



Return Mail and Many Happy Returns

No. 20

Fall 1984

A Season for Records

Spurred on by the Aussie-U.S. challenge series in June, throwers broke four world records over a four-month span this year as the world competitive pace picked up dramatically. One mark was set in Australia, the other three in America. All were established during tournaments so they become "official" standards in the still rather hazy area of boomerang record-keeping.

The new marks:

*653 consecutive catches by Rob Croll during the Australian national championship in Albury in April. Croll threw for more than three hours, more than quadrupling the previous mark of 146! He used a little, acutely angle V 'rang of his own design that went out a bit over 20 meters (the mandatory minimum) and died on return for an easy catch. (Nick McAuliffe held the practice record of 400 not out.)

*50.8 seconds in the air with a catch by Mike Forrester at the Eastern Regional in Bethlehem, PA, June 6. Broke several MTA tournament times in the 20's. Forrester used an ultra-light Wilhelm Bretfeld-type, weighted "hockey stick" boomerang. (Peter Ruhf holds the practice mark of 1 minute 35 seconds with catch.)

*21.8 seconds for five fast catches by John Flynn at the New England Open in Amherst Aug. 4 topped his own mark of 23.77. Flynn used a slimmed down, right-angled, hollowed-out and weighted boomerang of his and Eric Darnell's design. (Flynn has since broken the 20-second barrier in practice with a 19.8 clocking.)

*161 consecutive juggling catches by Barney Ruhe at the Richmond, VA, Open Aug. 18. Topped Bob Burwell's mark of 69 set at U.S. National in 1982. Barney used a pair of medium-sized V-rangs with sharply flared wingtips of his own design. (Chet Snouffer held the practice record of 150.)

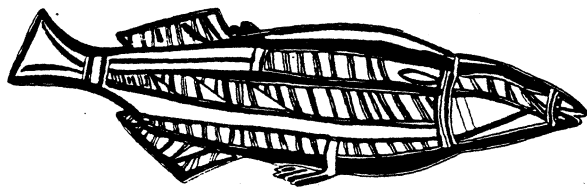
Cheers to four of the new kings of the sport—Croll, Forrester, Flynn, and Ruhe!

Highlights of the '84 Circuit

Following is a rundown on some of the 1984 boomerang throws around the country *not* covered in the last issue of this newsletter (and kindly note that the length of commentary may simply indicate whether Ben Ruhe was fortunate enough to attend the event or had to get information secondhand):

New Haven. Yale's annual workshop and tournament kicks off the American competitive season in April. Perfect day (first in weeks, literally), tripled the attendance of the previous year. A newspaper reporter covering the throw enters the competition and wins the \$100 Lands' End first prize, with Peabody Museum director Leo Hickey in close contention. In a boost to the sport, Hickey writes later that the event has already assumed classic stature at Yale.

Memphis. Ben Ruhe and nephews Barney Ruhe and Peter Ruhf introduce boomeranging to the mid-South at the Memphis-in-May festival. After a wipeout wind day, they demonstrate and teach for almost nine hours in 92 degree weather, under a cloudless sky, beside the Mississippi. Thousands watch and learn. Barney figures out how to make the accuracy competition interesting to watch: taking a bag, he opens it wide, announces he is going to plunk his boomerang right into it on the return, then comes within a foot of doing so. At the end of the exhausting yet exhilarating day, a nearby restaurant treats the three and their entourage to free drinks in thanks for all the spectators they have lured down to the end of the island. "Let's do it bigger next year," says the festival organizer.



Highlights of the '84 Circuit (cont ...)

Portland. Marjorie Gerrish's long-running Pacific Northwest championship draws all the West Coast whizzes plus four members of the touring Australian national team. Very successful day, as usual. Team events prove the highlight. Leni Barker, all the way from Sonora, CA, is discovered as a new star. "It was a rare opportunity to meet and talk to the Australians," he says. "They were wonderful. I was shy and a little afraid to show my 'rangs. The Australians immediately began digging through my bag and wanted to trade. I traded Mark Schafer for a Binghi boomerang. The next day I took first in fast catch with that 'rang after only five minutes of practice."

Buffalo. Intelligently and *firmly* run by Drs. Mike Gramly and Frank Bajer, this annual workshop, demo and tournament attracts its usual group of home-grown adepts and a substantial visiting contingent, including Eric Darnell and towering son, David Schummy from London, Shelley Mack from Pittsburgh, and three members of the wandering Ruhe clan. As is customary, Gramly uses his own rules and makes the tournament fun for both participants and spectators. Fast catch, for instance, he runs as a head to head elimination, with Peter Ruhf going against Barney Ruhe in the final. Three catches behind the back were mandated and Peter wins by no more than a second in an exciting showdown. With further unimpeachable logic, Gramly awards the over-all championship trophy to a novice, artist Linda Kitchen, who scores more points in her first outing than any of the throwers in the advanced category. Afterward, Dave Schummy astounds everyone by launching his 120-yard plus long-range aluminum boomerang with such force that it sounds like a little jet aircraft breaking the

sound barrier. Then on to a half-time demonstration at a big league soccer match where showman Peter Ruhf manages to make several grandstand MTA catches right at the 50-yard line. Shelley Mack pulls off the weekend's most amazing catch: Chatting with a friend, she puts a hand to her hair just as a Wham-O boomerang hovers down, and not ever seeing it she manages to spear it with a finger through the doughnut hole. Gymnast Sam Gottlieb puts on his own entertainment over the weekend as he combines boomerang throwing with flips and break-dancing. Professor Duwayne Hatchett's traditional Saturday night party roars.

Amherst. Larry Ruhf's yearly New England Open is overwhelmed by John Flynn who takes four first and two seconds to swamp the field. This includes his record 21.8 fast catch clocking. Peter Ruhf scores a fine 35.95 in MTA and Kathy Ruhf, wife of Larry, surprises herself as well as the crowd by tying for fourth over-all. Team events end the throw and provide a lot of excitement. "In many boomerang events," says Kathy in the Springfield Republican, "women can be equally skilled as men because the competitions involve skill and do not require brute strength."

Pittsburgh. Shelley Mack, assistant director of the Carnegie-Mellon gallery, shows that art and sport mix nicely as she stages Pittsburgh's initial boomerang corroboree aided by Red Whittington, Ray Rieser and others. Good turnout, lots of interest. A collector of Stone Age weapons and devices of all sorts, Rieser wows many with his museum-quality trove of 19th century Australian Aboriginal boomerangs, including one or two that might be returners rather than the much more common nonreturn killer sticks.

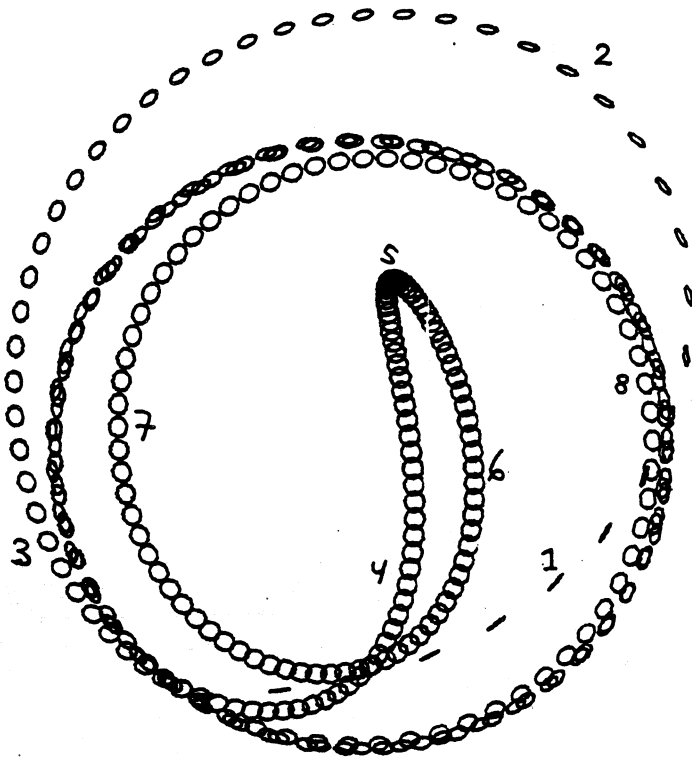


Richmond. John Mauro's fling draws an excellent crowd and a throng of good throwers, including Dennis Joyce who pulls off five fast catches in 42 seconds—launching the boomerang *backward* over his shoulder. Very odd sight indeed, but an effective launch the way Joyce does it. All advanced competitions are done on a mass-throw (suicide) basis. Speeds things up immensely, not to mention adding excitement and drama. With so many people playing fast catch from one base point, Eric Darnell quickly figures out the winning formula: He picks a stick out of his bag that comes around in back of the crowd, thus avoiding heavy traffic at home base. The day, though, belongs to Barney Ruhe. Picking a boomerang named "Eurydice" out of his sack and another simply numbered "39", he gets a juggling sequence going that stops action everywhere else. With Callie Laurent counting, Barney gets up to 30, then 40, then 50, then 60. He makes it look easy, with an eight-second cycle between catches, thus giving him, in most instances, two or three seconds to catch his breath. He is using V-shaped medium-sized 73-gram 'rangs of his own design, with sharply flared tips. They are of 4.5mm Baltic birch and 5-ply. They are unfinished, but have splashes of spray paint on them for extra visibility. At 70, Barney passes Bob Burwell's tournament record of 69 set in the 1982 U.S. nationals and he is still cruising. With 102, Barney himself calmly announces he has just broken his personal best of 101. Then 110, 120, 130, 140, as the skein continues, with Barney moving up and down a line of trees as occasional puffs of breeze move his boo-

merangs around. The only sound now is Barney's loud samurai "Ha!" on each launch, Callie's counting, and the rumble of thunder in the distance as a storm rolls in. Will he be able to beat the impending windstorm and top Chet Snouffer's practice record of 150, which Barney has announced before the match he is taking dead aim at? The crowd is hushed, not even whispering. At about 145, Barney makes a bad throw and runs into trouble. As he loses his flow, the next few catches are desperate and thrown out of rhythm. By 150, he has it back together and when he scores catch No. 151 to set a new world's record there is applause from the assemblage and a flash photo of the achievement. At about 155 Barney has moved down field far enough to encounter a new peril, a big tree in the middle of the field, and then a second trouble, a four-foot depression in the field. Coached by Eric Darnell he stays alive for a few tosses but the end is near. He makes catch No. 161 but throw 162 pendulums in so low and fast he doesn't even make a try for it. The sequence is over—161 catches in a row, taking some 20 minutes in elapsed time. Barney is exhausted but jubilant. The spectators sign *both* boomerangs and some people say it is the most exciting thing they have ever witnessed in sports. Barney is levitating. He starts *giving* away juggling sets. Questioned as to how he did it, Barney explains that instead of the "slap" catches he often uses, he used the samurai "glue" catch—looking at his hands every grab. He then sums up his own feat: "A geometrical poetics in time and space."



Bird's eye view

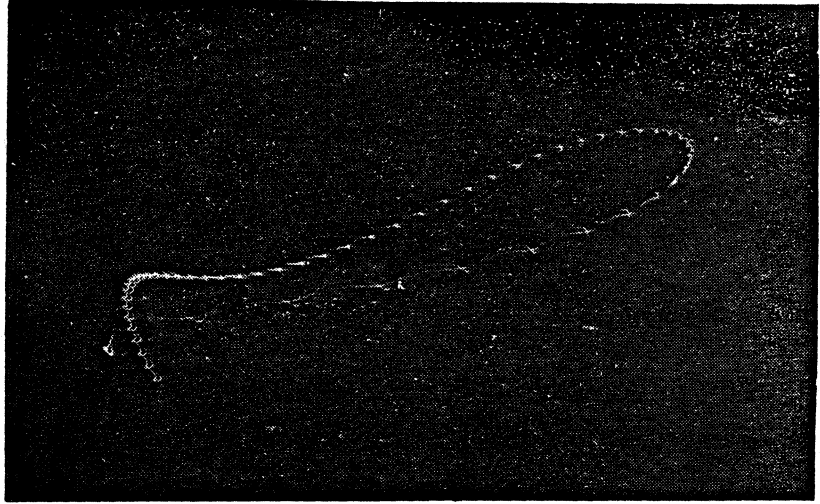


A computer printout made by Felix Hess during the course of his seven-year doctoral research on the subject of "Boomerangs, Aerodynamics and Motion."

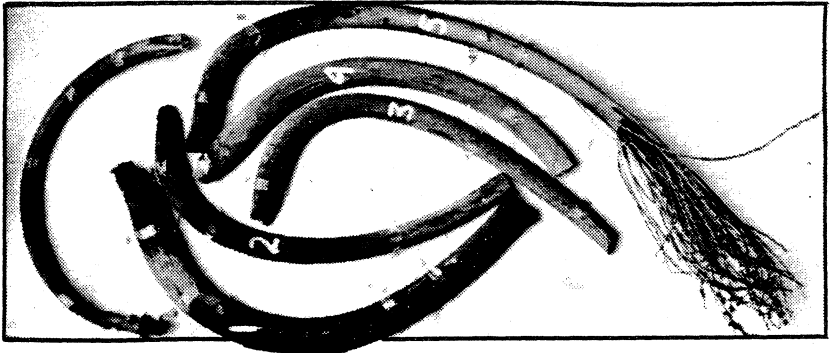
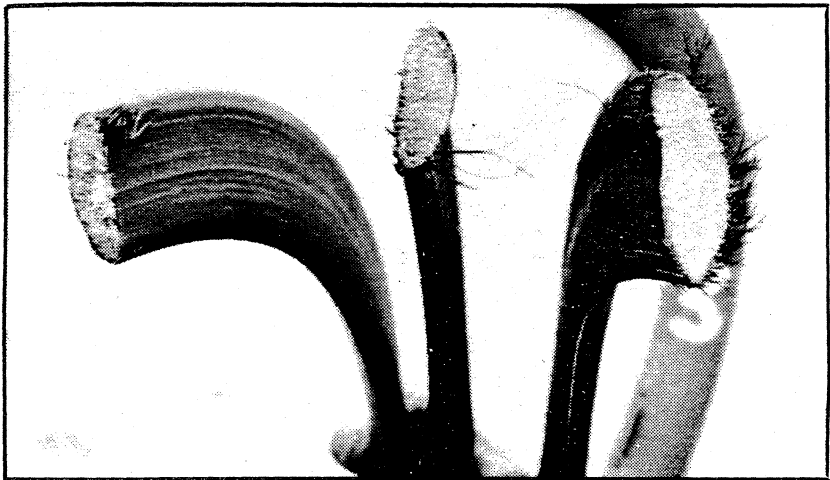
The legendary Frank Donnellan (left) of Sydney with his throwing partner Steve Silady. Donnellan, only about 5 feet 2, in 1936 claimed a world's distance record of 160 yards outward with full return; he also claimed to have thrown a boomerang around a pole 140 yards away and had it return exactly to him. Bob Burwell, Australian national team captain in 1984, saw Donnellan throw several times and casts doubts on these claims as inflated. While conceding Donnellan was a skillful, strong thrower, Burwell says his method of measuring left something to be desired. There the matter rests.



Michael Hanson of Ayrshire, Scotland, nicely captured the return flight of a boomerang in this stop-action night photograph.



Did boomerangs evolve from date palm stems? It's a far-out theory, but notice (bottom) that the stems have an apt shape and (top) have the correct airfoil. Additionally, they are tough and have reasonable weight, which could easily be augmented. Responses, anyone?

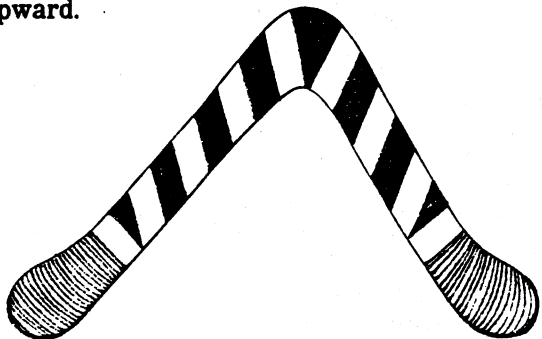


Highlights of the '84 Circuit (cont ...)

Delaware. Aware that Chet Snouffer is holding a big tournament on the same day, Barney calls Ohio and informs the group there what has just occurred, challenging Chet to have a go at the new mark. Chet does of course, scoring runs of 54, 86, then 105 before fatigue and darkness set in. Meanwhile, Ted Bailey and the group of Toledo boys he's been grooming do well in both the advanced and novice categories and Greg Snouffer, Chet's brother, pulls out first over-all, with Gary Brodbent of Cleveland as runnerup. Brodbent is a new discovery on the tournament circuit—enthusiastic, aerodynamically knowledgeable, and adept. He has already pulled off 78 juggles before dropping because he got so excited he held his breath and lost his equilibrium. Brodbent, 22 and the father of two, is a physics major at Cleveland state, where he has taken three courses under Jearl Walker, author of that definitive two-part series on boomerangs in the March-April '79 *Scientific American*. What do they talk about in the halls? Boomerangs, of course.

Cleveland. It's on to nearby Cleveland the next day for that city's open, organized by Dave Boehm, whose boomerang school has been so successful the National Park Service has actually given the group its own big field to use on a permanent basis. As usual for the Great Lakes city, it is windy and Ted Bailey wins first over-all by putting to use some of the little wind boomerangs he scored earlier in the summer from the Australian national team. Gary Brodbent takes runnerup for the second day in a row.

Washington. Proving that tournaments don't have to be well organized and big to be fun, Chuck Bernstein and his avid Kite site crew have a Mall throwoff that permits everyone to win something. Chuck and Dennis Lewis tie for first in accuracy, powerful Paul Ritchie scores in the position game, and Ben Ruhe takes fast catch. Onward and upward.



Verse (and Worse)

by Michael Hanson

An adept French thrower named Pierre, threw his boomerang tres high in ze air, "Where on earth 'as eet gone? Oh, non, non, non, non, eet's gone past ze Sorbonne, flown over Le Mans, traversed ze Dordogne, encircled Narbonne, voila past Dijon, still speening at Lyon, mon Dieu, even Rouen, oh c'est tres bonne!"

You see, the boomerang built by Pierre, performed ever so well in the air.



Great Ideas Department

Robbie Croll of the '84 Australian national boomerang team and his Aboriginal mate (pronounced "mite" Down Under) Andrew Travis cruise the Melbourne area looking for natural wood elbows they can harvest and convert into beautiful hardwood boomerangs. They hunt for trees growing on steep banks that have evolved right-angle trunks or trees knocked level by a storm that have sent branches skyward at an acute angle from the trunk. Well and good, but finding the right elbow of suitable hardwood is strictly fortuitous. Now Eric Darnell, the man with maybe the most questing mind in the whole world of boomeranging, is taking steps to rationalize the supply process. Living on the land in South Strafford, VT, he is busy training young maple saplings to grow the way he wants them. He is binding them so they will have two acute angles per sapling, rather like a figure S. "The Japanese do this kind of tree-training all the time," he notes. Most any hardwood sapling would do, but Eric is concentrating on maples because they have sprouted in profusion on his property. He figures it will be five years or more before he can harvest his crop, but then, what's time! Boomerang enthusiasts around the world owning properties with young trees might consider emulating this project of Eric's. Maybe swaps could be arranged.

Fun and Games at Your Friendly Local Marriott

Sailplane pilot Dick Schreder, whose Bryan, Ohio, Airmate Company manufactures delightful little styrofoam four-bladers that can be safely bounced off a wine glass, suggests that his boomerang could easily be used to capture the world's unofficial, i.e., non-tournament, maximum-time-aloft-with-catch record. Launch off an outdoor hotel balcony (if you can find one), watch the boomerang go into autorotation, tear out of the room and take an elevator to the street level, run outside, locate the boomerang slowly hovering down, catch it, click off the stopwatch you've been using. That's his formula. Alternately, he suggests launching from one of the upper courtyard balconies of one of those Marriott hotels that span the U.S. (and probably the world, by now), take an elevator down, and catch amid the palms. All of this is probably easier said than done.

Antiquarian Item

A Smithsonian curator has turned up a curious item on boomerangs from a publication called *The Collector*, apparently issued in New York City. It is dated Oct. 16, 1892. Here is the item in its entirety—nothing further is known of the matter by this newsletter:

"The latest collection announced (for sale) is one of boomerangs. It has been made by, and is property of, Mr. Horace Baker, an expert wood engraver, long connected with the Frank Leslie establishment. Mr. Baker was one of the engravers employed to go to the antipodes to work on the serial work known as "Picturesque Australia." While there he acquired an interest in boomerangs, and not only made a collection of them, but learned to use them. He has over forty of these curious weapons, all of which have seen use in native lands, and he uses them himself with great skill. He not only collects and uses the boomerangs he has acquired, but he manufactures the weapons himself. As far as I am aware, Mr. Baker is the only Caucasian boomerang expert in the world."

The Nothing Is Too Much Trouble Department

Leni Barker (a man despite the odd first name) of Sonora, CA, takes his boomeranging really seriously. He has glued a 1/4 x 2 x 3 inch strip of firebrick ("light stuff despite the name," he says)

on top of one of his large boomerangs and to this he attaches a burning coal with a piece of wire for night-throwing. "Getting a fire going and handling live coals gets to be a lot of trouble, but it's worth it," he says. "The coal lights up brightly when you throw the stick and looks like a flying saucer throwing off trailing light on the night sky. Wow!" Leni doesn't always do things the hard way. Instead of carrying a source of heat to tune boomerangs out in the field, such as a camp stove, he recommends use of the exhaust manifold of your auto if the car is still warm from driving out of the field. "I just slip the end of the stick between the pipes. The temperature is about right, warm enough but not hot enough to scorch." Repairs anyone? Leni offers this tip. He keeps his boomerangs well waxed. If one breaks, he simply glues it up, then because of the wax is able to flake off excess glue with a pocket knife—thus eliminating the normal need to sand and refinish. As a final note, Leni offers a \$35 value canvas duck boomerang bag he hand-sews that is big enough to hold up to 50 boomerangs—complete with shoulder strap and three inside pockets—in trade for an equal value in boomerangs. If interested, address him at 13050 Fir Drive, Sonora, CA 95370.

Contest/Contest/Contest/Contest/Contest

Carl Naylor carries a hardball to knock boomerangs out of trees where they have stuck. Ben Ruhe carried a slingshot for the same purpose (until it was commandeered by Yves Simonson of Brussels). In addition to an elaborate emergency repair kit for wounded 'rangs, Chet Snouffer totes a nail clipper for fingernails dinged by catches. Jerry Glenn stocks giveaway boomerangs to get curious kids throwing themselves and off his back. Dr. Steve Miller carries an emergency room doctor's first-aid kit; that's what he is, an emergency room doctor. Eric Darnell stocks enough needles for injecting chemicals into his night boomerangs to qualify as a junkie.

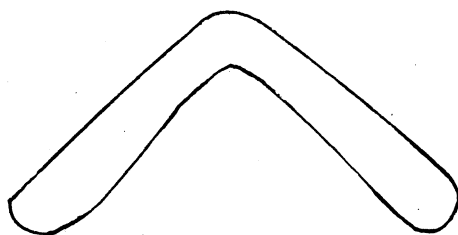
What equipment, utilitarian and oddball, do you carry in your boomerang bag? Take an inventory today—listing everything germane to boomerangs, with explanations if needed—and send it to this newsletter. A coveted Darnell poly Wizard for the best honest list. Deadline: Immediately!

Short-Range, Indoor Boomerang That Works

By John Mauro

Thanks go to Herb Smith of Sussex, England, for developing the launching method. Without that we would still be working on the design.

Herb Smith designed a cardboard boomerang in his "Sycamore" shape which worked quite well. The wonderful part of Herb's design is that it can be launched with either left or right hand. Its dimensions average approximately 1" wide, 6 1/4" long, about 90°, thickness 1.5 mm. His design is depicted below in 1/4 size dimensions.



Equally important, Herb developed a manner of launching which makes the boomerang achieve a very short range—about 8 or 10 feet in distance.

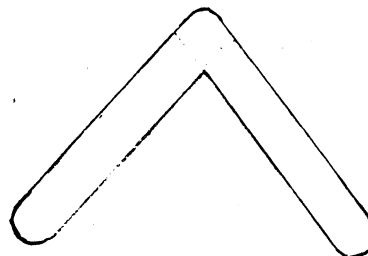
The boomerang is launched from the trailing arm. Grip it lightly between the index and forefinger so that it lays back on your wrist. Flip it upward gently with plenty of layover. Correct launching is essential.

The wooden model boomerang developed by myself is made from 1/32" bass wood, available at most hobby shops. The arms are 7/8" wide and 6" long. Glue the arms so that the trailing arm rests on the leading arm; this is the advice given by Rusty Harding. An 80° angle is about right. After it is glued, round and taper the elbow to smooth out the airflow at the elbow.

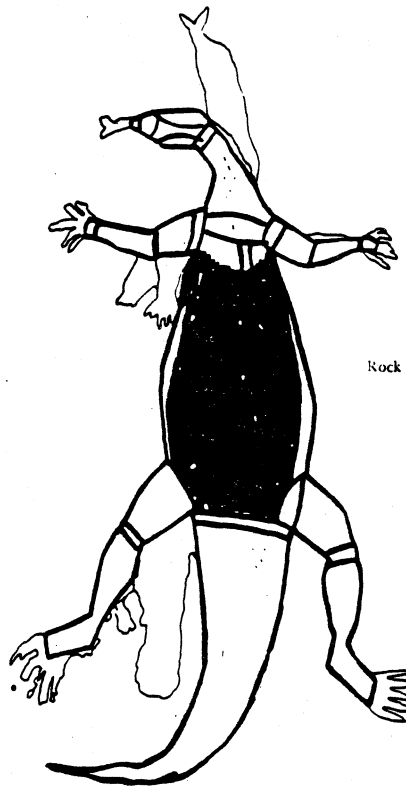


By rounding the leading edges and sanding a small amount off the top of the trailing edges, you can improve its flight performance.

Both models are launched in the same manner.



(Treasurer of the United States Boomerang Association and captain of the 1984 U.S. national team, John Mauro is an official of Media General, a Richmond, Va., communications corporation and an avid boomerang maker, thrower, and collector.)

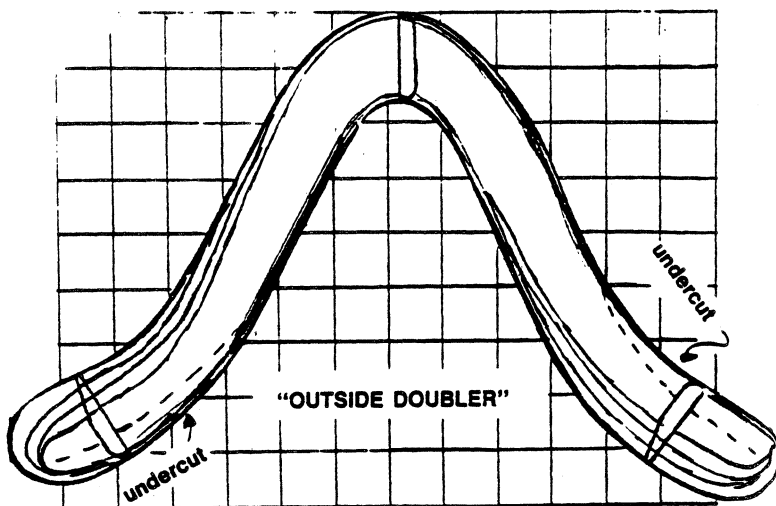


Rock painting.

Aussie Doublers

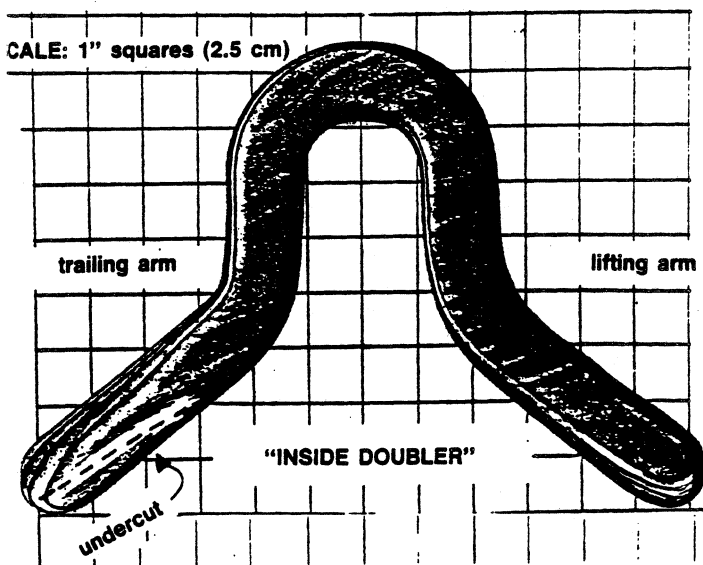
Rod Jones of Brisbane has never been seen in the U.S., but his presence has been strongly felt by American boomerang throwers. It was he who supplied Bob Burwell with a pair of elegantly finished jugglers which the Queenslander used to set the then competition record of 69 straight juggler catches on the way to winning the U.S. national title in 1982. And it was his doublers that were used by Dennis Maxwell and Bunny Read of the Australian national team to sweep one-two in the doubling competition in the U.S. nationals last June. This under conditions of high wind such that many American throwers had one or both of their jugglers blown into the next county.

Tourney host Chet Snouffer of Delaware, Ohio, who contributed the plans shown (reproduced from his *Leading Edge* newsletter), comments that generous undercutting is done on the leading edges on the lifting and trailing arms of the "outsider" boomerang, while undercutting is done primarily on the *leading edge* of the *trailing* arm only of the "insider." This keeps the latter low and tight on return, while the "outsider" hovers in slowly for the second catch. How to throw? Hold the "outsider" against the palm by its trailing (or dingle) arm and complete the boomerang sandwich by grasping the "insider" by the lifting arm. The throw is straight out and fairly vertical.



Short Takes

Carolyn Hakansson's excellent 100-page technical treatise on boomerangs for Reed College is now available for purchase. She'll sell copies for about \$10 plus postage. Address her at 252 Clyde Drive, Walnut Creek, CA 94598 to get an exact quotation . . . Home from Venice where he gave a conference lecture, USBA treasurer John Mauro, reports he never got a chance to launch and catch a boomerang from one of the gondolas plying that city's canals. "Too crowded," he reports. "Also, if you just stand up in one of them, you're liable to fall in the water." John did introduce 'rangs to a cousin and his two sons. The cousin, an engineer, immediately recognized John's 3-Sigma boomerang design as having the Gaussian Curve. What could John do after this but present it to him? The family took nicely to 'rangs and soon was throwing them adeptly, he reports . . . H.L. Mayhew, of Columbus, OH, sends on a quip from his local newspaper; "Credit cards were invented by the same man who invented the boomerang" . . . Greg Shifley of Athens, OH, reports that he keeps his boomerang in fine shape by applying boiled linseed oil to them after each throwing session. He rubs a bit on, then wipes off the excess. Says it gives boomerangs a golden yellow, quite shiny look; keeps them looking like new . . . Vicki Todd of North Platte, NE, taught boomerang making and throwing to 60 gifted 5th through 9th grade pupils in her home town over the summer. There were throwing and best-looking boomerang competitions to wind things up. "A lot of wind, but a great deal of enthusiasm," was Vicki's verdict.



USBA News

President's Message

Return Mail, Feast or Famine

Note the hefty collection of information, articles and *fun* in this edition of Return Mail? Let us explain. Due to the *seasonal* nature of the sport of boomeranging, we have found our fall and spring issues to be bulging with copy—but why not, there's much activity—thinner issues will be put together in the winter months due to the weather, less news but same high quality information and articles of interest.

To keep our members up to date on events and news items, *Return Mail Interim* special mailing reports will be issued from time to time. These two sided, one paged information sheets will be produced by the USBA and sponsored by boomeranging patrons, both commercial and private. Sponsorship of a mailing is \$65 and can be arranged by contacting Ali Fujino Miller. Sponsor is given complete advertising credit for their issue.

So enjoy this issue and the coming editions!

Ali Fujino Miller
President

Last Call

If you are a boomerang manufacturer or distributor and would like to be included in our USBA commercial Boomerang resource list, please contact Maureen Clark immediately. Deadline for entries, November 30th. Write to Maureen at 159 N. Liberty, Delaware, Ohio 43105.

Also: Send in names of reliable wood sources for our USBA Boomerang Listing. Include the following information for our survey:

- Name, address, phone of distributor.
- Type of wood available (estimate of cost)
- Size of wood
- Shipping Arrangements
- Contact name
- Post to Maureen Clark.

The Membership Drive Winner!

Congratulations to Stu Wilson (Eugene, Oregon) for being the USBA winner of a Sir Loren Hawes Pine Special Edition Silky Spinner Boomerang. Stu was one of 16 individuals who generously referred 5 names of interested friends for possible USBA membership. All the members who gave us names were put in a hat and a drawing for one winner was determined.

Special thank you to the 16 members who participated in our first membership drive. Watch for additional events in the future.

International Newsletter

The British Boomerang Society's suggestion that an international newsletter be written and circulated has received an affirmative response from both the USBA and Boomerang Association of Australia. Peter Jonson of the BAA has volunteered to be the first editor and he envisions it as a limited edition publication to be distributed only to officials of boomerang associations at the national and local level. Contents would include short, important news items, a schedule of coming events (a year ahead if possible!), exchanges on rules with a view toward codifying them internationally, news and feature briefs from local newsletter, and a dialogue on the holding of international competitions. Ali Miller, USBA president, sees the need to keep the newsletter simple and straightforward and to avoid the often mind-boggling complexity that besets competition rules, particularly the Australian ones, and other issues that arise between the national federations. Chet Snouffer has put himself forward as a candidate for the editorship.

USBA Competition Comments

Things to think about, give us your opinions . . .

Shelley Mack of Pittsburgh and cohort *Susan Richardson*, both fine throwers, raise a rules issue: shouldn't separate records be kept for women, particularly in the brawn events like MTA and long distance? Ali Miller, president of the USBA, agrees there should be separate records kept as a means of encouraging women to enter boomerang competitions . . .



Leni Barker of Sonora, California—"how about shortest distance contest?" Not so much power, but lots of skill—"and the smallest and largest boomerang?"

Rich Harrison of Monroe, Louisiana—"Why not a 20 m. fast catch and a 30 m. fast catch. A contestant can select which he wishes to throw in—but can *only* throw in one class—since 20 meter really requires a well-tuned boom, this would hurt the champion spirited. Thirty m. is more the range of many commercial booms, thus making it more possible for individuals to compete. Everyone gets their chance to be seen, if both events are from the same target run at the same time—30 m. competitors can throw with 20 m. pros!

USBA Competitive Rules

In effort to give some standardization to competitive boomerang events in America, the USBA has undertaken the task of reviewing competition rules for the last year. The results of several surveys and competition experiments of USBA competition rules is now completed, and final draft is being reviewed by the officers. A generous grant by Klutz Press, Stanford, California, and H. L. Mayhew of Columbus, Ohio, has made possible the coming USBA publication, *In the Bag—Boomerang Competition and Activities*. A special "pocket publication" to keep in your boomerang bag and allow quick reference to boomerang play.

Each member of the USBA will receive *one copy free* (distribution date end of Jan. 1985). Additional copies will be available for \$1.25 ppd.

Our thanks to Klutz Press and H. L. Mayhew for their support.

USBA Nationals

USBA Nationals Director Jerry Caplan has come up with wonderful plans for the U.S. National Championship in 1985. They are still tentative, pending USBA board concurrence, but initially propose having a three-day match at California State University at Northridge, in the San Fernando Valley, close to Burbank airport and the beaches of Santa Monica and Malibu. Jerry turned the administrator of athletic fields there onto 'rangs by giving him a lesson that culminated in a catch on the fourth throw. This year's activities will feature a lecture on "15 years of Boomerang

Development" by Ben Ruhe, USBA Silent Auction and more, more, more. Excellent and inexpensive university housing and eating facilities are readily available. The tentative dates are July 19-21. Watch for our *Return Mail Interim* flyer on all the details and registration information.

Acu-I/Wham-O-Rang Contest

Wham-O, Inc. is going ahead with its 2,800 university campus demonstration project. Details on the campus project follow below:

What is Wham-O-Rang? The Wham-O-Rang is a new three-bladed safe boomerang. Wholeheartedly endorsed by the United States Boomerang Association. The Wham-O-Rang is rubber tipped and travels out 30 to 40 yards before returning.

Competition: Competition with the Wham-O-Rang will be both individual and team. Events will include Accuracy Throwing, Trick Catching, and other easy to perform events. Through cooperation with the United States Boomerang Association, a skilled boomerang thrower will come to your campus to conduct instructional clinics and assist in conducting the event. There will be no national championship in this event this year; however, this is a new, fun event.

Contest Kits: Wham-O, Inc. will produce and distribute contest kits to each of the campus program directors. These kits will give the campus program coordinator everything he/she needs to conduct the contest:

- Posters (for total campus-wide distribution)
- Scoresheets
- Contest Guidelines
- Award Certificates
- General information sheets describing the contest for all interested persons
- Press kits (for campus and local community media)
- Wham-O-Rangs

All campuses are eligible for the ACU-I Wham-O-Rang competition. The kits will be available by October 15, 1984.

Wham-O, Inc./Sports Promotion
835 E. El Monte St.
San Gabriel, CA 91778 for participation.

1986 USBA Nationals

In keeping with our policy of moving the USBA Nationals around the country (to allow fair access/participation for *all* members as well as promoting boomeranging nationally) the USBA is soliciting for a 1986 site—a *southern* city in the USA which would like to host our annual get-together.

Members interested in hosting the 1986 USBA Nationals should contact Ali Miller no later than October 31, 1984. Each host site director will be mailed a USBA Nationals site proposal form to fill out and return.

Board review and decision will be made and announced in the spring issue to *Return Mail*.

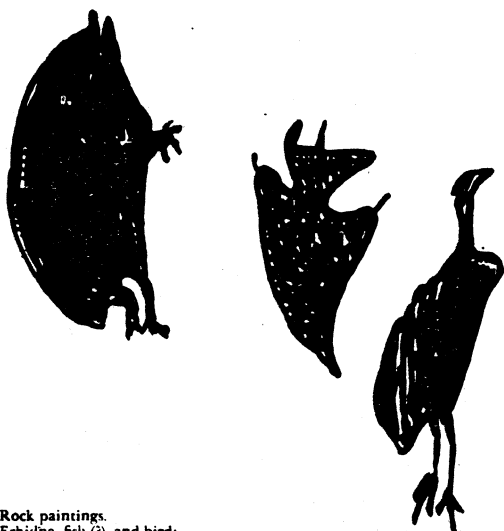
Special USBA Offer

A limited edition of 50 commemorative Challenge '84 Press Books will be completed by November 30, 1984. Twenty-five of the books will be presented to team members, and corporate sponsors, leaving 20 for membership sale. Each book contains complete Australian/USA press account, event commentary as well as event memorabilia. A true collector's piece. Each edition is no. and bound. Over 50 pages.

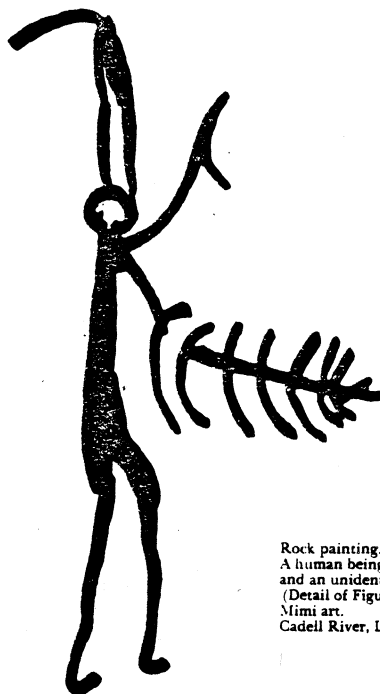
Price: \$30 ppd. (Foreign mail add \$5.00)

First come basis.

Send check or money order to USBA, 4030-9 Forest Hill Ave., Richmond, VA 23225.



Rock paintings.
Echidna, fish (?) and bird;
possibly predating 'early' Mimi art.
Deaf Adder Creek area, Mt Gilruth, Site 7.



Rock painting.
A human being holding two boomerangs,
and an unidentified design.
(Detail of Figure 20)
Mimi art.
Cadell River, Location 8.

USBA Call for Nominations

Now is the time for USBA members to participate in selecting nominees for board officers and directors. Please send your requests for nominations to the secretary of the USBA—Ted Bailey. The requests should be postmarked by December 31, 1984 to be considered.

Two or more nominees will be listed for each of the officers: (1) President, (2) Vice-President, (3) Secretary, and (4) Treasurer. Six Director nominees will also be listed.

If you would like to participate in the USBA as a member of the board, then now is the time to get others to recommend you for the position for which you are best suited. Either individual requests or petitions will be accepted. All that is required is that the nominee be a member of the USBA in good standing, and have a willingness to work hard to keep the USBA moving and alive. Individual skills that are needed include: accounting, typing, writing, and the ability to organize events and deal effectively with people. Experience as a board member of other organizations would also be an asset.

It is requested that all candidates for nomination prepare a brief (100 words) resume to be attached to the ballot so that voting members will be aware of your qualifications. Elections will be held at the next general meeting in Los Angeles next summer.

USBA Job Descriptions for 1985-86

President: Primary responsibility is to keep the USBA financially operative and develop and implement boomerang activities which meet the needs and desires of the membership as a whole.

Vice-President: Develop and maintain competitive boomerang standards for the USBA and assist the President in the promotion of boomeranging; develop and maintain USBA memberships; coordinator of USBA nationals.

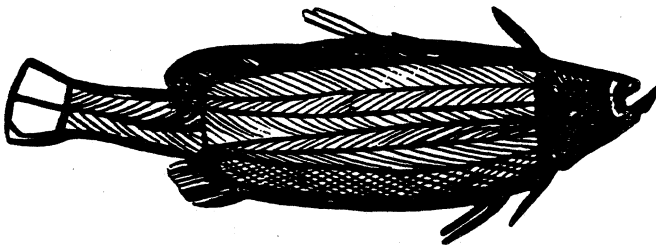
Secretary: Handle all printing (publication aspects of the USBA); attend to general correspondence (international and national); keep USBA records and minutes; responsible for USBA annual elections; maintain USBA product sales/marketing.

Treasurer: maintain all financial records of the USBA; balance the books; give annual report; report financial expenditures for USBA; accounting of all USBA donations, membership and sales funds; account/monitor USBA tax exempt status with accounting officers and the IRS.

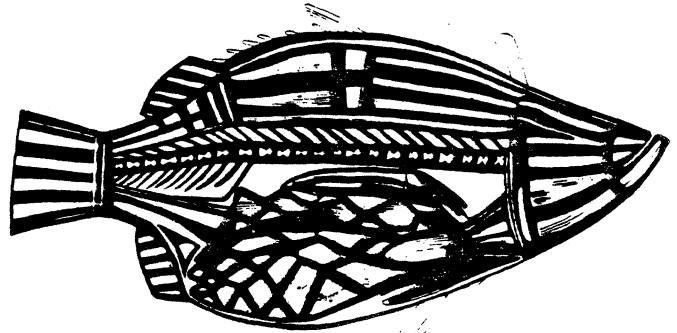
USBA Board: to serve on one or two major USBA projects under the direction of the President.

In the past Officers and Directors have given up to and over 20 hours a week service to the USBA as well as making generous monetary donations to the USBA to help further educational and promotional activities.

The USBA is looking for a geographical cross-section of dedicated individuals committed to the promotion of boomeranging as a science, art and sport.



Rock painting.
A barramundi with X-ray features.
'Late' Mimi style.
Near Cahills Crossing on the East Alligator River.



Rock painting.
A barramundi in X-ray style.
Near Cahills Crossing on the East Alligator River.

In the Wind

Best Bets Column: Ben Ruhe will list new products of interest.

More Photos: USBA Return Mail goes B/W!

Features: More Rusty Harding "Chips" of Boomerang Wisdom

Trading Post

Free classified for members; trade, sell or give away; send us your notice, and we'll oblige.

Boomerang collector/thrower reducing his boomerang collection from over 100 boomerangs to even dozen. All boomerangs to sell for a fraction of the original price. If interested, send SASE for complete list and prices UPS prepaid. Write Hugh Vandergrift.

Trade

Willing to trade the last of Rusty Harding's limited edition series of Mahogany tropic hooks, (only a few in existence), for something of equal value. A list of edition series holders supplied. Contact Ali Fujino Miller with your offer.

The affordable, long lasting *Windicator*—a must for all boomerangers to check wind direction and velocity—3 ft. tall, collapsing on 1 ft. segments; high visibility fiber glass rod with multicolored mylar ribbon indicator; slant cut tip for easy ground insertion. Send \$3.50 ppd. to USBA.

Report from Asia

Writer John Calduzzi is home in Ohio after a year's stint as a teacher in China. Here's what he has to say about the boomerang scene in Asia—or rather lack of it:

"Ah, China. Not much hard news to report. I brought with me my one and only boom, a seven-layer Finnish hardwood job. China's just as crowded as you'd imagine, but on the campus of Xian Foreign Languages Institute where I lived the soccer field would generally clear out after dinner and before the late evening kite fliers took over. Most of my students—college juniors and seniors—had heard of boomerangs, but none had actually seen one before. The first time I threw it six or eight of my students smilingly queued up behind me, stared in open-mouthed awe as the boom curved out over a plum orchard (I turned around to watch their reaction) and then, as the 'rang sailed back home, they all ran away. Soon we had a crowd throwing and yelling and laughing. I soon discovered that among strangers the boomerang acted as an icebreaker second only to a polaroid camera, which I did not have. Later in the evenings it was often buzzed by bats.

"It's one of the few things in the world the Chinese do not claim to have invented multiple centuries before the rest of us. I checked only casually on this, but the Chinese don't seem to mention boomerangs at all in past or present history. But what if they were to catch on? A billion people chucking boomerangs! I do believe they're missing something by not including boomerangs as one of the Four Modernizations. What a perfect metaphor it would be for Taiwan. There it is, floating out there at sea, after leaving the motherland, and now it's waiting for the right (political) wind to send it on home, where it belongs. At least that's the way 100% of my students think about it.

"So I didn't do all that much with my boom during the year. In July, though, I did chuck it a bit in Turpan Oasis, in the Gobi desert, at about 500 feet below sea level—the lowest place on earth next to the Dead Sea. Incredibly thick dry air with an average afternoon temperature of maybe 115F. It just floated and floated, like a rotor that had escaped its helicopter. Probably a good place for MTA record attempts if you happen to be passing through. On the Trans-Siberian Express (Beijing-Ulan Baator-Moscow over seven days).

"I was planning to jump off the train during one of the 10-minute stops and attempt what I was sure would have been the first-ever boomerang throw in Mongolia, but you could never find the space in the stations or get far enough away (the armed guards were always shooing you back towards the train) to really let fly. But it was a nice thought."

New Book

Jacques Thomas of Lyon, one of Europe's major figures in the sport of boomeranging, is going ahead with publication of his authoritative volume, *Magie du Boomerang*. He plans an author's edition of 100 copies and will inscribe them upon request. The book will run some 200 pages and have more than 200 illustrations, both photographs and drawings. It will cost about 200 French francs, or about \$25 U.S. Americans can order via Richard Harrison, 311 Park Ave., Monroe, LA. 71201. A check for \$25 will reserve a book and cover postage as well. People from other countries desiring to order should contact Jacques direct. His address is 24 rue Tronchet, 69006 Lyon, France. Sounds like a necessary addition to any boomerang library. (Even if you don't read French, the illustrations should be worth the price alone.) And remember, you have to be quick with boomerang books. Many people wish they had a Felix Hess doctoral dissertation and Lorin Hawes *Boomerangs* on their shelves. Both became almost instant collector's items. Knowing Jacques' magazine articles, one can safely assume this book will be a classic.



Teaching Tip

The boomerang throw has been compared to a tennis serve (not very aptly—certainly so when one considers the Aussie fling off the chest) and a catcher's snap peg to second base (perfect, but possibly incomprehensible in countries where baseball is not played). Here's maybe the best analogy yet: The boomerang launch is like the cast of a fishing rod. Straight back, straight out. Try this out in the air for yourself and see if you don't agree.

Flight School with Rusty Harding

Again this issue, former aerospace engineer Rusty Harding of Lebanon, TN, tackles some difficult questions about the returning boomerang—a particular area of interest to him as a ranking boomerang manufacturer and skillful left-handed thrower:

Q. I have a favorite boomerang that I'd like to make as a mini. How does one scale down with success?

A. By trial and error. That's a simplification, of course, and one that needs some explanation. One would like to assume that if you reduce each dimension by the same factor (say 1/2) that everything will work out. Actually, with most normal size and shape boomerangs, that's exactly what I do, to start. 6 mm thickness becomes 3 mm (I use 3 mm, 5 ply, so the density, scale-wise is higher), the 1 7/8" chord becomes 15/16", the tip to tip dimension of 16" becomes 8", etc. However, the cross sectional shape (airfoil) may or may not work for the design, and the necessary undercutting may prove to be different.

I start by using an undercut similar to but considerably less than the full scale model. Then, I use a simple, semi-crude airfoil section. Cut less than what you think is necessary. You may find that you have severely overcut if you don't!

Test! Test Again! The proof of the pudding is in the performance! Cut a little at a time until you get the flight you want. If you're not well-versed on standard tuning procedures, you'll be taking your chances here. As I cover them in depth in my soon to be published book, I'll not elaborate on them at this time.

While you're making your mini, keep in mind that the finished product will weigh 8 1/2 to 15 grams, a scale factor of eight to one, roughly. Indiscriminate painting can become a significant part of that. *Never* put heavy coats of paint on a mini. Spray, and lightly, lest you turn your nice mini into a lead boat!

For those scientifically inclined, Reynolds numbers change, and scale factors affect the lift developed by the airfoil. In addition, small control surfaces do not have the same effect on performance (scale-wise) as do larger ones, as many airplane homebuilders have found out when scaling down a favored design.

Making mini booms is a rewarding experience, but sometimes a frustrating one. Do be prepared to accept defeat! Some designs just do not lend themselves to mini booms.

Q. I live in a windy city and want to know what is the very best boomerang for throwing in a breeze.
A. There is no very best boomerang for throwing in a breeze! However, there are ways, and boomerangs that will improve your chances for success in throwing in the wind.

The simplest solution is, of course, to add weight. Heavier boomerangs are blown less by the wind than are light ones, much in the same manner that a 747 is affected less than is an ultralight airplane. But, heavy boomerangs take their toll on arm and shoulder muscles. Herb Smith once told me that he trained his muscles for throwing his 6 1/2 to 8 ounce weighted distance boomerangs by exercising his arms in a throwing motion with 15 pound dumb-bells! Obviously, that's not for all people, and even Herb has learned to reduce the weight of his distance booms to ease the throwing effort.

Small boomerangs are also less affected by wind, because they give the wind much less area to work on. The Aussies proved this in the test matches this year, with Bob Burwell's little 7 hook, Rob Croll's small V, Bunny Read's small hook, and the small weighted 'rangs of Peter Byham. The more veed shapes seem to work in wind, too, as with Eric Darnell's Windcheater.



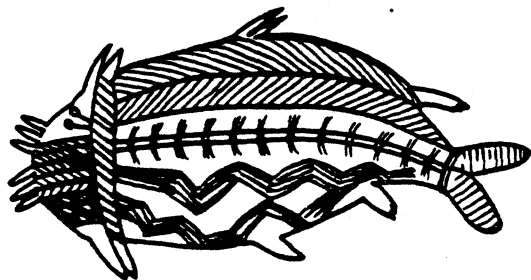
Flight School with Rusty Harding (cont ...)

Thinner wings, and semi-crude airfoils seem to work, too, as they present less area for the wind to act on, and develop less lift in the increased velocities that the airfoil is exposed to.

My own experiments with small booms, V shapes, and special designs seem to verify the above.

Throwing in the wind can be frustrating, but there are special throwing techniques that can help. The basic problem in wind is that the boomerang is laying down during flight (remember vertically spinning launch, horizontally spinning return?) and so is at about a 45 degree angle at the time its back, or flat, side has maximum exposure to the wind. Naturally, the wind then blows the boom back toward the thrower, and skyward (zooms) because of the vertical thrust component. Now, the backward motion doesn't really represent much of a problem (the boom just comes at the thrower a bit faster) but the gain in altitude makes the boom go over the thrower's head as it drifts on the wind. However, if the thrower aims a bit higher than normal and throws with negative (or reverse) layover, the boomerang, in laying down, becomes essentially vertical at the maximum wind exposure point, resulting in being blown back toward the thrower, *but not upward!* Because the boom is spinning vertically at this point, it will tend to dive, rather than just turn, which is why you should aim high in the first place! With a good throw in this manner, the boom comes in low, with the additional wind velocity added to its forward speed, but it is low enough to be catchable! Incidentally, throwing in the wind requires less throwing force (forward speed), relying on the wind to complete the return.

Q. Most people who have done a bit of boomerang study understand why asymmetrical two-bladed boomerangs lay down in flight, but why do symmetrical three, four, five, and six-bladed boomerangs also lay down?



A. The assumption here is that all blades on these radiate from the center of boomerang rotation and, therefore, the maximum average lift is developed such that the center of average lift always lies on a vertical line passing through the boomerang's center of rotation. Thus the precessional axis is always vertical, and laying down should not take place. At least, that's the argument.

There are those who feel that the boomerangs lay down because of "wake effects", or the effects of following arms flying into air that has been disturbed by the arm ahead of them. Personally, I do not subscribe to "wake" theories for any boomerangs. With the pulsating airflow conditions (at approximately 10 pulsations per second for average boomerangs) experienced by boomerang airfoils, I seriously doubt "wake effects" are large enough to make a significant change in conditions.

My thoughts on laydown of multiarmed boomerangs is as follows. When initially thrown, these boomerangs turn at a sufficiently high rate that they are not affected by gravity. As they begin slowing down, gravity slowly pulls them down, slightly changing the flight direction downward. Turning precession continues about the axis perpendicular to the spin axis, and perpendicular to the direction of flight! *But, since the direction of flight is NO LONGER parallel to the earth's horizontal plane, NEITHER is the precessional axis perpendicular to the earth's horizontal plane!* Since the precessional axis is now tilted with respect to earth coordinates, both turning *and laydown* do occur along the earth related flight path!!! This theory preserves all natural laws, and extensive flight testing adds credence to it.

Additionally, though the arm of the boomerang develops maximum lift when the arm is straight up from the center of rotation, the point of maximum lift concentration for most airfoils (semi-crude included) is located 25% to 40% from the airfoil leading edge. This makes the point of actual average lift *forward* of a line drawn vertical from the center of rotation, thus tilting the axis of precession forward, causing turning *and laydown*."

Correspondence

Attorney Ralph Brown of Minneapolis makes this fascinating contribution: "I submit the perfect combination of two winter sports—boomerang-throwing and ice-fishing. I believe boomerang-throwing is fascinating all by itself, but many people have rightly felt that our traditional winter activity, ice-fishing, lacked something. A certain self-torturing mentality has always been associated with ice-fishing. But no more! Boomerang-throwing takes nothing away from ice-fishing. There is still the tight-lipped camaraderie with the few others, but we add an intriguing activity that does not take the fisherman away from his hole. Boomerang-throwing in winter, on a lake, is perfect. You are provided the open area needed. A layer of snow is great for marking circles from which to throw and catch. The snow, in addition, will keep the 'rang from sliding all over, as on a skating rink. The activity tends to keep one warm and, of course, is good exercise. I have found that gloves do not hinder throwing and help on catches. I have spent some very enjoyable afternoons on Lake Harriet here in Minneapolis, ice-fishing and throwing boomerangs into the setting sun" . . . Hugh Vandergrift, a boomerang collector from Killeen, TX, reports: "After some considerable letter writing and the help of some amateur radio operators in the Ann Arbor/East Lansing area, the elusive W. J. 'Bill' Glover has been found. I started on this quest when I happened across one of his famous Spyder 'rangs and wondered why the maker dropped into obscurity. His Spyder is a joy to throw. No one seemed to know where he was or much about him, for some reason. I am glad to say that Bill is alive and well, but buried in his studies at Michigan State University. At 22, he has an impressive personal record of assorted boomerang feats. In the summers, Bill is a stunt performer/acrobat at amusement parks—mostly in Ohio. In addition to this Spyder omega, Bill makes a tarantula hook, a black widow, a mosquito contest hook, a butterfly hook, and a distance cicada. Bill enjoys hearing from other enthusiasts, so drop him a line at 103 West McDonel Hall, Michigan State University, East Lansing, MI 48825" . . . Bill Jarmie and his wife Andree Neumeister of Los Alamos, NM, write: "Some curious and sad news. We purchased the Australian and Oregon Hat boomerangs to revive the pleasure when I was young in West Los Angeles and used to make and throw boomerangs. We

went to a local golf course and let go! An hour later we were still struggling to get one to return. With maximum whip and a slight breeze the Hat almost made it. We were most disappointed. Had we weakened with age so much? Forgotten how? Then, suddenly, we knew—Here in Los Alamos where we live, we are at an altitude of 7,500 feet above sea level, (1 1/2 miles) which translates to 25% less air! And boomerangs feed on air. Are we excluded from the pleasure of 'ranging?" . . . Dan Lady of Bristol, TN (this newsletter's drollest correspondent—by far) tells two tales: "I work for a pharmaceutical company and one day we received a blood sample of an Australian Aboriginal who should have been dead from an overdose of drugs. His being alive mystified most of the people at my company, but not me. I had read of the remarkable constitution of the Aboriginal in Mark Twain's *Following the Equator: A Journey Around the World* and I think that chasing 'rangs has made them tougher men than a locust stump . . . Anyway, a friend of mine who wonders what my opinion is worth ended up with my M17 boomerang and saw it go into the top of a pine tree. Needless to say he lost it. You remember my wife's ability to find lost 'rangs? I offered to send her to look for it at the first time she was available. But in the meantime in a fit of desperation my friend climbed the tree for the fourth time. From the top of the tree he saw the boomerang in plain sight on the ground. He was going to jump to his death if he didn't find it. Back in three dimensions . . ." Inventor Richard Crew of Phoenix, AZ, comes up with something rather surprising and wonderful: "You might find it interesting to know that I became a boomerang enthusiast at the age of 9 or so after discovering what I believe to be an American Indian nonreturn boomerang made by a tribe of Indians that inhabited an area on the Roanoke River near Weldon, NC, where I was raised. I was an avid collector of Indian artifacts from the area and I picked up a curved stick with faint traces of a painted design on it out of a woodpile that had been gathered from a farm area called Mush Island in Weldon. It resembled a banana in shape, with leading and trailing edges. It was definitely a throwing stick. It would partially return if thrown horizontally. I'm now 43 and have yet to cease being fascinated with the boomerang concept." . . . A bit of boomerang his-

Correspondence (cont . . .)

tory is contributed by dental surgeon James A. Maxwell of Brick, N.J.: "I have no idea of why or where I contracted the boomerang disease but its' first symptoms developed in the early 1940's. I didn't even know anyone else who was interested, except possibly Vice President Henry Wallace. I just don't know or remember. At any rate I had it and I had it "bad". At that time, I was practicing in East Orange, N.J. After several attempts at making my own and trying to throw them I somehow heard of Frank Donnellan of Australia and that I could purchase boomerangs from him, carved of whalebone. This was about 1945. I wrote to him and he sent his price list. I ordered two and, not being so smart at the time, I think I ordered the heavy duty, for while I threw them many times, I don't think I was ever able to catch one because they seemed to come back so fast. Of course, it could have been fear or ignorance too. At any rate, there were very few places to practice around East Orange without the danger of hitting someone or breaking windows, both of which I have done. In those days, we vacationed each summer at Cape Cod and I felt that it should be an ideal place to throw my boomerangs on the beach. This proved to be not true for there seemed to be someone around all the time and if there wasn't, they soon came once the throwing began. It was here that I lost one of my whalebone 'rang's. Occasionally, I would throw them out over Nantucket Sound from the beach. I had many returns (not caught, as I have explained above), but one time, I must have had a bad throw for in its flight, the boomerang saw the chance to return to its original habitat and took it. That was the end of it and I learned that they do not float. I almost drowned in an attempt to retrieve it and ended up with my son-in-law retrieving me. All of the above is beside the point for my real reason for writing is to tell you that way back in 1926 I worked at the Sesquicentennial Exposition in Philadelphia, during my summer vacation from college. As is usually the case at these affairs, there were many little booths which sold gadgets to visitors. One of these sold a toy boomerang which worked very well and was nothing more (as I remember) than a piece of 1/4" thick wood about 4" x 5" with a snap spring along the right side. The tiny boomerang itself was made of plastic (probably celluloid in those days) about the thickness of a credit card. To operate, the small boomerang was placed flat on the piece of wood, in a way

which I do not remember, the spring pulled back and when released, it hit the edge of the boomerang, which sailed out about six or seven feet and always returned. It was intended, I think, for indoor use primarily. I am interested in this little gadget because I bought one and had a great time with it because it worked so well. The sad part is that I have never seen one for sale since. I would think that it would be a great little toy that could be made and sold inexpensively."

Adding Finish to Your Boomerang

"For both laminated and plywood boomerangs, I use "west system" boat building epoxy. After a boomerang is fine sanded, apply epoxy with your fingers (protected by disposable gloves) over the entire boomerang. This slow-drying epoxy is designed to soak into wood so one application will provide an effective waterproof seal but a rough finish. After the 'rang is dry test fly to determine if tuning adjustments are necessary. Dry heat followed by cold water immersion is a proven method when done *carefully*. Next, lightly sand the 'rang to eliminate the roughness and do any painting if desired. Apply another film of epoxy and let dry. The epoxy toughens the boomerang as well as providing a glossy and waterproof finish. It is also superior for repairs if you have the time. You can get a product catalog from Gougeon Bros. of Bay City, MI. The phone number is 517-684-7286." John Flynn, Dover, NH, member of 1984 U.S. National Boomerang Team.

"I'm submitting a formula that supercedes anything on the market I've tried. Mix equal parts of boiled linseed oil, tung oil, and a low luster varnish in a 'retired' saucepan and heat til too hot to touch. Apply and it will produce a durable finish." Don Walraven, Lignum Vitae Woodworking, Salem, MO.

"After shaping, I first sand (electrical orbital pad sander) with 100 grit garnet sandpaper, followed by 220 grit, followed by 4-ought steel wool to bring out the patina of the birch plywood. Next I apply one coat of sanding sealer (optional) and two coats of Bevehlee's Wipe-On Zor, a fast-drying tung oil, steel-wooling between coats. Finally, I apply a coat of Renaissance wax, which dries instantaneously, leaving no fingermarks, but a nice, soft luster. Depending on heat and humidity, one can accomplish the entire finishing

process in a 12-hour day. Also note: All of my original boomerangs finished in the above manner two years ago still retain their original luster, with no flaking, peeling, or pitting of the finish. Final Note: As neither the sanding sealer nor tung oil drip, one can either build a rack to hang the boomerangs on, or lay them flat with a small block of wood underneath allowing air circulation. Bevehlee's Wipe-On Zor is available at \$6.95 a pint from The Woodworkers Store, Rogers, MN 55374 (telephone 612-428-4101); Renaissance wax available from Leichtung, 49444 Commerce Parkway, Cleveland, OH. A half-pound costs \$7.95 and a little bit goes a long way. I believe that other boomerang makers will enjoy this finish." Mike Grady, Tallahassee, FL



Boomerang Wood Supplies by Ted Bailey

Many of the fine quality boomerangs available in the United States are manufactured in small backyard shops scattered throughout the country. The success of these craftsmen is dependent in part upon the quality and price of their wood. Various proven suppliers of good quality plywood have been published in various boomerang newsletters. These suppliers include:

Wood Products Ltd. (Dan Russell)
Box 84895
San Diego, CA 92138

Flounder Bay Boat Lumber (Bob and Erica Pickett)
3rd and O Avenue
Anacortes, WA 98221

Violette Plywood
Box 141
Northfield Road
Lunenburg, MA 01042

Trimcraft Aero (Francis and Wanda Dahlman)
6254 Highway 36
Burlington, WI 53105

Aircraft Spruce and Specialty Co.
Box 424
Fullerton, CA 92632

My highest recommendations for both price and quality go to Trimcraft Aero. I contacted Trimcraft Aero 4 years ago through a recommendation from the Palm Beach chapter of the Experimental Aircraft Association.

Craftsmen of laminated boomerangs, of domestic and exotic woods, and of both the lap joint and the steam bent strip construction will find an excellent supply of good quality woods from the following supply house:

Craftsman Wood Service Co.
1735 West Cortland Ct.
Addison, IL 60101

In the January, 1981 issue of Popular Science, an article on choosing plywood was published and it contained the following address:

Hardwood Plywood Manufacturer's
Association
Box 2789
Reston, VA 22090

Upon request, it will mail to you a literature price list. I have recently purchased a booklet for \$2 titled "Where to Buy Hardwood Plywood and Veneer." This booklet has an extensive list of plywood and veneer manufacturers. By contacting these mills, a list of plywood retail outlets could be generated.

Another organization worth mentioning is the Fine Hardwoods/American Walnut Association. Its address is:

Fine Hardwoods/American Walnut Association
5603 West Raymond St.
Suite O
Indianapolis, IN 46241

This organization will send you a literature price list upon request. The "Fine Hardwoods Selectorama" at \$7 is an excellent guide to the beauty of various wood grains and includes a listing of engineering properties which will assist you in the design of new boomerangs. A buyer's guide was included in my order at no extra charge and it contained a listing of several retail outlets for fancy wood veneers.

(Holder of two engineering degrees, Ted Bailey is now working as an aerospace engineer with Teledyne in Toledo, helping design gas turbine engines for jet aircraft.)

Interview with Brother Brian Thomas

The Boomerang Association of Australia issues a quarterly newsletter that is packed with information. Edited by Dr. Peter Jonson, it is interesting reading for any boomerang enthusiast who wants to know what goes on in the country where the magic stick was invented. A yearly overseas subscription is \$20 with the bulletin being sent airmail. Drafts to Peter at 21 Pleasant Ave., E. Lindfield NSW, Australia. Among the highlights of the newsletter are lengthy interviews with leading boomerang personalities. Following are excerpts from one of them, a long talk Peter Jonson had with articulate Brother Brian Thomas, Australian national coach and a strong competition thrower in his own right:

Ed: What are some of your memories of the American visit in 1981?

Brian: No one could forget our stay at Wycheproof. First the townspeople treated us to a wonderful meal in true country hospitality, and after we were fattened up, we all headed for the dark Wycheproof oval armed with boomerangs lighted with tubing with glowing Cyalum to do an hour or so of night flying. All you could see were spinning lights. We held several suicide throws (all together), so when someone yelled, "Duck!" you ducked! It had a real boomerang carnival atmosphere. I feel we have much to be grateful to the Americans for. They brought to us a burning enthusiasm for throwing and competition, and I feel they have shaken us out of some of our lethargy. Throwing in Australia over the last three years since their trip has had so much more purpose and ultimate aim. I think that aim was achieved with our team's big win in America this June. Our standards have really rocketed. Consider that five of the six members of the victorious team were from Victoria, and yet New South Wales won the state title at the nationals. Surely that shows great depth of throwers.

Ed: The Janetzki brothers have been great boomerang designers. Perhaps you could tell us about when you first met them.

Brian: My association with Les and Arthur has been one of the highlights and joys of my life. Two finer gentlemen you could never hope to meet. They make the Rolls Royces of boomerangs. I've not seen anyone come near them for the finish they put on their boomerangs. Probably the closest would be Rod Jones, who is a perfectionist also. Most of Les and Arthur's boomerangs have

been copies or modified versions of other people's shapes, but the shape that is all their own is the Skippy, which is a bit hard to describe. It's like a bent snake wriggling around! Jeff Lewry put me on to them originally. He told me they threw every Saturday afternoon at the Hovell Tree, and to go on down and introduce myself, which I did. That began 5 1/2 years of wonderful friendship and boomerang sharing and throwing. If I went off to a competition and found some thrower had a new shape, I would bring it back and show it to "the boys", who would then try and do a Janetzki version of it. That's the way the Admiral's Hat shape came about, which people admire so much. The first person I saw with it was Billy Knight from Melbourne. Bill was a great experimenter with boomerangs, and a very competent thrower too. He's a former Moomba winner, and was a member of the 1981 Australian Team. Apparently Les and Arthur first got into boomerangs when they bought one from Jeff Lewry's butcher shop. It had warped a bit, so Les had a go at making one himself. And he hasn't stopped. I think the world is lucky that boomerang was warped. When they first began Les and Arthur used to both make and paint their own boomerangs. But then they saw that it was better if Les did the making and Arthur did the painting. Les usually makes them out of old Gestetnar packing boxes. He will often glue two pieces of ply together, and you could never tell where the join was. Over the years they used me to test out new boomerangs that they made before Arthur painted them up. Les is now 83 and Arthur 80, while they live with their lovely sister, Ruby, who is 85. What a trio!

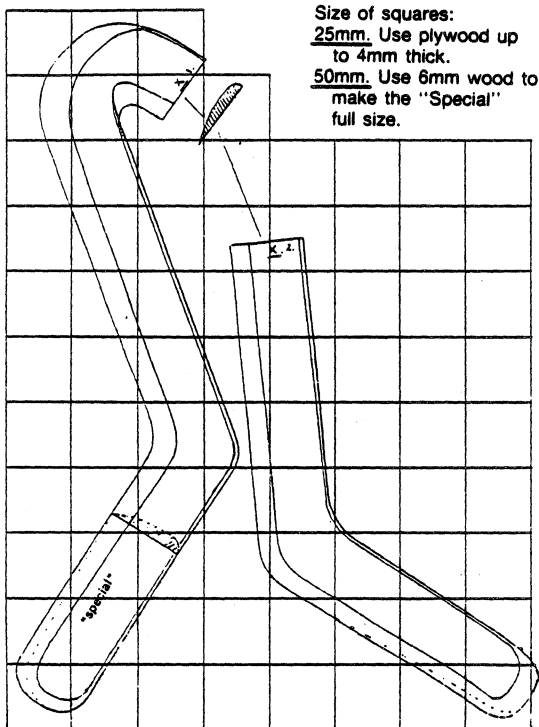
Ed: Over the years, Brian, you've had a great ability to attract publicity to boomerang throwing.

Brian: I think there are a few reasons for this. I think the prime one is that I am a Christian Brother. I don't wear a tie, but a white collar, and that attracts attention for a start . . . The popular media image of religious is that all they do is pray. We do pray, but we do many other things too. So when someone like this is involved with such an unusual and unknown sport as boomerang throwing it makes good coverage for them. They always have their eye out for the unusual. As Brian Thomas I am just an ordinary thrower, but as Brother Brian Thomas I am something different.

V with Flared Tips

Designed by Max Hoeben, Amstelveen, Holland

Plan used courtesy British Boomerang Society newsletter



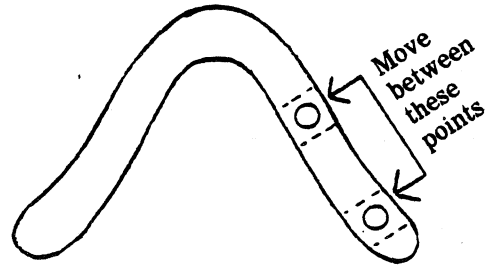
Wingtips

By Chet Snouffer

Weighting boomerangs for specific competition events and particular wind conditions is an easy, quick modification technique—less tricky than tuning by warping, and fortunately reversible: if you don't like the results, move the weight or weights or just take them off. Following is an essay on how to cope, by the U.S. 1983 national champion for his newsletter the *Leading Edge*:

"Situation #1 involves a boomerang that goes 20 meters but might need 30 for a team relay, or goes 30 but needs 40 for extra distance points in Aussie Round. Even a Fast Catch 'rang which is shy of the 20 meter minimum distance. You need more range temporarily, and specifically. Using pennies, nickels and quarters, you can strap a weight to the bottom of your boomerang with

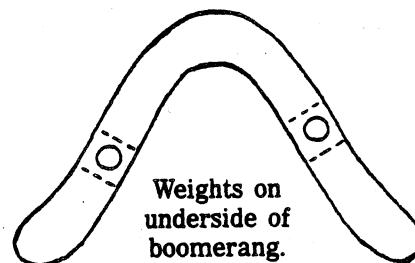
super sticky, super strong stainless steel tape (available in hardware and plumbing supply stores), and pick up specific increments in yardage by moving it further towards the wingtip for more range. The weight is best added to the lifting arm as shown. Try starting with a quarter (be aggressive!) and strap it near the center of the arm.



"Moving it by steps towards the tip will reveal increased range and lower flight paths with each move. Experiment until you find the desired results and, "voila", you're in the running for the event. (Note: with steel tape, you don't wrap the tape completely around the arm to add weight. Rather, tear off a strip the width of the arm and placing the coin in the center of the tape, tack it on the 'rang.)

"Situation #2 finds you with the right boomerang and the right range, but the wind is kicking you out of contention. You need better wind resistance but not necessarily more range (a relay or fast catch. Maybe accuracy).

"This time strap your weights in the *center* of one or both wings—midway between elbow and wingtip. This increased mass will help bite the breeze, but since the weight is placed so close to the center of rotation, the increase in range is minimized. Some of the guys had rows of coins strapped on for specific adjustments to the wind—and it worked. With a little practice and test flying, you'll find that 10 booms in the bag can do the work of 20—a big plus in competition."



Australian Bicentennial

With the Australian Bicentennial due in 1988, the Boomerang Association of Australia has submitted an ambitious proposal to government organizers seeking extensive inclusion of the sport in the celebration. Classes, exhibitions, the '88 national championship and a world cup are proposed domestically, while an overseas tour of throwers to teach and demonstrate would be staged if feasible. The BAA projects a cost of \$33,000 to pay for domestic transportation and accommodations for six to eight teams of five members each for the proposed world cup, with overseas teams being expected to raise the cost of fares to Australia. "Clearly the outlays here are not trivial," the submission states, "but any sponsor should get considerable free advertising through the media interest which would be sure to be generated." Concludes Peter Jonson of the BAA: "The bureaucratic mills are grinding slowly, but initial, official feedback is very positive."

Around and About

Dean Helfer of Morgantown, WV, served as a one-week craftsman in residence making boomerangs at the Busch Gardens in Williamsburg, VA. He also spread the word about the magic stick on a jaunt to the Bahamas. An indefatigable enthusiast for the sport, Helfer says that the Mountaineers Boomerang Club he organized wants to have matches with other university teams in the West Virginia region. Write him at 2150 University Ave., Morgantown, WV 26505 . . . Design engineer Alan Adler of Palo Alto is suing the Parker Brothers toy company for a cool \$16 million claiming he invented the foam boomerang Parker is now marketing so successfully as the Nerf 'Rang . . . John Mauro, captain of the U.S. boomerang team, reports one of the happiest aftereffects of the recent Aussie-U.S. matches. Through his international communications industry connections, John was able to arrange a successful job interview for Aussie player Mark Schafer halfway round the world in Melbourne. Hands across the Pacific!

Throwing in Outer Space Weightlessness

Press mention that Australian-born astronaut Paul Scully—power hoped to be able to throw a boomerang in honor of his native country while on an U.S. orbital mission this year prompted Rusty Harding, the boomerang world's ace theoretician, to come up with the following intriguing comments:

"Yes," he says, "a boomerang should be able to be flown successfully during an orbital flight and return to the thrower *if it's flown inside a pressurized cabin!* In that environment, assuming pressurization is at least similar to some boomerang throwing area on earth, the only difference the boomerang would experience is the lack of gravity. Since gravity affects the flight path of a boomerang only slightly, the only change I can see would be in adjusting the throw to compensate for the slightly altered flight path. Naturally, I'd assume that the boomerang used was one which could fly in the confines of the space vehicle.

"Throwing a boomerang during a space walk would be a different matter. No atmosphere would mean no lift development, and therefore, no precession or turning. Assuming the space walker is the thrower, if the boomerang was thrown in the direction of the orbit, the boomerang's orbital velocity would be increased over that of the space walker and of the shuttle. This orbital velocity means higher orbits). Actually, unless a special effort was made to circularize the boomerang's orbit, it would have an elliptical orbit with the high and low points determined by the launch parameters.

"The boomerang's spin would only act to stabilize the boomerang, in the same manner as spinning a satellite prior to launch from the shuttle. With a launch at normal shuttle orbital altitudes, one should expect a flight duration prior to burn-up on re-entry ranging from a few months to a few years, quite an MTA record without a catch. Given the vast resources of NASA and the shuttle program, it is also theoretically possible to rendezvous with the boomerang after launch and prior to re-entry, really breaking the MTA record with a catch."



From the Archives

Boomerang collector and thrower Ray Rießer of Pittsburgh dredged up much scholarly writing on the boomerang in a foray to a local library—not your usual library but rather the Carnegie-Mellon with lots of anthropological material. He came up with many interesting references to the boomerang, including the following fascinating excerpt from a monograph, *Aboriginal Australians*, by Norman Tindale (occasional correspondent of this newsletter who is now in retirement in Palo Alto) and H.A. Lindsay, from the Jacaranda Press (no date cited):

“ Among most Australian tribes, the returning boomerang was a toy—a plaything whose use demanded skill—but along the River Murray it served a very useful purpose as an aid in hunting wild ducks. A number of natives would go to the head of a billabong and scare the ducks, which would fly at tree-top level down the long lagoon.

“As the flock neared a spot where a man was hiding, he would fling a returning boomerang, at the same time imitating the shrill whistle of a duck hawk. Seeing a dark object soaring above them and hearing the cry which they dreaded, the ducks would dive and fly close to the water. At the right moment other men, who had been hiding under cover, would jerk up a net which had been stretched across the flyway to the billabong, usually trapping many of the birds.

“The boomerang which had scared the ducks would return to the thrower’s feet, enabling it to be used again. If it had fallen into the water, as the non-returning form was likely to do, it would be lost, as boomerangs were usually made of wood too heavy to float.”

What They Had to Say About Australia Beating the U.S.

From Australia

“Bewdy!” Barrie Forsythe.

“Damn tricky them Aussies—I’ll be blown if I can find a winged keel.” Character in Zanetti cartoon, Sydney Morning Telegraph.

“I said we couldn’t win; I’m very happy to eat my words.” Duncan MacLennan.

“What a team!” Boomerang Association of Australia bulletin.

“Just as I felt the American win in 1981 was great for boomerang throwing, I feel that our win this year was essential to keep the momentum going. We needed to establish credibility with the public, who don’t know as much about boomerang throwing as they should. Most fail to realize that people other than Australians can and should be able to throw boomerangs. I think from the two tours it would seem as if the traveling team has an advantage over the others. They are more united, probably have more purpose and are totally committed to the competitions. Home people must put up with the organizational distractions, etc. They are distracted by many things apart from boomerangs. A win to both sides stirs up more interest, and, I am sure, in the near future much more practice for the next encounter. Our amount of success with large sponsorship has not been good, but people like backing a winner, and so this win should help in that area. Finally, I would like to thank wholeheartedly all the Americans who put in to help get our team over there, paying two-thirds of the travel and accommodation costs. Good on ‘yer mate!

—Brother Brian Thomas,

—Australian National Coach.

“A quantum leap for the sport. I want to train a West Australian team to take you people on in a match when you come to Australia. I’ll ask Bob Burwell to coach us.” Jurgen Preuss.

“I just cannot believe the time and effort put in by you USBA people to conceive, plan, organize and run an action-packed test series with all the functions that you laid on. And you have set a very high standard.” Aussie team spokesman Dennis Maxwell.

**What They Had to Say About
Australia Beating the U.S. (cont ...)**

From the U.S.

"The U.S. team wanted to include doubling (throwing two boomerangs and catching both) and suicide, in which members of both teams throw simultaneously and try to catch their 'rang's while avoiding everyone else's. But the Aussies threatened not to show ... "That stuff is all right for a circus act," said Bob Burwell, the Aussie captain, "but not for serious competition." ... "Why not create incredible danger?" said Barney Ruhe of the U.S. team, who does a latter-day William Tell act in which a returning boomerang knocks an apple off his head. "Make it really exciting." ... "When you throw a boomerang, it's supposed to come back," said Aussie Bunny Read, "not kill you." ... Such were the philosophical differences between the two teams—the Americans madcap, inventive, attuned to the esthetics of an ancient, though imported, form of recreation; the Aussies ploddish but confident that their 14,000-year handle on the sport would serve them well." Sports Illustrated.

"Because of the singular nature of the sport, I thought that boomerang throwing would be an exception to the rule that a group of individuals cannot beat a team. I was wrong! The Aussies acted on and off the field as a team, whereas we lacked cohesion." George Reitbauer, member of U.S. team.

"Blast but those Aussies are a cheeky lot!" Wichita, KS, Eagle-Beacon.

"It's not the kind of sport where winning is everything. There's a lot of spirit and respect for your competitors involved. I have mixed feelings about losing. We wanted to win again, but the fact that the Aussies won will probably do more for the sport. A lot of people in Australia don't like to have anything to do with Aborigines, which is where the boomerang came from. But with this win, and all the publicity, it will make them learn to accept it more." Peter Ruhf, member of the U.S. team.

"Who needs a dog? This stick fetches itself. Now, with international boomerang competitions sparking chest-pounding displays of nationalism, it appears that boomerangs are back in a big way." Atlanta Constitution.



"This is more than a physical sport; it's thinking and working together. That's what the Australian team had over the U.S.—it's ability to work as a team and to clearly define and execute competitive objectives. Everyone learned from that, and had a very good time doing it. The better team won, so there's no sour grapes about that. I think any disappointment felt by the Americans was that we weren't prepared as well and could not function when it was necessary. Who could feel down about such a great bunch of guys walking off with the Lands' End Cup? If one had to lose, then this was a swell bunch to lose to. I had my own personal feelings—I was so relieved I wouldn't have to fly across the United States with that huge cup. Selfish, I know, but you didn't hear the nightmare story of me getting the cup from Seattle to Washington." Ali Miler, president of the USBA.

"The two presentation boomerangs are under glass, in a frame, and soon will be hung up (in fact, screwed to the wall) in the Harrington bar." Charles McCutcheon of the Harrington Hotel, donor of housing for the Aussie and U.S. teams in Washington, D.C.

"It's a bit amazing that competitions at Washington and Delaware could proceed in spite of the adverse winds. The only comparison that comes to mind would be a horseshoe pitching contest between two rafts bobbing around in a choppy lake." H. L. Mayhew.

"That boomerang signed by the two teams is a real treasure. You'll never know how thrilled I was to receive it!" Ben Dehner.

"Three cheers for all the organizers, competitors, and fans. The cordiality of the throwers and true spirit of competition made the day at Delaware well worth the travel involved. Chet Snouffer's jumping catches and rolls were most impressive!" Pat and Cathy Schafer.

From Elsewhere

"Now there is the excuse for a playoff series. The 'rang signed by members of the two teams now occupies a place of pride in our museum display." Adrian Green, Dornoch, Scotland.

"A congratulations to your team who did so well in the U.S. I think your win will be for the good of the sport in general and will help give the right sort of build up for the next series in Australia." John Jordan, secretary of the British Boomerang Society.

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804/233-6207

President

ALI FUJINO MILLER
3009 137th Avenue, N.E.
Bellevue, WA 98005

Vice President

CHET SNOUFFER
340 Troy Road
Delaware, OH 43015

Secretary

TED BAILEY
2987 Gracewood Road
Toledo, OH 43613

Treasurer

JOHN MAURO
4030-9 Forest Hill Avenue
Richmond, VA 23225

Directors

BEN RUHE
1882 Columbia Road, N.W.
Washington, D.C. 20009

JERRY CAPLAN
428 Camino Manzanas
Thousand Oaks, CA 91360

MAUREEN CLARK
159 N. Liberty Court
Delaware, OH 43015

