



Many Happy Returns #105 • Official Newsletter of the United States Boomerang Association • www.USBA.org • Winter 2015

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President's Column >

Dear membership,

I am now starting my third term as USBA President. In total honesty, I have never been as excited about the progress we are making as I am now. We have some very talented individuals working for us. While you haven't seen the rewards of their work yet, you will over the coming year. We have a great start in some areas in which we have chosen to focus.

There will be a new web site at www.USBA.org in the first half of 2015. It has been a long time coming, but we want to get this right. We want to have a place we can be proud to send people. We want an accessible platform with current info, and interesting content.

We have been working to get Nationals planed early in hopes that more of us

can make it. I have been in contact with multiple cities that are interested in having us. I expect to reveal the city we chose soon. I remember my first few nationals in 2002, and 2003. We had an event that better reflected our mission as an organization. It is important to me that we bring the Art, Sport, and Science together again. I want to have an event with the craftsmen involved. This event should be a celebration of all things boomerang. I would love to hear some ideas on how we can do this. I am excited for the future of this event.

It is our goal to get the *Many Happy Returns* newsletter functioning at a level that keeps us current. We want this to be a method of communication, where we can share our stories, and advice with the boomerang world. This is open to all who want to participate. If you have any story to share, let's get it in MHR by sending to admin@Two-Ems.com.

We have chosen to take a more public presence than in the recent past. We want to use social media to promote our hobby, and bring both new members, and visibility to boomerangs. In a very short time Jami Kinton has worked to promote the U.S. Team, and has done a fantastic job getting us out there. We are looking forward to having her continued help, and expanding her reach to the USBA as a whole.

We are also taking a new stance on cleaning up the sport during events. It is of paramount importance that all who come to share our hobby feel comfortable. This includes making them feel welcome by helping them to make their own rang, or teaching them how to throw. The area I didn't realize we had failed in so badly was our own personal conduct. For newcomers to be comfortable we have to behave as though children are always watching. I know we can take this to heart, and better our hobby.

The state of the USBA is by no means pretty, but it's improving, and I see this trend continuing. We need to keep new blood coming in, while keeping our veterans interested. It is also important for me to know what I can do to bring back individuals that were once members, but fell away. I want us to come together as a group, and continue to build our hobby. It's important to remember what you love about boomerangs. I know that the most important part for me is the people. Don't get me wrong I love throwing, but it just would not have had the same effect on me without everyone I've come to call friends.

I genuinely want to know what I can do to make this the best organization possible. Please let me know what you would like to see, or what we can do better. I learn from hearing what my deficiencies are, and welcome any advice. The

unfortunate aspect is, as only nine people the board can never accomplish as much as we would like. It is very important to have the support, and help of the membership to expand, and enhance boomerangs. I ask all of you to do anything you can to further the mission of the USBA, by talking about it, teaching people to throw, or working on projects with the board. I know together we can accomplish the goal of the USBA and promote the Art, Sport, and Science of Boomerangs. I am looking forward to the coming year in boomerangs, and hope to see all you.

I want to thank the board, Dan Bower, Richard Bower, Betsylew Miale-Gix, Logan Broadbent, David Hirsch, Adam Stankiewicz Mark Legg, and Kenny Barr. I admire all the talent you bring to the USBA. It is a pleasure working with all of you. Keep up the good work. I also want to thank Don Monroe for his past work on the board.

Sincerely,



James Stickney, President USBA

Editor's note >

Welcome to the first electronic version of Many Happy Returns, thanks to Bob Foresi for collecting & organizing the content. This will display differently in different mail clients, so I'll re-send it to you as a .pdf attachment if you have trouble viewing.

If you've been a USBA member for a while, you'll recall that this newsletter has historically contained drawings & plans so you can build your own working boomerang. Carrying that tradition forward, attached to this email is a boomerang you can send to a 3D printer. You'll have to work for it though - I'm going to make you scroll all the way to the bottom of this *huge* email. See you on the fields.

Paul D. Sprague, Editor



Random boomerang videos >

Following is a collection of video links. If you find one you'd like to submit for consideration for the next issue, please send it in.

John Vassberg | Boomerang Flight Dynamics at Michigan Engineering. A basic aerodynamic model, developed in the 1960s, is expanded upon using Blade Element Theory. https://www.youtube.com/watch?v=T7LAnT2r_vo

Kenny Barr FastCatch - Emmaus PA 10/25/214 <https://www.youtube.com/watch?v=vRzppNF1DG0>

This video sparked a debate on the Boomerang_Talk Yahoo group. The consensus was that's not how to boom, and that's not how to fish, but it was working regardless. <https://www.youtube.com/watch?v=k7Z35X7tFBM>

How to throw a traditional boomerang, by Victor Poulin <http://www.youtube.com/watch?v=jPj53n33F7Q>

Gregg Snouffer, Coach of the United States Boomerang Team, gives you throwing tips and pointers! <http://www.youtube.com/watch?v=TIKN0j2z6Q>

Booms in the Boardroom >

How many people get to throw a boomerang around the corporate board room? I do it all the time with my management teams. And while I haven't mastered the feat of flight with my boomerang yet, it's a great metaphor that aids

creative thinking.

First off, people need to have fun in order to stir up those creative juices. And what's more fun than a boomerang? The word itself brings a smile to most people's faces! And then we talk about throwing the boomerang out as far as it can go. The best way is to streamline the flight with no extra features. In the same way, if you're trying to come up with a creative idea, you won't get far if you load up on all the "why not's". Finally, once that boomerang has crested the curve, it's time to return to your hand. This is where we take all the creative ideas and bring them back to what can actually be achieved.

Using this technique our teams seek out the best possible solutions instead of stopping at the first possible solution. In one challenging session we were trying to find a way to train 300 field technicians as quickly as possible when we only had two trainers and three small training rooms. Our best possible solution generated train the trainer programs and rent free training spaces outside of our corporate buildings.

Our teams love the Boomerang Think™ process. They constantly refer to "placing a sticky note on the boomerang" whenever someone comes up with a "why not". Sometimes we even draw little boomerangs on the corners of our flip chart papers or white boards to keep it top of mind – and fun!

Where can you bring boomerangs into your work?

Carol Ring is a speaker, author and consultant in Corporate Culture.

Carol@carolring.ca, www.carolring.ca



Upcoming events schedule >

OK, so nobody's posted anything yet because it's WINTER unless you're in Australia. That's when sane people stay indoors to *make* boomerangs. There are exceptions of course, like the Wandering Nutmeg Boomerang Society who like to rang in the new year in the freezing cold. But new dates will be posted at <http://>

www.USBA.org/USBA-production/Calendar/ when they are available.

For those overseas, check out the events schedule at <http://www.ifbaonline.org/ifba-tournaments-worldwide-calendar/tournaments/>.

Art Rangs by Bill Glover >



View Bill's gallery of artistic rangs at www.boomeranglover.com

Boom Style >

Are you tired of boomerangs following you off the field into the rest of your life? Neither are we. Booms make great design motifs for neckties or adding some style to your ride. Let's see what you've got.



Aussie aboriginal bark-painting stripeage on Mini Cooper R56 and Clubman R55.



Git It Out There #9 >

Long Distance Boomerang News *By David Hirsch*

With 2014 almost at an end, it's nice to report that there was a good deal of LD activity this year. As a summation, Europe had several tournaments, LD was contested at the 2014 WBC and here in North America there were two LD events, NALDO and LD at the USBA Nationals. NALDO was held once again in Canton, Ohio and Nationals were in Delaware, Ohio. See the LD photos below for a group pic of NALDO and individual pics of throwers with 100m or more from the US Nationals.

"LD and Me" - An Interview with Steve Kavanaugh

Steve is one of the top throwers in the world. He has been on many US Teams at WBCs and has many records. He has not thrown LD all of his career but began in 2009. The following interview was conducted via email. The questions in each of the LD interviews are similar, the better to compare with other interviewees, and thus give a greater understanding of the thrower.

DH: Tell us a little about yourself. Where were you born? Where do you currently live? What is your current job? Married, kids, hobbies besides boomerangs?

SK: I was born and raised in Seattle, and have pretty much lived here my entire life. I am the Sales and Distribution manager for The Essential Baking Company where I started as a delivery driver almost 15 years ago. I've never been married. My only kid is named Caden, and he is 10 years old. He is in 5th grade at Salmon Bay School here in Ballard. Boomerangs is my main hobby, but I also like to travel, while enjoying good food and fine wines.

DH: When did you throw your first boomerang? What kind was it?

SK: October of 1987, at The Evergreen State College, it was Ed Love's Madonna made by Michael Gel Girvin.

DH: When did you become interested in LD?

SK: not until 2009, when Manuel convinced me to try throwing his carbon fibre LD booms at the Bordeaux tournament hosted by Michelle Appriou.

DH: What is your favorite LD boom?

SK: Tom Wythes made me a sweet fiberglass Voyager (?) that has recorded my best distances, and took 3rd at the recent 2014 World Championships. I only got one return in Perth but it was 128m.

DH: What percentage of your LD booms do you make? For the LD booms you make, describe your manufacturing process. What materials do you like best?

SK: zero percent

DH: How do you see LD as it fits into the rest of the boomerang world?

SK: I refer to LD as a "stand alone event", because it requires such a big field, and isn't part of the overall championship. I think it is an "extreme" format of boomerangs and arguably the most extreme and therefore coolest, and also most dangerous boomerang event. LD isn't for the faint of heart.

DH: What throwers have made an impression on you and why?

SK: Manuel for obvious reasons. Don Monroe and Tom Wythes have helped me in events and with LD booms; I used Don's LD rang to win the US championship and my best distances have been with the LD rang I got from Tom. At my first WBC in 1989, Jimmy Youngblood set a new WR at 134m. I didn't see him do the throw, but it was a big, heavy boomerang and I still feel like a little boy compared to Youngblood.

DH: What do you see as the future of our sport, and in particular, LD, in ten to twenty years?

SK: probably the same cast of characters performing at the top over the next ten years. There will be some new faces doing well, but the events require vast knowledge and comp experience; there are limited venues to gain said experience and knowledge. For LD this is exponentially true. I don't foresee any change in comp format coming other than the point and sequence changes recently enacted to trick catch and doubling.

DH: LDs range has steadily increased over the past decades. What do you think is most responsible? Design, strength, materials, a change in the way we throw the boom?

SK: Design and Materials.

DH: Manuel has said he thinks 300m is possible. Do you agree? What will it take to get there?

SK: If Manuel says he thinks he can do 300m, you would be a fool to bet against him.

DH: Since you throw in other boomerang events, what percentage of your time do you spend on LD?

SK: I only throw LD at LD tournaments. To me, an LD tournament is first and foremost a gathering of LD freaks, at a given time and place, to gather and agree to help each other, as accurately and safely as possible, to determine how far they can

each throw a boomerang and have it return between the sticks. Secondly we rank the distances.

DH: It can be difficult to spot LD booms beyond 100m. If you only had one spotter to help, where would you position him?

SK: 45 degrees to the thrower's left at 20m further than the pre throw estimate of the thrower.

DH: For most of us, LD requires a lot of walking and chasing bad throws; as finicky as these booms are, it just seems part of the sport. Do you have that problem? If so, what percentage of your practice throws would you say are good?

SK: I only throw LD at LD events with others to spot.

DH: When we throw, we often say "Be aggressive!". In competition, on average, what percentage of your throws score? 15 or 20 percent?

SK: About 15 to 20 percent is a guess.

DH: What kind of place do you routinely throw in; a school, park or private land? How big is it?

SK: It is getting harder to find good fields for classic 6 event practice. I don't ever practice LD alone. For classic 6 events I like Wallingford Ave n and n 92nd street field, Greenlake is a classic but muddy when it rains, new Magnuson fields are well drained and still nice and new with room for an LD throw if you have big cojones.

DH: What advice would you give to someone just beginning to throw LD?

SK: Go to the events!

DH: Is there anything you'd like to say to other throwers, not just LDers, or about our sport in general?

SK: Plan you boomerang events to achieve one of three goals: 1) get new throwers turned on to boomerangs, 2) have a reasonably fair competition of throwers to see who performs the best at the time and place. 3) put on a good media show. Trying to achieve mixed goals with one format creates frustration and intimidation for beginners and top comp throwers alike.

DH: Finally, if you could have only one boomerang, any kind, what would it be?

SK: 5 ply 1/4inch Baltic Birch Michael Gel Girvin Sunshine

So that's it for this edition of "Git It Out There". As always: Throw Hard, Throw Far!



At Long Distance competitions, throwers who score 100 meters or more are awarded a coveted Twinkie. At last summer's USBA Nationals, Twinkies went to Logan 125m, Brian 114m, David 113m, Steve 108m, Gary 104m, Roger 103m, Nick 102m, and Moleman 100m.

LONG DISTANCE PHOTOS

2014 NALDO



NORTH AMERICAN LONG DISTANCE OPEN CANTON, OHIO - JULY 12, 2014

FOR THOSE THAT DON'T KNOW, THROWERS WHO SCORE 100M OR MORE ARE AWARDED A COVETED TWINKIE. TWINKIE PIX BELOW ARE FROM THE USBA NATIONALS.



Ben's Blog © Ben Ruhe >

These articles were written & collected by Ben Ruhe, the father of boomeranging in the USA. The crowning achievement of his career so far (beyond his work with the Smithsonian, anthropological research and paving the way for international boomerang competition) is, of course, founding the newsletter *Many Happy Returns*.



> Amazing Cross-Country Flight

As part of a demonstration for a school group some years ago, Gary Broadbent launched a floater boomerang on a routine flight. The floater is used in maximum time aloft (MTA) competitions. The scene was a park in Canton, Ohio. The hockeystick-shaped 'rang molded by Gary from carbon fiber and weighing just 16 grams (half an ounce) went up nicely and settled into a hover. Then the kids started laughing as the boomerang abruptly rose vertically, caught in a thermal created by wind rising from a nearby large, hot macadam parking lot. The autorotating boomerang went higher and higher. After being in sight, if barely at the end, for some minutes, it finally vanished into the heavens. "I was distraught," he says. Gary announced a \$100 reward for retrieval of the stick and a dozen kids ran off on the hunt. Eventually, the students returned, empty handed. End of story? Not quite.

Four days later, Gary received a phone call from a woman who reported she had found a black boomerang in a parking lot with his name, phone number and offer of a \$100 reward on the back. Gary assumed she was calling from Canton, but soon learned otherwise. She was phoning from Dubois, Pennsylvania, almost in the center of the state, almost directly east of Canton. The 'rang had flown an amazing 135 miles! As the crow flies, it was probably further---maybe much further----depending on how much it meandered.

Gary duly received his valued stick back, paid the reward, and sent along a batch of boomerangs for the finder to give out to family and friends.

She got in the killing comment, however. "You mustn't be very good at this boomerang throwing," she told him. "Aren't they supposed to come back?"

Ouch.

> **Why a Boomerang Can Fly 135 Miles**

By Ted Bailey

Yes, a flight of 135 miles or even much longer is quite possible. Maximum time aloft boomerangs are a special kind of flying machine. I was the one who in 1984 developed the ultra long flight models in. Most of the magic is in the tune. I ordered several papers on maple seed samaras (flying seeds) from the National Air and Space Association and added the tuning and mass orientation of flying seeds to the crude MTAs that others had made before me. The tune made all the difference and that is when record flights went from 20 or 30 seconds to multi-minutes or the 'rangs were lost to the jet-stream gods.

The MTA does not lose its spin. The trick is to tune it to have a stable flight and optimal spin rate which is essentially constant when the MTA is in equilibrium. An MTA flies at an angle relative to the wind. It also flies slower than the wind and every time that long hockey-stick arm sweeps around, it absorbs energy from the air which is traveling at a different speed than the MTA. The MTA, as a system, absorbs more energy than it loses from aerodynamic drag, so it can fly for a very long time before it hits calmer air and settles down to the ground. This is true no matter what altitude the MTA is flying.

However, there is another effect that kicks in only at low altitudes. There is a velocity gradient in the air. The air is moving at a speed of 0 at the surface of the earth and then it quickly increases velocity away from the ground. This velocity gradient is much stronger near the ground than at high altitudes. The MTA can absorb energy from this gradient through momentum transfer. Too complicated to explain in layman's terms, but it is really there. That is why MTAs seem to travel a long way at a constant altitude. They are floating at the peak of air velocity gradient and this usually occurs at an altitude of 50 to 150 feet, depending on wind speed and ground conditions.

A third effect is the influence of vortices. When a MTA interacts with a vortex, it can climb to incredible heights. Not sure what a record height would be,

but they disappear from view, going straight up, so it can be pretty high. The most striking example of a vortex that I ever saw was in the 1980s when Gary Broadbent and I were throwing MTAs at Westlake, Ohio on a cold day in February with snow on the ground. There was a lot of wind, so we positioned ourselves at the base of a cliff to use the cliff as a windbreak. A cyclone came through. It looked just like a miniature tornado or dust devil. The vortex picked up the light fluffy snow from the ground and you could see a "white tornado" with snow trapped in the edge of the vortex. Gary and I both had MTAs in the air and they got sucked into the vortex. Until this happened, I thought that MTAs sat in the center of a vortex, but now I know that this is not true. The MTA rides with its spin center at the edge of the vortex. Both of our MTAs were rotating around the center of the vortex like two planets orbiting around a central sun. It was beautiful and it fully demonstrated how energy from a vortex is transferred to an MTA boomerang. When the vortex hit Lake Erie and dissipated, the MTAs came down. You could not have set up a wind tunnel experiment to demonstrate what we saw that day.

Now, as to Gary's long flight. While the straight line distance from Canton to Dubois is 135 miles, give or take few miles, the boomerang probably flew the distance in a curved path, but the curvature is difficult to measure; a weather map for the four days the boomerang was missing would be needed to begin computing this. My guess is the boomerang traveled about 15 to 20 miles an hour, depending on pressure gradient at the time. It is likely that the boomerang was in the air some eight hours; it certainly didn't fly for four days.

As an analogy, Wilhelm Bretfeld of Germany launched a hand glider as a boy and the glider traveled 91.2 kilometers in 3 hours and 15 minutes. The flight was carefully documented because the time of launch was recorded and the time of the glider descent was also recorded by a farm boy who recovered it. Bretfeld's glider went 56 miles in the 3 hours plus at a speed of 17.5 miles an hour. Thus if Gary Broadbent's MTA flew in similar conditions, it would have flown for about eight hours.

It's a Boomerang? Yes, Then No It Isn't

The MTA behaves as two different devices, depending on whether it is making a circle or hovering down. When you first throw it, the hockey stick MTA has both translational velocity and rotational velocity. Both blades create lift and the MTA makes a full circle because it has both gyroscopic precession and

aerodynamic lift. That meets the valid definition of a return boomerang. If a bird was flying high above it and saw the circular flight, it would look nearly the same as any other kind of boomerang. The big difference is how the flight looks from ground level. The MTA does return to the thrower, but it winds up a lot higher than the regular boomerang.

As soon as the MTA goes into a stable hover, it is a completely different aerodynamic device. It lacks translational velocity and has only spin, moving with the wind or with thermals at a slightly slower speed. The lift arm rotates with the blade oriented so that it creates aerodynamic lift. The dingle arm rotates so that the tip travels in the direction of the spin, so that blade acts as a counter weight (like a maple leaf samara) to give the MTA inertial stability as it rotates around its spin axis. Instead of being a return boomerang, the device is now a one-bladed samara.

In the spin mode, the MTA flies slower than the wind that surrounds it, so it tacks like a sailboat and absorbs more energy from the relative wind than it loses from aerodynamic drag. This allows the MTA to maintain flight for a very long period of time.

About Ted Bailey

Bailey, of Ann Arbor, Michigan, has this scientific background: three years of oceanography, a bachelor of science degree in civil engineering and a master of science degree in mechanical engineering. All three of these disciplines, he notes, have a lot of fluid mechanics; aerodynamics is part of the study. His career title is aerospace engineer, which can cover a lot of different fields, he notes. His fields were heat transfer, fluid mechanics, lubrication and mechanical components (bearings, gears, etc.). "Someone who designs airplanes is called an aeronautical engineer," he says, "and I have never held that title, although I am fully capable of designing almost any flying device. I did do some consulting work in the design of golf balls, flying discs and boomerangs for a toy company, but the boomerangs and discs were not mass produced because the company failed."

> How Old? 2 Difficult Questions

So, just how old is the boomerang? Er, boomerangs plural, there being two distinct types----hunting and returning.

Simple question, but the two-part answer is not so easy.

Hunting Boomerang.

Let's take up the less complex matter first among these kissing cousins. The hunting boomerang, a weapon and tool and some-time religious object, has been found all over the globe, wherever terrain is relatively open so as not to impede its low non-return flight. Because it was made of perishable organic material, commonly wood, archeological finds are rare. The oldest found so far, two decades ago, was a mammoth tusk hunter 20,600 years old. It was found in a cave in southern Poland.

It seems obvious the device is much, perhaps very much, older than that but how to document this?

Well, in Australia two methods have been found using petroglyphs and cave paintings. Petroglyphs (incised rocks) shaped as boomerang arcs have been studied in the Olary province of South Australia, 60 miles from the mining town of Broken Hill, by Margaret Nobbs, of Hazelwood Park, South Australia, who says one pair of arcs yielded radio carbon dates of 42,100 years, another arc 43,140, plus or minus 3,000 years. The datings was achieved by testing the natural varnish that has coated the rocks over the centuries. It is believed these are minimum dates. So, are these arcs the oldest representation of hunting boomerangs yet discovered or are they simply abstract geometric designs? It is impossible to know at this point. Dr. Nobbs opts for the former.

Clearer evidence comes from wall paintings, of which there are a vast array in the Northern Territory of Australia and nearby islands to the north in Papua New Guinea. Former curator of rock art at the Museum and Art Gallery of the Northern Territory in Darwin, George Chaloupka, says these paintings range in age from 50,000 years old downward to 8,000 years and were painted during what is called the Pre-Estuarine Period. At this time northern Australia was linked by a land bridge to New Guinea on the north because of the ice age. The land bridge is now submerged under the Arafura Sea.

Many styles of paintings are present. So-called Bradshaw figures appear in graceful silhouette brandishing boomerangs, which keep appearing in subsequent styles. One of them is known as the Simple Figures With Boomerangs Style because of the ubiquitous presence of the device.

Hunting boomerangs 40,000 years old and older! That doubles the age of the Polish find.

But the hunting boomerang elsewhere in the world might well be much older than its Australian relative, maybe----wildly----hundreds of thousands of years older.

Who knows, though, when and where the next great find is made which might legitimize such a flight of fancy.

Returning Boomerang.

Now to a dicey subject, the returner. The oldest returner was found in a peat bog in Southern Australia and is 10,000 years old. Actually, nine were found, three of them complete, along with the stone tools used to make them. But the cave paintings from the Pre-Estuarine Period cited above tell an interesting further story. Along with the myriad images of what are obviously hunting boomerangs----large size, only a slight elbow curve----occur pictures of smaller, sharply angled sticks, possible or even probable returners. What else but? Accurate dating of these old images is a problem because they were typically executed in ocher paints containing no organic material that can be used for dating purposes. However, the number of sites is great, their geographic range extensive, and the archeological evidence on various cultures detailed. Thus George Chaloupka, the rock art expert, is prepared to comment on the subject of the two types of boomerangs.

In a cautious personal communication to Ben Ruhe, Chaloupka wrote: "As the boomerang stencils represent perhaps all of the basic types of this device recorded in historical times across the Australian continent, it is possible that some of the stencils represent returning boomerangs. Circumstantial evidence suggests the stencils are 20,000 years old or older." In an earlier interview, Chaloupka was less cautious, suggesting some of the stencil images were in fact likely return 'rangs.

Returners 20,000 years old! That doubles the age of the Wylie Swamp finds in South Australia and is quite a startling scientific conclusion. Chaloupka in his book *Journey in Time* points out that all the Australian forms of the boomerang, found in recent times to be unique to different parts of the continent, were present during the Pre-Estuarine Period in Arnhem Land and the adjacent Kimberleys and that they also occurred to the north in New Guinea on the now submerged land bridge to that island. This is documented in the rock art of tiny Chasm Island in the Gulf of Carpentaria. Rock paintings were documented at 37 area sites during an expedition led by Leo Frobenius to the MacCluer Gulf in 1937-8. Frobenius was a renowned German ethnologist.

Chaloupka himself conducted an exploratory investigation of the region and found not only the stencils noted by Frobenius but also previously unknown wall painting sites in the Kaimana region some 120 miles south of the MacCluer Gulf.

"This is a virtually unknown and archeologically unexplored area," Chaloupka says. "It's a very promising area of research into the origins and antiquity of both the hunting and return boomerang."

> **Mediterranean Beach Bliss**

The unusually international aspect of boomerang throwing on the Spanish resort island of Mallorca was established at the first tournament ever held there. Tony Enev's fling drew 10 competitors----with 6 countries represented: Columbia, Uruguay, Argentina, France, Bulgaria, and of course Spain.

Bulgaria? That was tall, slender Enev's home country, long since departed by "Toncho," as he is nicknamed. Raised behind the Iron Curtain, Enev fled Communism at speed after the Berlin Wall came down. As a youth in Germany, he was without money, the language or a job, but survived through networking with fellow exiles. And he eventually prospered after heading south to Mallorca where his skill in electronics enabled him to establish a career servicing yachts, of which there are thousands on the popular resort island.

A windsurfer for years, he looked for a new sport, Enev became interested in boomerangs when he found a piece of plastic with an elbow shape and decided to make a 'rang. He went online to find out how to do it and found aerospace engineer Georgi Dimanchev, who as a Bulgarian spoke his language, in more ways than one.

Soon Enev was making lots of boomerangs and, being tall, strong and well coordinated, found he was very good at throwing them too by taking second place at the first competition he ever entered, held in Madrid.

Inspired, Enev staged that first Mallorca open in the capital Palma which drew that surprising international some years ago. He has held his throw each year since. The toss is held in the last week in October, when the beaches are clear of summer tourists and the weather pleasantly warm and not blazing. Although tossing beside the ocean is windy, the breeze, called locally the virazon, is from the water and quite steady, and thus easy to adjust to.

Enev has already had a string of distinguished boomerang guests: Dimanchev naturally, also Maurizio Saba from Italy and Frido Frost and Oliver Thienhaus from Germany. After making many new friends at the World Cup in Rome, he expected visitors from Japan, Australia and the U.S. Detailed information on his throw is available at 3@artelaser.es.

Editor's note: save the date if you can get to the European Championships in Mallorca May 28-31, 2015.

> 'Just Throwing' as Zen Meditation

What are the steps toward expertise with the boomerang?

Dr. Fred Malmberg of York, Pennsylvania, outlines the progression that led to his addiction:

"Obtaining a good returning boomerang, getting a partial return, getting a full return with the 'rang, catching it, catching it repeatedly, attempting to make one, making one that works at all, making one that works well, making one that works better than anything else you own, knowing enough to help others with their boomerangs, entering your first competition."

He continues: "There are steps after this, like doing well in a tournament, or designing a boomerang and having a company produce it for you."

Malmberg likes going to competitions to learn about new boomerang shapes and innovative throwing and catching techniques. He likes "meeting the personalities behind the names you've seen in the various boomerang journals and online."

But he says the real pleasure with boomerangs is going off by oneself on a nice day and simply throwing and catching repeatedly. "Just throwing and catching," he calls it. "It's a kind of Zen meditation. It gives you a full appreciation of the third dimension. You get into groove, into a trance, and you feel . . . freedom."

> Rangs Behind the Iron Curtain

Editor's note: Most people reading this came to boomerangs easily----seeing someone throwing in a field or on TV, or reading about it. They went on from there. It was easy to find good 'rangs to buy or plans for making them. If you were stuck in a country behind the Iron Curtain under the heavy thumb of Russia, however, as was Georgi Dimanchev of Bulgaria, it was a radically different cup of tea. Here is how he came to the sport.

"At the age of 5, I fell in love with things that fly. I started with balsa wood gliders and progressed to model airplanes. At 13 in 1970 I read about the boomerang for the very first time. Living in Sofia, Bulgaria, behind the Iron Curtain, information widely available elsewhere in the world was often very hard to come by.

"I saw a drawing of a classical boomerang, with airfoils, in a magazine and I made one for myself," he says. "It worked perfectly. I was very enthusiastic, very crazy. But although the boomerang came right back, it broke. So I made another

one the next day, and after 10 throws it broke too." Adding an obsessive note, Dimanchev reveals he still have the pieces of the 'rangs in his collection.

"I had been using a sheet of hardwood," he continues, "so I started hunting for plywood. In the 1970s in Bulgaria there was none to be found. Hard to believe but true. I finally got my hands on some 10 ply, 8 mm Russian birch plywood and found an article on the Australian Aboriginal boomerang thrower Joe Timbery in a Russian magazine. The article included a boomerang shape I copied----a V with flared wingtips. A very good flier, I was launched as a boomerang maker. I made many sticks in that shape.

"Doing military service in the late '70s, I finally discovered a good supply of excellent plywood being used to pack weapons and helped myself. I branched out and made four- and five-bladed boomerangs. They were big and heavy and a little dangerous because the material was 10 mm thick. But they were new and interesting.

"For the next five years I was a scholarship student at the Civil Aviation Institute in Riga, the capital of Latvia, another country dominated by Russia, and there I discovered plastic as a material for boomerangs. Giving out 'rangs to interested guys, I formed a club and this soon enough led to the formation of the Bulgarian Boomerang Society in 1991."

By a lucky accident, Dimanchev now got the address of a French boomerang group, wrote, and learned about competitions. "It was my first connection to the modern boomerang world," says Dimanchev. "My group was crazy with enthusiasm after this and in September of 1992 we formed the first team from an ex-Communist state and competed in the World Cup in Hamburg. I was the captain, of course.

"And so it started for me and for Bulgaria---- years of nonstop organized boomerang throwing. We had tournaments in Sofia starting in 1994 and I competed with other Bulgarians in tournaments across Europe. By now, boomerangs were more than a hobby for me, they were half of my life."

Not as though Dimanchev hadn't been busy elsewhere. His curriculum vitae is dazzling: sailplane pilot, aeronautical engineer, doctoral student in the airfoil-aeronautics field, developer of hang gliders, ultralight aircraft and brake parachutes, designer and manufacturer of a line of commercial boomerangs, author of articles on boomerang design. He also proudly notes he was the 43rd person in the world to complete a boomerang supercatch----lofting a floater 'rang, he executed five fast catches before making the grab of the floater as it dropped down

to him. His time for the six catches was an excellent 19 seconds.

As a thank you to the sport, Dimanchev spent years soliciting, compiling, and editing a 224-page book he self-published in 1998 titled Boomerang Puzzle, which documented organizations, competitions and records from around the globe. It was issued in an edition of 330 copies. This immense handbook----facts and figures are printed minus editorial comment---- is the only publication documenting all the players and events from boomeranging's organized beginnings in Australia, America and Europe through the year of issue. It is a must for any library or archive on the sport. Unlike Felix Hess's huge dissertation at a Dutch university which led to his receiving a doctoral degree and a probable job, Dimanchev's tome was a labor of love, a tribute to his love of the sport. The world of boomeranging owes him a great debt.

Stocky in build, immensely energetic, highly intelligent, quite charming, Dimanchev retains his intense interest in the boomerang. He still talks almost most two decades later of doing a sequel to his Puzzle volume. It would cover the theory and practice of boomerang design. To be well illustrated, it would embrace patents, records, how to make and tune, and a dozen related matters. The field is of course very large. As the early researcher Felix Hess commented cogently, "The boomerang puzzle is not deep, but it is complex."

> Believe It or Not

Wayne Gardner of Santa Monica, California, took his daughter to Australia for tourism and claims honorary Australian citizenship for her after she made a bullroarer disintegrate while trying it out in a store, was scratched by a koala she was holding, kicked by a kangaroo she was trying to befriend, and struck on the head by a return boomerang she herself had launched.

At a boomerang tournament, John Gorski launched a maximum time aloft boomerang in a warmup. It caught a thermal and up, up, up and away it went, with Gorski, fellow throwers and tournament timers in hot pursuit. The boomerang flew and flew, backward and forward, upward into the clouds and downward, until it finally descended into Gorski's hands not too far from the launch point. Elapsed time of flight? An amazing 15 minutes, plus. The lack of precision in the timing occurred because the officials were just a bit slow in picking up on this amazing flight.

One of the really great spots in the world to throw boomerangs is at a place called Waiyevo in the Fiji Islands. A sign there marks the 180-degree meridian----the International Dateline. If you throw across the line, you can launch today, have the 'rang time warp back in time to yesterday, then return to today again for the catch. Because the village is smack on the equator, the boomerang also travels from one hemisphere to another, and back.

H.L. Mayhew, of Columbus, Ohio, wrote a small book which he of course quixotically called *The Big Book About Boomerangs* and was greatly pleased with the unusual value one copy of it attained. "A guy showed up to buy a second-hand Vega I was hustling," he says, "and he perked up when he found a boomerang sitting on the seat of the car. He was astonished to learn boomerangs do work. Being a leftie I told him he needed a left-handed one, which the boomerang in the car happened to be. We sealed the deal for the car when I suggested I'd sell him a copy of my book for \$650 and throw in the boomerang and ancient Vega to sweeten the deal."

A New Year's Eve throw is a ritual for many---throw out the old year, welcome the new. Jacques Sotty, an imaginative Frenchman, went the mob one better. Deeply scoring the neck of a bottle of champagne, Sotty shook the bottle vigorously to agitate the gases. He mounted it on his head as the countdown for the new year approached, then with seconds to go launched a heavy boomerang. On return, the boomerang struck the bottle and created a small explosion. "Tens of thousands of bottles of champagne were opened in France at that very moment," says Sotty, "but mine was the only one opened by a boomerang." Making the stunt particularly gratifying, Sotty had hired a photographer to record the event and he sold worldwide rights to the shot for \$5,000.

Poetry Section >

A Winter's Lament for the Poetry Section

by Anon.

I'm so sad, yet strangely relieved
Not a single stinkin' poem received

Warning: I am not afraid to escalate this in the next issue if I don't get some

submissions. I'm looking at *you*. Come on, out with it: admin@Two-Ems.com

The boomerang attached to the email >

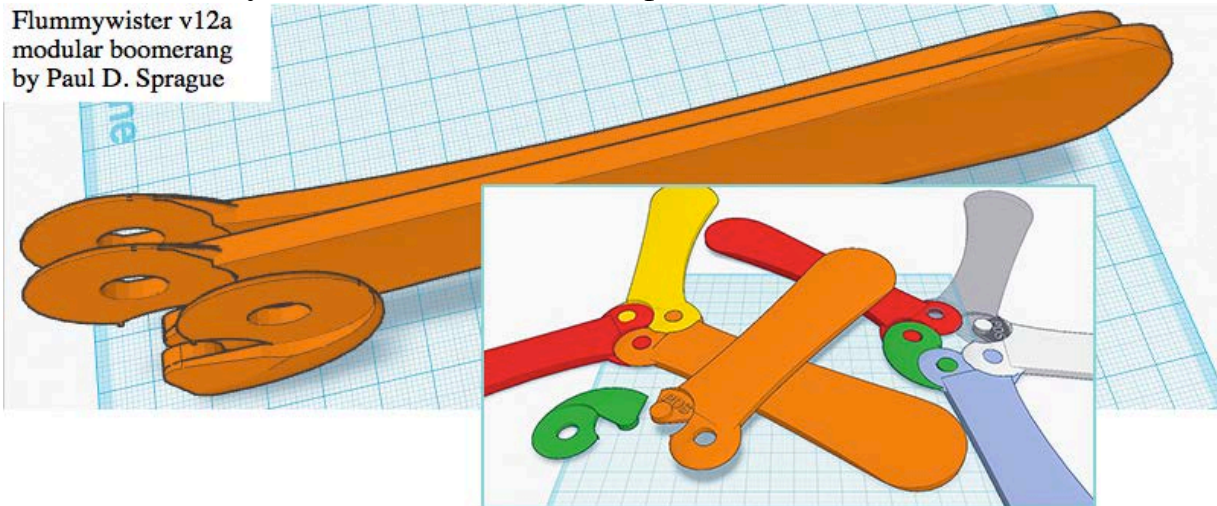
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Ah, here it is at the very bottom. Yes, there really is a boomerang in this email. It is available exclusively to USBA members through this newsletter. You may make all you want but not for sale.

The file *Flummywisterv12a.stl* is compatible with many current 3D printers. I used a MakerBot Replicator 2 at my public library which has about a 6" build volume - too small for typical boomerangs. So I designed it with a modular snap-together hub. It can be assembled as a two blader, three, four, up to six blades. The file contains one hub connector piece and two wings with slightly different profiles. You can fly it by printing the file just once, but if you print it three times you'll have two different tribladers. Lefties: print it reversed.

My first prints were hollow by default. They had little angular momentum and the hubs broke in field testing. To build it solid I had to increase the number of "shells" in the MakerWare.app software that drives the printer. The model also has some overhang, meaning a part of the design has nothing under it so the machine tries to print a pixel in mid-air. Mine needed raft and lattice support to keep from fouling the print heads. You may have to experiment to get a satisfactory returner, but let me know your results and send me a photo: admin@Two-Ems.com.

Flummywister v12a
modular boomerang
by Paul D. Sprague



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