flashbulbs went off and TV lights pierced

For the bis department is devoted to reports of record-setting achievements with kites. News will appear from time to time, as it arrives, in Kite Lines. Publication of a report is not to be construed as official recognition by Kite Lines or any other party of any attempt at a record.

Left, Harry Osborne of the Edmonds Community College Kite Team, flies the custombuilt duration Parafoil—the Domina One, at Long Beach, WA. He artfully positions a flag attached to the kite line to fly under the city arch.

the darkness. It was a joyous moment. Long Beach was chosen for the effort because of its winds, space and city support. Visitors day and night lent words of encouragement. But there were skeptics.

Osborne recalls three people who kept showing up at all hours in a pickup truck, always drinking beer. At 2:30 a.m. on the sixth day, they arrived and said, "All right, where are those kites?" The team member on duty led the skeptics to the kite lines and invited them to tug on the cords that disappeared into the morning darkness at a 60- to 70-degree angle. "How do you know there is a kite at the end of the line?" they asked. On the final morning, two of the three were back again. "I guess you guys are for real," mumbled one. "Good luck."

It was necessary to walk rapidly to keep the kites in the air when the wind ceased. *Kite Lines* confirmed, however, that during this period the larger Parafoil was usually 200 to 300 feet up and never came closer to the ground than 35 feet.

During midweek, there were four days of constant 15 to 25 m.p.h. winds out of the north. There was no rain (only fog) in the nine days. The kite team worked in shifts at night with two people awake at all times, and a log was kept.

The last morning, the wind stopped again and a heavy fog rolled in. Osborne made the decision: "Let her come down, she's done her job." At 9:07 a.m., August 29, 1982 Paul Doherty drew the kite into his hands. It was soaked from the fog. Quietly, Harry Osborne, Paul Doherty, Charlie Miller, John McLaughlin, Doug Hagaman and the others gathered. It was over.

The Edmonds Community College Kite Team has boldly announced that it intends to build a new Largest Kite for the world record. It is planned to exceed the Dutch team's CS 550m² kite of 5,952 square feet, flown August 8, 1981 at Scheveningen, The Netherlands. This kite will also better the ECC's own previous record, a 3,500-squarefooter flown in Seattle, WA on October 3, 1980. Budweiser beer is paying half the cost and the team, driven to recapture the record for the U.S., is fundraising by selling advertising on the new Parafoil's keels.

COMMENT: The Real Competition

Swallowing Guinness is a popular pastime and we refer not to the brew. Rather we note the froth that rises to the edge of tolerance and often spills past it when people shake that keg of absurdist lore called (with a reverent hush) the *Guinness Book of World Records*.

Pillars of the community turn giggly and glassy-eyed as they talk-think-of going down (gulp) in Guinness history. And the latest trend is waiting for them when they get there. The real competition is between competitions.

Organizers are falling all over themselves trying to woo would-be kite record-setters to their festivals. To wit: • The Long Beach (WA) International Kite Festival, August 27, 1983; planning to offer substantial cash prizes of \$500 or more in each category.

• The Ocean City (MD) Kite and Seafood Festival, September 24, 1983; planning to give gold medals instead of cash to record-setters this year.

• The First Australian Kite Titles,

being organized by Hastings Trading Pty. Ltd. and Rainbow Kites (of Australia, not the U.S.), Box 342, Ballina, 2478, N.S.W. for September 1, 2 and 3, 1983 at Ocean Shores, 150 miles south of Brisbane's international airport. Now this sounds more like it-\$5000 total prizes. But it's spread over five categories. Hmmm.

The expense of producing most record-setting achievements is such that none of these prizes represent much recovery of costs. Then, too, transportation (for the kites as well as the team) is very expensive except for local participants. This is sometimes true for other kites, too, that break no records but do a lot for the sky.

The froth is fun. But let's drink deep if we're going to imbibe Guinness. If we're to have a World Serious in kiting, let's coordinate dates, let's include masters of invention as well as record-setters-and let's *start* the underwriting with five figures. V.G.

Pursuing Longest Kite and Tail

A kite with a mile-long tail was reported in several news sources to have flown on the beach at Florence, OR in September, 1982. A Sutton Flow Form kite was used by Joseph Valenti to tow a two-foot-wide ribbon of assorted colors of nylon. The category Longest Kite and Tail is now rumored to be under pursuit by at least *two* other kitemakers. Stay tuned.

Largest Delta Kite Claimed

A 75-foot-wide delta kite was flown for 25 minutes on September 4, 1982 in San Diego, CA. Tony Cyphert made the sail and Gene Carey built the frame. Carey beefed it up for its second flight, which was in front of video cameras. "A big mistake," said Tony. The kite cracked up in flight. "The debacle was shown all over," he admitted ruefully.

A 75-foot-wide delta kite is launched in San Diego, CA. Construction was the joint project of Tony Cyphert and Gene Carey.

An Interesting Failure

Gerald C. Franz, a 47-year-old security guard, quit his job and set out on July 31, 1982 to cross the Atlantic in a kayak pulled by kites. He took along five J-7.5 Parafoils and one J-15, 1000 feet of braided nylon line, a stock of Granola bars and Dinty Moore beef stew and a nervous assistant—who turned him in to the Coast Guard. A rescue cutter and helicopter brought Franz back in a heavy fog from less than a mile off Cape Cod, MA.

Franz lives in Glendale, OH and plans to do experiments on Lake Erie before trying again in a year. The next time he plans to modify a 12-foot boat for the trip. He weighs 200 pounds. He still believes in the future of kite traction. He also still thinks he can prove that a person with no boating experience can achieve such a voyage from book-learning alone. Talking to *Kite Lines*, he said, "It was all positive. It was fun, doggone it."

Only \$2.00, postpaid, refundable with order. Windplay, 232 S.W. Ankeny, Portland, OR 97204, (503) 223-1760

This Issue's Best of Show 🤳

Restofshow

American-born Dan Leigh of Wales builds several types of classic kites but is most known for his deltas. You will not find them in every kite store because Dan's Deltas are anything but mass produced. Dan writes:

Our devotion to kites is total. My wife Bev and I were making kites in the prerip-stop days, and 8,000 or so kites later we're still learning, still experimenting.

I design for all the qualities I personally value in kitemaking, namely, pure simplicity, utmost precision, elegance of form, maximum efficiency and impeccable handling. My deltas react positively to gusts, thermals and crosswinds: they turn around nicely to take line out downwind; they neither flap nor wobble; they fly to a high angle. They are dynamically as well as statically stable, even in turbulence. They are not too large to fly on a handheld "deep sky" reel, nor are they too small and quick. Towing points are mathematically determined. In fact, the whole delta is a mathematical entity, but designed to be pleasing, if not sexy, to the eye.

Unseen complications in the sail have called for as many as 75 different parts on one delta. I carefully choose and match my spars and design my kites around the spars, rather than fit the spars to the kite. Sail symmetry is within .01-inch. The problem of harmonic wobbling of spars was solved years ago, and exactly the right stall is built in to the designs. Each size of kite, from 33-inch span to over 15-foot span, is engineered specifically for the loads involved, and the trailing edges vary from fringed to scalloped, depending on the needs. I strive for wrinkle-free sails in the larger sizes, a task often frustrated by my choice of colors.

The kite in this photograph is a 14-foot-4-inch delta incorporating a single batten per wing. The nose angle is one which I've come to use quite often, 106.7° . This kite in particular was scaled to fly in medium winds (5 or 6 m.p.h. to around 16 m.p.h.).

Bev does the bulk of the sewing on our special order kites and none of this would be possible without her. She also designs her own kites and has developed ingenious building techniques. Although I've refined my ideas over a period of years, I owe special thanks to Harold Alexander, who with John Loy gave me the key mathematical principle which is the essence of all my delta kites. I thank also Bob Ingraham for printing the original fabric delta instructions in *Kite Tales* (predecessor to *Kite Lines*) which set the pattern for my own technique which I use to this day. Thanks also go to the kitefliers of the Round Pond, where I learned the standards of excellence with which all kites should be compared.

This *Kite Lines* series features a reader's kite picture on a whole page in *full color* in each issue. Yours could be the next one! What kind of kite photograph qualifies for this honor?

• First, the kite must fly well. Supporting information must be included describing your kite's typical flight and giving its dimensions, materials and history (in brief).

• Second, the kite must be beautiful. Agreed, beauty is in the sky of the beholder. This is an openly subjective criterion.

• Third, the kite must show some quality of originality in either form, craftsmanship, color, decoration or use of attached elements (not including reels).

• Fourth, the photograph (as a separate consideration from the kite in it) must be of high artistic and technical quality—sharp, well-framed, rich in color. For printing, we prefer 35mm or larger transparencies. We can also use color prints if they are $8\times10^{"}$ or larger. Tip: we favor vertical format over horizontal.

The photograph should be taken in one of two modes: as a close-up of your kite in the sky, the kite filling at least one-third of the film area; or as a background-inclusive shot, showing people, scenery, etc., around the kite. In any case, the kite should be shown well, and not necessarily flying, as long as your supporting information establishes the kite's flyability. In fact, background features give a reference point and sometimes add greater interest to a picture.

We suggest you take many pictures of your favorite kite and send us no more than *five* photographs of any *one* kite at a time. Please enclose a self-addressed envelope with stamps or international reply coupon for return of your photos-otherwise we cannot guarantee their return.

Pictures used must be not previously published. After publication in *Kite Lines*, all further rights revert to the photographer and kitemaker. *Kite Lines* credits both kitemakers and photographers. A photographer may take pictures of a kite not his or her own, but in such case should ask the kitemaker's cooperation in supplying information for the submission. To avoid risk of sending an original transparency, send a duplicate slide for review.

You are invited to enter! You have nothing to lose but your obscurity.

Q.What has...

- 10 Ripstop nylon and taffeta kite fabrics in 16 colors@50¢ to \$5.00 yd. (most at \$2 yd.
- 4 Ripstop & taffeta kite fabric assortments @ \$1.15 to \$1.60 yd. (including shipping)
- 2 Adhesive backed Ripstops & taffetas for kite repair, applique and reinforcemen
- 2 Colors of polyester sewing thread in (low priced) 1/2 lb. & 1 lb. spools
- 8 Colors of ultra-wide (1-1/2") felt tip markers to hand-color your flying dreams
- 1 "How to" kite book you can't live without ... Margaret Greger's "Simple Fabric Kites.
- 24 Nylon tapes, bindings and webbings from 3/8" to 3" wide.
- 4 Fiberglass tubing sizes from 1/2" to 1" o d for larger kites.
- 1 Source for 1/8" to 3/8" fiberglass rods & tubing for small to medium kites.
- 5 Minute Epoxy for instant wood dowel, aluminum or fiberglass kite frame construction or repair
- 2 Tools for hot cutting & tacking of Ripstop or taffetas

A. The Fabric Lady Catalogue. Almost everything for the (fabric) kitemaker...except wind.

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Nylon.	100 yds. for \$1.15 yd \$115.00	All include U.P.S. postage
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