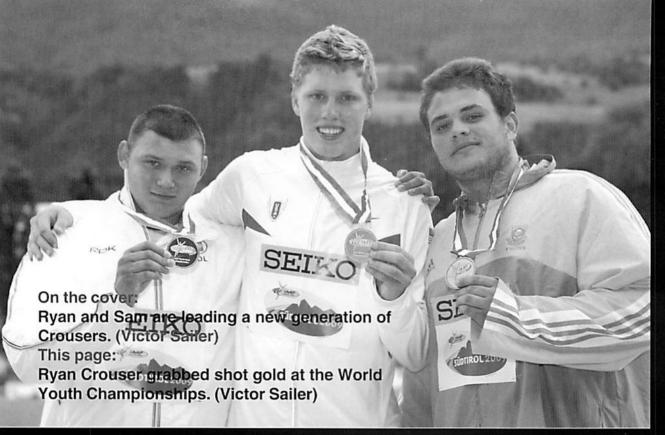


JANUARY 2010

SÜPTROL 2009.

ALL INATHE FAMILY

A NEW GENERATION OF CROUSERS
ARE MAKING A NAME FOR THEMSELVES



Correspondents:

- Jeff Gorski
- Brad Reid
- Don Babbitt
- Mark Valenti
- Dan McQuaid
- Dan McQuai
- Lane Dowell
- Pat Corbett
- Don Amini

CONTENTS

48

Making Their Parents
Proud
A new generation of Crousers

9 Leaving On Top Interview with Steffi Nerius

2 Ken Bantum Champion, Olympian & Coach

18 Second Coming Chris Hill is stepping up

22

Kerry Overfelt 2009 National Heavy Events Champ

Big Things Brewing
John Godina's World Throws Center

Hello Diamond League
But is life any better for the hammer?

28 Efficient Discus Model From UCLA's Mike Maynard

34 Psychological Principles
Do Your Job

Teaching The Dynamic Glide
How to teach the event

42 Javelin Considerations
New thoughts from Jeff Gorski

Weight Training For Throwing
A different look at an old topic

Speed = POWER
A new approach to throws training

SUBSCRIPTIONS:

Regular U.S. Rate (3rdclass mail) is \$20.00 for four issues, one year. Foreign subscriptions are \$24.00 North American, \$40 elsewhere.

MAILING:

Long & Strong
is published quarterly
by Thompson Publishing, 414 W. Penn Street,
Carlisle, PA 17013.
Third-class postage paid
at Harrisburg, PA.
E-Mail:

Thrower60@aol.com www.longandstrong.com Phone: 717-512-6693

Letter From The Editor

(SEMI-) RETIREMENT

I absolutely love the holiday season. Come Thanksgiving I find myself mentally peeking forward and anticipating a break in the grind of day-to-day living.

That time between Christmas and New Year's is what life is all about. Oh, you're thinking about yuletide, sleigh rides, jingle bells, the Nativity. Auld Lang Syne, the ball dropping, Dick Clark. That's what the holidays are all about, right?

Yeah, that's cool for sure, with adjustments for individual religious beliefs, but the holiday season means something additional to yours truly.

Every year, workloads and co-workers permitting, I take off the week between the holidays as many people do. And all the holiday festivities aside, it is heaven on earth. Sure the work laptop is plugged in and I'm dialing in for meetings and keeping up with things back in the office. But I'm doing so from the comfort of my home, and usually at my leisure.

Life slows down, and for week or so, I feel like I'm retired. At age 46 with 47 rapidly approaching, it's a glimpse of what life will be when I give my final notice to my employer. That is assuming, given the economy, they don't give me that notice first. And also assuming that by the time I get there, the retirement finish line won't be moved back another decade or so.

Outside of the hubbub of visiting/receiving friends and family, there is day after day of choosing what I want to do. True, individual freedom. I like to tease my retired neighbors by asking them what day of the week it is.

The response?

"Don't know, don't care."

That, my friend, is living.

Catching up on chores around the house and running errands that have been put off way too long is a beautiful thing. That includes finishing up the January, 2010 issue of *Long & Strong*.

It also includes training during the middle of the day when I actually have some energy. Hangin' with the family and watching television that I would never get around to seeing otherwise.

Of course there can be way too much television.

A New Year's Day Twilight Zone marathon?

Pure heaven, thanks to Tivo.

Great bowl games, good bowl games, and WHY(?) bowl games. Is it just me, or should all bowl games take place where it doesn't snow and the



Glenn Thompson

cheerleaders can't see their own breath?

I'm sure Boise, Idaho is a wonderful place, but that blue field in December is hard on the eyes. Looks like a skating rink. And when the lights are on, I 'm guessing the players can see their own reflections in the turf.

I also took note to the talking heads on the tube (flat panel) as well. There's no shortage of them. Busy reviewing the year and decade in sports, politics, entertainment. The Christmas terrorist. Charlie Sheen. Urban Meyer retires/un-retires at Florida. The Indy Colts should have gone for 16-0.

Over and over again, day after day. Talk show hosts and commentators who pass judgment on the, hmmmmm, *exploits*, of one Eldrick 'Tiger' Woods, not to mention others public figures. I often think that those who have the most to say probably have a few skeletons in their own closets. They're just not important enough for anyone to care. Or have bigger closets.

This year I intended to do other things besides watching the television and catching up chores. One special interest was spending some time improving my hammer technique.

The weatherman did not cooperate.

We got a foot of snow over a ten day period, with arctic winds whipping the region in between. Snow is cool to watch fall, but unless you participate in winter sports and recreation, what's left over (slush, road salt) is an inconvenience at best.

It sucks for throwing, but I guess its great weather for a bowl game. *L&S*

The Crousers - A New Generation

Making Their Parents Proud

By GLENN THOMPSON

"Last year [my dad Larry] started throwing the javelin again," says Brian [Crouser], "a way to get back in shape after undergoing a year of chemotherapy and radiation treatments for inoperable lung cancer and lymphoma. Instead of throwing at the local high school or at least in his backyard, he had marked off a throwing area out in the street, with the javelin landing area being on his property. I mentioned something to him about this seeming kind of dangerous for the neighbors, but he said no, everything was okay. The next day I came by and Dad was up on a ladder, smoking a cigarette, trying to pull his javelin out of the neighborhood basketball backboard."

THE GIFT/THE CURSE, LSTJ, January 2003

In my 11 years of publishing Long & Strong, I've written many stories that I've thoroughly enjoyed. Accounts of perseverance and redemption come to mind right away.

But one about a very special throwing family in the January, 2003 issue comes to mind. It was titled "The Gift/ The Curse" (I borrowed that from Jay-Z's *Blueprint II* album) and detailed the careers the most talented set of throwing brothers ever; Brian, Mitch and Dean Crouser. The three brothers, while blessed with magnificent physical tools, suffered numerous injuries that negatively impacted their athletic careers, especially in the javelin.

The heart of their careers occurred in the mid-1980's and included a string of school records and state and NCAA titles. Their three-event versatility is legendary. But they have long since put aside their implements in pursuit of their careers and raising a new generation of Crousers. A generation that is threatening to eclipse what their fathers/ uncles did 20-plus years ago.

Family Tree

If you had any trouble partitioning the careers of Brian, Mitch and Dean, it only gets more complicated when you follow who belongs to whom. Mitch is the father to Ryan, age 16 and Matt, age 13. Matt is in 8th grade and participates in cross country, basketball and track. Ryan also throws and plays basketball, and now stands 6'6" and 225 pounds, 25 pounds more than he weighed last winter.

Brian has two sons, Cory who is 16 and a sophomore at Barlow High and Cody who is 13 and in 7th grade. The two played football, basketball and track through their middle school years, and Cory threw a school record in the discus as an 8th grader (133'3"). Since getting into high school, Cory has taken up the long sprints and short distance. For

Cody, track means the rarely seen 800m/discus double.

Dean has a son, Sam, 17, and daughter, Haley, 15. Sam is now 6'5" and about 220. He is a late-bloomer, as was his father, as he grew 4" his junior year (this past year). Haley, now a high school freshman, is a multi-sport athlete (track, volleyball, basketball) who is a promising heptathlete as well as javelin thrower.

The younger Crousers have one benefit their fathers didn't have. Dean is Sam's coach. Mitch is coaching Ryan. And the dads are getting a huge kick out of it.

The younger Crousers are multi-event throwers, mainly to help their teams score points. At the state 6A meet, Sam was second in the shot and third in the discus, while Ryan was second in the javelin. Their specialties, of course, are the opposite.

Ryan is a year away from the recruiting rush. Sam is deep in the midst of it. He has narrowed his choices to Oregon, UCLA, Arizona State, Texas A&M, Oklahoma and Georgia. Do the Ducks have the inside track?

Neither will have trouble qualifying for whatever college they choose. Sam has a 3.4 GPA. Ryan is a 4-pointer.

Dean married his high school sweetheart, Molly, from the very same Gresham High School his children attend.

"She was a very good volleyball and tennis player and high school Athlete of the Year, so the kids certainly don't just get it from me," Dean says modestly. "She went on to play volleyball at Oregon for a year or two before losing her passion for the sport. She is 5'11" and a really smooth, natural athlete. My daughter Haley really loves volleyball and it is great for the two of them to share that together today."

Like in Dean's household, athleticism comes from both sides of the ledger. Mitch's wife Lisa played varsity volleyball, basketball and track (sprints) in high school. She had college scholarship offers until she blew out her knee playing volleyball.

Throwing Superstars

Three of the Crouser kids are on the fast track to throwing superstardom in their native Oregon, a state that loves track and field like no other. The two oldest, Ryan and Sam, have already served notice to the track and field community. And Haley is a budding talent herself, separated only by age.

"My mom and dad still have a shot put pit in their backyard, although it only goes to 50' instead of 70' as it used to," relates Mitch. "There is a garden shed on the right side of the pit at about 40'. In the beginning, the kids used to hit the side of the shed once in a while when they were throwing in the 6th or 7th grade. By the 8th grade Ryan bombed a few throws through the roof of the shed and twice had to go back on weekends to repair the damage he had done earlier in the week."

Mitch Crouser

Rvan

In the more than 40 years that *Track & Field News* has published, only 10 prep athletes have graced the magazine's cover. Ryan Crouser became the most recent with the October, 2009 issue that spotlighted the World Youth Championships in Bressanone, Italy, and also featured the newest generation of Crousers.

Ryan Crouser, then only 16, was a state class 6A champion in the shot put and discus as a sophomore. He later set the state prep discus record and broke the national sophomore class record with a throw of 202-6, set at Mac Wilkins' Concordia Throws Center on June 16, 2009. And he won both events at the USA Youth Nationals (under-17) in Ypsilanti, Mich. He also won the shot and was discus runner-up at the Youth World Championships in Italy.

When asked about the keys to tremendous success to date, Ryan has no secret exercise or technical ploy. "I have found that in throwing, just like everything else, hard work pays off," he says. "Technique is also something that has

JEERO TA

Ryan

helped me to throw far; my dad has taught me that technique is the most important aspect of throwing. Strength, size, explosion all help you to throw farther, but you must have good technique to throw really far."

"I think that I can improve on my strength. I am not very strong in the weight room in comparison to many throwers." Ryan adds. "Also gaining weight would help me improve. Last year I threw 70'9" with the 5k shot at 210lbs., while most national level high school throwers are 275 lbs., and many are 300-plus, so the added weight and strength would help me throw farther."

Ryan has drawn the most acclaim as a shot putter, but being a Crouser, that doesn't mean he has a preference between the two events.

"I have never thought of myself as a shot putter or a discus thrower, but just as a thrower, with both events being equal to me," he says. "Of course each event has its ups and downs in practice, and the one that is going best at the time is usually my favorite. But at this time, my throwing career could go either way if I decided to focus on one event. I enjoy doing two events because when one event is going bad for me and I get frustrated with it, I can leave it alone for a little while and work on the other one and get my mind off of it. This usually works and helps me get my training back on track."

Ryan does not see the hammer in his future. "I have never really tried throwing it and it looks like a fun event, but I have been told by coaches that it can interfere with discus technique, so for the time being I think I will focus on the shot and disc," he says.

Crouser also has a 200'8" javelin PR on his resume. "When I was younger, the javelin was my best event, but in 7th grade through freshman year, I was growing fast and throwing the javelin would cause my back to spasm so I could not practice any of the throws, so I just left it alone."

For now the javelin, an event he doesn't practice like the heavier weights, is purely an exercise in scoring team points.

So is Crouser tempted by playing hoops at the next level? "I have given some thought to it, but I think I will stay with track. I have gotten comments from coaches that they thought if I put some more time in the offseason into basketball that I could play at the college level. To do either at the next level, I will have to choose between track and basketball, and I think I'll stick to throwing."

In the not-too-distant future Ryan will have to pick a collegiate home. "I think that the three main things I will look at are academics, athletics, and just the overall school," Crouser says. "Academically, my parents have

always instilled in me the importance of my education above all other extra-curricular activities; usually I have to have my homework done before I can work out for throwing or basketball. Of course I will take into account the athletic program and the coaches. I also think that it is important how I connect with the coach; it could be a great coach, but if there is no coach-athlete connection, it is not good for the program or the athlete. As for the school, it just needs to be a place that I could see myself living for the next 4 or 5 years."

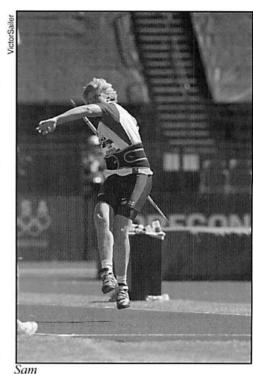
"I was coaching at the high school trying to teach the kids how to throw the TurboJav. It wasn't going well as the kids were struggling and I had a bad shoulder and couldn't demonstrate. Sam was an 8th grader at the time and dropped by practice to see what was happening. It was a great opportunity for me to show the kids what the javelin throw looked like as Sam had thrown the Turbo in Junior Olympics and had nice technique. We had competitions at practice where the kids would see who could make the longest field goal on the football field with the Turbo. They loved it and I think the record was a field goal from the 45 yard line. Sam took a couple of warmups and then proceeded to send it through the uprights from the 30, 40 and 50 yard line. He then hit a powerful line drive straight through the uprights from the 55. Of course the goal posts are in the back of the end zone which adds another 10 yards to the throw, not to mention they are 10 feet in the air. The TurboJav was screaming when it went through the uprights and we were pretty sure the throw was in the 220' range. It was pretty impressive for an 8th grader, and that was the day I realized I would never beat him again in the javelin!"

Dean Crouser

Sam

Sam, 17, set a state meet record at 231-1 last spring, then upped his record to 239-0 – also a U.S. junior (under 20) record and the No. 1 U.S. mark ever by an American-born high schooler. Last summer, he won the U.S. Junior Nationals at Eugene and was second in the Junior Pan-American Games in Trinidad and Tobago. And he did pretty fair in his other events, posting bests in the shot of 56'4" (2nd at States) and 178' in the discus (3rd at States), behind cousin Ryan, of course.

"I think that there is a friendly rivalry between my cousin Ryan and I," says Sam, a spear specialist. "I know that I am not throwing far enough in the discus and shot put to beat him. I think that he thinks the same for me in the javelin, so we just keep pushing each other to keep improving and getting better." It's only natural that Sam was introduced to throwing by his father, Dean, but also credits his grandfather, Larry, the patriarch of the Crouser clan. "When I was younger I would walk across the street to throw in my Grandpa's backyard. I



know that this played a big role in my success."

Sam recalls his national record-setting day in the javelin, like it was just yesterday.

"That day I was out at Mac Wilkins Throwing Center (at Concordia College in Portland, OR) that was just recently put in. It was very warm and I knew I had a big throw in me. When I got on the runway, I could feel a nice tailwind. When I began my approach, I felt fast and powerful in my crossovers. On my last crossover my rhythm was perfect, and I knew the throw was everything developing. From there the javelin just flew out of my hand to 239'. I guess it was a day when hard work met opportunity."

Sam doesn't attribute his record-setting to any exotic exercises, or even his good blood lines. "I believe the key to my success is hard work," he says matter-of-factly. "I also have my dad who develops very good workout plans for me. The combination of his planning and my time spent working are all starting to pay off.

"There are still things that I can work on though," he continues. "Things such as getting more flexible, faster, and strengthening all of the small muscles that keep the body together."

Of his basketball career, Sam says, "I did play junior varsity basketball until my sophomore year, but then stopped to focus on track. I still love playing and always enjoy getting out on the court to play around with friends."

Haley

The youngest of the Crouser throwing triumvirate is Haley, Dean's daughter. And while she may still be the relatively young, she could be the most talented of all. Still only a high school freshman, she has been competing in the pentathlon and heptathlon for five years already. She decided to take part in the multi-events after "I was doing almost all of them in the regular meets. I also compete in the 100 meter hurdles (15.91), high jump (5'3"), shot (32') and long jump (17'2")."

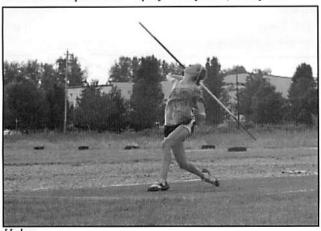
While not yet enrolled as a freshman at Gresham High, she finished 11th in the javelin at the 2009 Junior Nationals (under age 20) and established a personal record (139-5) that is five feet beyond her current *high school* record.

"When I threw at Junior Nationals I was excited, but also that's what I was aiming for," she recalls. When I walked out onto Hayward Field to throw, it was definitely a little nerve-racking, but it helped that I had competed there a few times before. Right before my first throw, they announced me over the intercom, and that got me fired up to throw. Competing against girls that were up to college freshman only made it more fun to go out there and do the best that I could. It pushed me to show the field of competitors what I could bring to the table."

"I was inspired by my brother," says the 5'11", 120-pound freshman. "After watching him throw for so long, I knew that it was something that I wanted to do too. Around age six, my dad gave me a turbo javelin to throw around. I wasn't into track very much then, and I picked it up again when I was nine, and ended up winning Nationals that year."

"I feel that I can make adjustments to improve on the javelin quickly," she says. "I feel that is definitely one of my strong points. There are still many things that I need to improve on to make myself a better javelin thrower, and I will be working on those to flatten out any creases in my throw."

Like older brother Sam, hoops has become a victim of her other athletic prowess. "I play volleyball (varsity as a



Haley

freshman), and I used to play basketball, but decided that it would be too much this year." Haley has played volleyball since seventh grade.

Is there any sibling rivalry under Dean's roof?

"My brother and I both like to compete, so we do have rivalry between each other," she says. "I wouldn't say that I am trying to beat his marks, but rather just trying to better myself to improve in the javelin. It is fun though to beat him in the little competitions that we have. I do get a pretty big handicap though, but it's only fair! But when it comes to the running events, he doesn't stand a chance!"

"Haley has a great feel for the javelin and I think she should really improve in high school where she can start a lifting program, etc." says Dean. "She is a natural for the heptathlon. She has worked very little on her events in track as it always seems to be in conflict w/volleyball, basketball, etc. Hopefully we'll work that out down the road!"

Avoiding The Curse

"The javelin is certainly the toughest event, likely in all of track and field, in terms of stress on the body and being subject to getting injured," reflects Dean. "The common thread with my brothers and I was that in high school we knew absolutely nothing about proper technique and training."

"We all had good arms and threw it like a baseball - elbow out to the side as opposed to more over-the-top. It was simply an accident waiting to happen."

"I hurt my elbow my senior year - the day I threw 230'," he recalls. "By the time I got to Oregon, the elbow hadn't healed, and by late fall of my freshman year, we had a really good javelin thrower from Norway, so they just moved me to the shot and discus, which were certainly not my best events. It was exactly the same thing that happened to Mac Wilkins. By my junior year at Oregon, I was totally healed up and remember throwing over 72m on a standing throw just playing around, but the javelin was a foregone conclusion. I think my only regret in track and field is wondering what 'might have been' as I know the jav was far and away my best event."

"As far as my brothers and I being 'hexed' or more subject to injury than anyone else at the time, it isn't the case," says Dean. "Talk to Breaux Greer about that one!"

"There really weren't a lot of athletes that didn't get injured in the event - just a matter of how bad it was and how long to heal. I would guess that a lot of javelin talent was wasted as some athletes just went on to other events like we did. Our practices at the time were throwing and throwing and throwing. After that, you threw some more,

and it was always hard. If things weren't going well, you must not be throwing enough. Today there is SO much more knowledge and information."

"The U.S. has not been a powerful javelin country as we just haven't seemed to really grasp the essence of the event very well. I think that the European influence of the javelin is trickling into our country where some of our coaches have had the opportunity to work with the Finns, etc., and have learned that there is more to the event than just getting really strong and throwing really hard. The U.S. may be on the verge of a bit of a breakthrough as far as this goes."

Today, Sam throws the actual javelin at MOST twice a week. Always at least three days rest in-between, and "rarely super-hard." Dean lists a ton of medicine ball, both single and double arm, sprints, plyos, crossover work, lifting, shoulder bands, etc., among his son's repertoire.

"He's always trying to get bigger, faster and stronger, but there is also an underlying theme and importance of preventing injuries - working on strengthening the little things that break before other things and can end a season. I'm always saying that so much of the javelin is 'just holding together.' Kids today, I believe, tend to throw the actual javelin way too much and have chronically sore elbows and shoulders just as we did. There is still a common belief among high school coaches of 'throw, throw, throw.' You can get away with that in the discus and shot, but not the javelin."

"I think the key to the javelin is having a total body fitness, strength, and speed level that can withstand the punishment of the event. Andreas Thorkildsen is a perfect example of this. Kind of the perfect athlete - fast, strong and flexible - and if you've seen his gymnastics workout, it kind of says it all."

"As far as the javelin is concerned, I think one of the main points in avoiding injury is learning to throw it the proper way in the beginning - over the top- as opposed to the usual throwing motion for a football or baseball – three/quarter or sidearm)," adds Mitch, concurring with Dean. "Tons of conditioning-medicine balls, weighted balls, etc., in the off-season and early season. Also limiting hard throwing in practice. I had a real good arm in high school, and all I did was throw as hard as I could every day in practice, seeing if I could throw farther than I had previously."

The Legacy Continues

The years pass, but some things don't change much in Larry Crouser's neighborhood in Gresham.

When I was in high school, the coach said they would buy

me a brand new Sandvik 90m javelin if I could hit 220' my senior year. I threw 222' in the fourth meet and the school came through with a beautiful new white Sandvik. I took it home the first day, new in the box, to show my parents. I went upstairs to change my clothes and looked out the window to see my dad examining the new spear in the back yard. I told him not to throw it as I wanted to be the first one to give it a test drive. He told me not to worry about it and proceeded to take a few short throws, I started rushing to get dressed faster when I saw him pick up speed and go into a full run-up (we had a huge, long back yard). He cut loose with a throw which glided beautifully through the air, caught a fir branch, veered sideways and crashed into the top rail of our cyclone fence, unfortunately breaking the javelin in half. It was a bad day.

Fast forward 20-some odd years. Sam has graduated into the 'intermediate' category of Junior Olympics and gets to throw a 600g 'real' javelin rather than the TurboJav of the earlier age group. At the time, we had pretty crappy equipment and no 600g javs so Molly and I decided to surprise Sam with a new Nordic Diana model which was the top-of-the-line.

Of course he was excited to show his new toy to Grandpa Larry. It was a chilly Saturday morning and my dad thought the new spear was just great. He asked if he could throw it and Sam said 'sure.' After a few light warm-ups. he hobbled into a 3-step, and, just like the old days, cut loose. Rather than flying high into the fir trees as before. Big Larry no longer had the 'zip' of 20 years prior. Instead, this one was a worm-burner, traveling only about 50 feet, but with plenty power to land flat, hit the wet, dewy grass, skid another 30 feet. It caught the bottom of the same cyclone fence and shot out into the adjacent street and smashed into the far curb. We watched in horror as we raced to get the beautiful new Diana lying in the street only to see it get run over at 30 mph by a Toyota ForeRunner. The javelin was scratched, dented and just plain ruined, but Grandpa took a shocked Sam into his garage where he promised he 'would fix it.' He then proceeded to take a roll of masking tape and spiral it up the length of the javelin. Next he took a can of green spray paint and made a candy cane stripe around the Diana. He said, 'Okay Sammy, that oughta do it.' Needless to say, it was not a professional restoration. None of us quite knew what to say.

We ended up buying Sam a new, lower-priced javelin to replace the Diana. I think the candy striper is still around here somewhere.

Dean Crouser

L&S

Interview With Steffi Nerius

LEAVING ON TOP

BY KURT DUNKEL, SHIPPENSBURG UNIVERSITY (PA)

You can fill several volumes of notebooks with professional athletes who lingered long past their prime years. Athletic warriors who continued to pull a check despite greatly diminished skills that left them a shadow of themselves in their primes.

Visions of Willie Mays back in New York with the Mets, O.J. Simpson in a 49ers uniform tearing up his knee. Broadway Joe Namath did not have much of a screen presence in Hollywood while finishing his career with the Los Angeles Rams. And while the powder blue uniforms of the San Diego Chargers are loved by many, it was no place for a hobbled Johnny Unitas to wrap up his Hall-of-Fame career.

There's also a long, long line of pugilists (do you remember a pudgy Roberto Duran) who kept climbing back into the ring to grab another payday long after the

reflexes had left them. Somewhere 47-year-old Evander Holyfield is still fighting in casinos nowhere near Las Vegas, with hollow dreams of regaining the titles he lost almost a generation ago.

But on the other hand, there are the few that left the athletic stage with the public wanting more. Arguably two of the NFL's greatest running backs, Jim Brown and Barry Sanders, walked away under their own power rather before they needed the assistance of others. Rocky Marciano was a perfect 49-0 with 43 knockouts when he retired from the sweet science at the age of 32.

Count javelin veteran Steffi Nerius among the latter. A veteran of almost 15 years on the world stage in an event which is notoriously hard on its participants, the 37-year-old East

German born athlete left the game at the very top. She announced her retirement before the 2009 season, then promptly went out and won her first world championship, in Berlin.

L&S: When and why did you decide you were going to retire after 2009? Did a disappointing finish in Beijing, or the fact that the World Championships would be in Berlin, factor into your decision?

SN: I said before this season, I would stop my career after Berlin 2009. I'm old and I got all I wanted in the sport. It was a circle. My first World Championships was in Stuttgart in '93, and my last was in Berlin 2009. I was happy in Beijing about my 65m in the final, but the other girls were better. Two weeks afterward, I threw 68m and I was motivated for the next, and last, season.

L&S: At any time during your gold medal effort in Berlin, did you think, "I could probably do this until 2012?"

SN: No. I said before the season, it would be my last season. I never thought about that. Everything is perfect and this is the top of my career.

L&S: As you got older, did you find that you needed to adjust your technique and/or training to compensate?

SN: I trained the last three or four years only one time-per-day. I know what is good and what is bad for me. I don't change my technique, because I'm old; I change my technique because I want to throw better.

L&S: When did you start wearing headbands? Tell us more about the messages on them.

SN: I started that in 1995. I had big problems in '94 and no competition. That year I wanted to grow my hair. My best in '93 was 63m. In '95, the first competition was 67m with the headband, and I thought, "Oh, that's my new tradition." In 2003 a friend of

mine created a special headband for the Paris World Championships. Since then, I changed it for every big competition. I wanted to speak to the spectators; therefore, it was in their language every time.



Nerius sporting her trademark headband in Berlin

And she's keeping her word with no intention of returning to the spear wars.

L&S: I understand you have a passion for working with disabled athletes. Can you tell us more about that?

SN: Since 2002 I have worked with disabled athletes. I studied this. I was in Athens [Olympics] 2004 with two athletes and Beijing in 2008 with three athletes. In 2004 we had one bronze medal in the javelin and in 2008 two medals in the javelin and shot put. I started it as a full-time job, in 2002 as 20 hours/week and now 40 hours.

L&S: Who would you rate as the greatest competitor you faced during your career, and why so?

SN: I was not so bad, and Jan Zelezny. We both had a long term on the top in the world. It's good when somebody throws for a long time at this level.

L&S: Can you talk about your association with your club, TSV Bayer 04 Leverkusen?

SN: I came to
Leverkusen after
1991. I came from
Rügen, Biggist
Iland in East
Germany, and was
in the sports school
in Rostock. After
1989 I went to West
Germany.
Leverkusen has
been my club since
1991, and now I
work for the club.
It's like a big family.

L&S: To the best of my knowledge, you made it through your career TOYANG A STAND TO A STAND THE STAND AND A STAND THE STAND AND A STAND THE STAND AND A STAN

Nerius, flanked by Berlin silver and bronze winners Barbora Spotakova and Maria Abakumova.

without any major injuries. Can you confirm this? If I am correct, what do you think were the secrets to staying healthy?

SN: In sports school, we trained in all different kinds of sports. It was good for coordination and feeling.

L&S: I think it's easy to say Germany is the best women's javelin country in the world among yourself, Obergfoll and Stahl. Why do you think this is?

SN: We also have Katharina Molitor. I think we have good coaches and good conditions for training.

L&S: Tell us about your coach. Have you had the same coach your entire career? What did your coach emphasize? Did your coach emphasize any particular aspects of the throw?

SN: I had eight coaches throughout my career. I see my relationship with my last trainer, Helge Zöllkau, as very good. We have complemented each other well, and had the same ideas and technique and have worked together.

L&S: Given that we just passed the 20th anniversary of the fall of the Berlin Wall, do you have any outstanding memories about your move from East to West after 1989? Do you feel the fall of the Berlin Wall had a large impact on the athlete you eventually became?

SN: I come from Rugen and was 6 years in Rostock at the sports school. There, I also finished high school and went in 1991, to Leverkusen. I am grateful for the overall development of German history. I was present at this historic event. It was a very emotional moment when I came the first time in the "West."

L&S: What is your most outstanding accomplishment as a javelin thrower?

SN: My 2009 World Championship in Berlin.

L&S: What do you love about the javelin? What will you miss in your retirement?

SN: I love it when the spear flies far and wide. I'm so happy with my decision that I'll probably not miss anything. I will certainly always remember the positive emotions

and happy moments at the World Championship.

L&S: Do people recognize you in Germany? Are you well known? How was it to win the World Championship in your home country?

SN: I knew it was the last World Championship for me, and in my own country. I wanted to just enjoy soaking up the atmosphere and a nice World Championship, so I could be worthy of my fans. At that I succeeded, and the fans are very proud of me, and I, of course am proud of myself.

L&S: Have you always trained in Germany or have you gone to warmer locations during the German winter?

SN: Yes, we go in March and April for 2 weeks to Monte Gordo (Portugal).

L&S: What kind of testing numbers have you produced?

SN: 30m without start 3.42s, Squat -125kg, Standing Broad Jump - 2.75m, 4kg Backwards Overhead Toss -20.35m and 3kg 22.45m.

L&S: What are your height and your competition weight?

SN: 178cm 72kg (5'10"/158 lbs.)

L&S: Toward the end of your career, what did a typical week of practice look like?

SN: I was always training, once a day in the afternoon I have been training. I worked hard. Sunday was free.

L&S: How were you introduced to the javelin? How old were you when you began throwing the javelin? You said you attended a sports school, so I assume you enjoy a lot of different sports.

What other sports do you enjoy?

SN: I started throwing the javelin at the age of 12. Previously, I threw balls and played volleyball. At 13, I went to the sports club in Rostock.

L&S: What are your interests and hobbies? What do you do when you have free time?

SN: I paint a lot. I did not really have much spare time. I work a lot and whenever I'm at home, I relax. I cook, listen to music, watch TV or painting.

L&S: What advice would you give to a young athlete who

has the goal of becoming a great javelin thrower?

SN: Always listen to your body. You only have one. I recommend taking a two week quiet break during injuries. *L&S*



NERIUS BY THE NUMBERS

Major Championship Placings

IAAF World Championships: 93-9th, 95-11th, 99-dnq (16th), 2001-5th, 2003/2005/2007-bronze, 2009-gold Olympic Games: 1996-9th, 2000-4th, 2004-silver, 2008-5th IAAF World Cup: 2004-4th, 2006-1st IAAF Grand Prix/World Athletics Final: 2000-5th, 2002-4th, 200/32005/2006/2007-2nd, 2004/2008/2009-3rd European Championships: 1998-6th, 2002-silver, 2006-gold European Cup: 1995/2003/2005-1st, 2000/2002/2004-3rd European Junior Championships: 1991-bronze She was German Champion in 2001/2003-2006/2009

Annual progression at javelin throw (* old specification)

1985 30.12*	1995 68.42*	2003 64.42
198745.16*	1996 69.42*	2004 65.82
1988 48.00*	1997 64.58*	2005 66.52
1989 56.88*	1998 67.33*	2006 65.82
1990 56.14*	1999 61.56	2007 65.78
1991 60.02*	2000 65.76	2008 68.34
1992 59.46*	2001 63.72	2009 67.30
199360.26*	2002 64.55	



1956 NCAA And USA Shot Put Champion, Olympian & Coach KEN BANTUM

By Brad Reid

It could be viewed as an insult, or it could be viewed as the greatest of compliments. How would you characterize being hit in the face, repeatedly, by a sixteen pound shot? Without revealing details, it is hard to imagine a positive aspect, I suppose, until Parry O'Brien is introduced, a popular antagonist found insinuated within the athletic lives and stories of so many of the 1950s era elite throwers I have biographied for Long & Strong. For Parry O'Brien, disclosing the details will heighten the understanding of how very competitive and driven he was; for Ken Bantum, it will establish his high character, raw athleticism and his deserved lofty perch in our athletic throws history.

Parry Upset, Literally ...

It seems Parry O'Brien was more than a bit miffed that a collegian out of Manhattan College named Ken Bantum had narrowly defeated him at the 1956 U.S.A. National Championships, this just prior to the all-important upcoming '56 Olympic Trials and Games. No, to be sure, Parry never actually tossed a shot at Ken's face, but he was so disturbed by the abrupt termination of his 116 consecutive shot-put meet victories that he tacked a picture of Ken Bantum to a wooden

stake, then pounded it into the landing area at his practice ring out beyond 60 feet. After assaulting the photo with his shot tosses, repeatedly, O'Brien would then carry the image back to his room and glare at it. An effigy of Ken Bantum had become the focal point, a motivation, for arguably the greatest and most intensely competitive shot-putter of all time.

A Bill Nieder Upset, Too

Parry O'Brien wasn't alone in feeling abused by the sudden burst of shot putting prowess by Bantum as just a few weeks earlier, Bill Nieder's expected second consecutive NCAA

Championship shot-put victory was summarily snatched away. It would be Ken Bantum who'd win the 1956 NCAA Outdoor shot-put title, not Bill Nieder, the pre-meet favorite. These men, O'Brien and Nieder, whose career achievements between the two of them would ultimately include countless world records, three Olympic gold medals and two Olympic silver medals in the shot-put, would fall victim to Bantum. And, now this newly-formed triune, an Olympic shot-put team comprising the three top ranked shot-putters in the world,

marched closer and closer to a show-down in Melbourne, Australia.

Who is Ken Bantum, where did he come from, and where did he go?

In old *Track & Field News* high school archives, the author finds no records of Ken Bantum as a highly-ranked track and field prep athlete on a national level; in NCAA Championship meet results from 1955, no Bantum mention exists either; and after 1957, he largely disappears from the American and World shot-put standings where he had been ranked #3 and #6 in 1956 and 1957. He would show up one last time at the 1960 Olympic Trials, this though well after his prime years as a thrower. What is Ken's story? Why the relatively short athletic career? What became of Ken Bantum?

High School Sophomore Stands Above the Crowd

Ken Bantum began his sophomore year in high school in the fall of 1950 already possessing a lofty stature of 6'-4.5" on a large, rangy and athletic frame. In the same sort of inexplicable way a fruit fly always seems to mysteriously materialize seconds after a fresh peach is cut open, it wasn't too long

before Kenny Bantum, no doubt a head taller than other classmates as he walked down the school halls, was engaged by a coach who pulled him away at a recess and took him off to the athletic fields. "Follow me, son." The coach carried along a javelin and a collegiate discus and gave Ken a very quick primer on how to grip the javelin and how to make a simple tight walking turn to hurl the discus. After a few preliminary attempts, Ken managed to toss the javelin a little over 180', the discus over 130'. "I figured you could do it," the coach deadpanned.

But, track and field was a somewhat secondary consideration to other team sports as it had been, too, for Parry O'Brien, Bill Nieder and so many other great throwers then and now. Ken's precocious throws this first day would be stored away as a memory

for another time in favor of honing his obvious physical talents in football, basketball, and baseball. The throws would soon reestablish themselves in Ken's athletic life owing to an injury; else, others in a different forum would likely be studying the Bantum athletic legacy perhaps as a former Collegiate All-American, then as an All-Pro football, basketball or baseball player.



Ken Bantum

High School Shoulder Injury

It was an injured shoulder suffered in a football practice his junior year that would manifest itself as the culprit for the drastic shift in Ken's athletic future toward the weight events. Ken actually considered his best options in track and field to be hurdling and various sprint events, not shot-putting, but a coach suggested the oddest of things to Ken, "If you will throw the shot-put, it will help rehabilitate your bad shoulder." Huh? I asked Ken if it had helped and he replied with a chuckle, "No, of course not, but I learned to just deal with the pain anyway." His injured shoulder was more than a nuisance as it marked a shift from emphases on football/base-ball/basketball somewhat to track and field. His path to the top of the athletic world would lead up the slope of a different mountain.

Manhattan College

By the spring of 1955, Ken's sophomore year at Manhattan College, his distances with the 16 lb. shot were increasing

fast. It would coincide with his first year of eligibility for the NCAA Outdoor Championships (freshman were ineligible). Manhattan's Coach Eastment, noting Ken's fine progress, promised him that if he threw farther than 55 feet in a meet, he'd be taken to the 1955 NCAA Outdoor Championships. With the challenge duly recorded in his mind, and his body prepared for such a performance, Ken soon established a new personal record with a throw of 56'-11.5." Expecting to be on the traveling squad for the NCAAs with star hurdler Charley Pratt, Ken was all but packed and ready to go when he was unceremoniously informed that he was not being taken on the trip to Los Angeles.

Excuses were proffered as he recalls all these years later: the budget was too tight; and, as Ken put it, Coach Eastment simply said, "Stop thinking about yourself... be a team player." Always the good soldier, Ken would have to wait another year to prove himself against the best throwers in the nation.

Dream Year, 1956

By spring of 1956, Ken, now a junior, was throwing very well and lagging Bill Nieder's best distances by a small margin, posting meet results just under sixty feet. Nieder had become the second man ever to throw the 16 lb. shot-put over 60 feet, after Parry O'Brien, and the first collegian to do so. Bill and Ken would face off at the 1956 NCAA Championships. Here's how the NCAA media covered the event:

"The 16 pound shot thudded into Edwards Field and the crowd roared for Ken Bantum's 59-5.25 second put. Minutes later the 7,000 spectators exploded again, this time as the Manhattan Negro joined the sixty foot club with a half inch to spare. As impressive as his results are Bantum, who

towers 6-6, weights over 230, he has run under 15 for the highs, and moves more quickly across the ring than any big man."

60'-0½''!!! One-half inch to spare and one for the record books. Ken Bantum had become the first shot-putter in NCAA Championship Meet history to throw 60 feet and the third thrower to achieve it. It was a record that would stand for four years until Dallas Long exceeded the mark in 1960. The June 25 issue of *Sports Illustrated* quoted the visiting Italian Olympic coach, George Oberweger, as he gazed in awe at the mammoth shot-putter:

"If we had just half of him, Italy would win an Olympic gold medal."

Bantum's meet wasn't over as he went on to add a sixth place finish in the discus with a throw of 167'-5½", not far behind Ron Drummond's winning throw of 173'-0½" and other no-

tables such as Al Oerter's fourth place throw of 168'-9".



Parry O'Brien

A Hurdler?

It should be mentioned that Ken was not only tall, large and fast across a shot-put ring, he was track fast, too. Bantum was a regular on Manhattan's 4 by 120, 480-yard Shuttle Hurdle Relay Team, a popular event at the Penn Relays where he and his hurdling teammates set several relay records. Dale Harder, one of my personal "go to" sources for finding and/or authenticating aberrant and odd athletic feats (author of the book, *Strength & Speed*, 10th Edition, daleharderep@gmail.com) responded

that Ken had a best time in the 120 high hurdles of 14.1 seconds, a great time for anyone, but astounding for someone of his imposing stature.

Upstaging O'Brien at the 1956 USA National Championships

At the 1956 National Championships, it would now be Parry O'Brien's turn to suffer a loss to Ken Bantum. 116 consecutive victories covering a period of just one day shy of a four-year winning streak, and it was suddenly over. O'Brien's is still the longest unbroken string of victories in USA Track & Field history and Ken Bantum brought it to a close. The results that day were:

Ken Bantum 59'-01.5" Parry O'Brien 58'-11.5" Stan Lampert 57'-01.5" Bill Nieder 56'-10.5"

A victory for Bantum over O'Brien by the slim margin of two inches exposed Parry to a wake-up call similar to his last defeat four years earlier at the 1952 Olympic Trials at the hands of Texan Darrow Hooper. The loss motivated Parry four years earlier, the inception point of his long winning streak, and it motivated him now at its conclusion. So, it was this defeat and the prospect of another major competitor to overcome in a matter of months for O'Brien to secure his second Olympic gold medal that prompted Parry to infamously stake out Ken's picture. Bill Nieder appeared to be tailing off at the end of the 1956 season owing to injuries and his father's illness, but here comes a surging Bantum thought O'Brien. Game on.

I asked Ken in our telephone interview whether he recalled the story of Parry O'Brien throwing at his photo, to which he

replied, "Oh! That was just Parry. He was my idol and we were actually good friends. He helped me and we always had fun together and liked being around one another." Were these just sentimental recollections over fifty years later? No, as a quote from Ken years after his big win over Parry carried the same sentiments:

"Of course, I was elated to beat the great Parry O'Brien," said Bantum. "Deep down, I was sorry I beat this man. He was such an idol of mine."



Bill Nieder

1956 Olympic Trials

In The History of the United States Olympic Trials – Track & Field by Richard Hymans, the shot-put competition was summarized as follows:

"At the year end the top 37 outdoor marks were owned by the top-3 in the FOT, with 23 of those markets by O'Brien, who had pioneered the style which carried his name, that of reversing fully across the circle and rotating into the throw. In the OT the three men produced 15 fair throws between them all of which were superior to the best throw by 4th placer Don Vick. Bantum, the tallest of the top men (6'6/235) was also the quickest in the event, but could not repeat his shock AAU win over O'Brien, while Nieder, who suffered from June onwards with a knee injury (but still managed to win the Olympic silver behind O'Brien) was a solid third. O'Brien threw with a chipped bone in his throwing wrist, but he wanted to avenge his AAU loss, his first for 3 years and 364 days."

The series for the top men were recorded as follows:

O'Brien 58'-7", 60'-10", 59'-5.75", 59'-10.25", 57'-6.75", 58'-5"

Bantum 58'-10.75", 59'-6.75", 58'-0.25", 58'-11.25", 59'-9.5", 58'-10"

Nieder 57'-5.5", foul, 58'-1.5", foul, 57'-7.5", foul

O'Brien, suffering a bone chip in his wrist, wanted to avenge his earlier loss to Bantum and regain the top spot heading into the Olympic Games. Bantum posted a series of six very strong and consistent puts to secure second place, and Nieder was still struggling to regain his earlier sixty feet plus form (and overcoming a knee injury) but held on for a third place finish to make the team narrowly over Don Vick.

Back East: Obstacles and Injuries

While most of the other aspiring Olympians remained out west to train and prepare for the 1956 Olympics, Manhattan College would not allow Ken to miss the whole fall semester to prepare and sharpen his skills at the training camps and scheduled pre-Olympic competitions, so he returned back

east to largely work on his own. The quality of the meets, now out of season, was sub-par and training was difficult in its relative isolation. Ken was lacking the great camaraderie that would have likely materialized had he been surrounded by other great shot-putters training and competing day in and day out with each other, but he persevered.

In one meet he managed a fine throw of over 59 feet, not far from his NCAA winning mark, and he fouled off a

longer throw of just over 61 feet. In a second meet, Ken threw his best-ever distance of 62'-7", not far off Parry O'Brien's world record, but the distance was not deemed official as there were only two other participants and five were required. Ken openly muttered how easy it would have been to recruit two more throwers to make it "official" but the coaches told him, again, to stop thinking of himself and be a team player. Shortly later, Ken injured his wrist while lifting, not possessing the proper skills or knowledge to train with his meager set of weights properly. Between the intense throwing and not knowing how to lift weights, Ken set himself up for another nagging injury. Word of Ken's training progress, his throws, and the injury, got back to the US Olympic coaches and officials.

A Second Trial?

On the very day Ken arrived to join his teammates days before the team would leave for the Olympic Games, he was promptly driven over to a nearby high school. He was somewhat perturbed to see Don Vick, fourth place finisher at the Trials, standing near the shot-put ring and asked what it was all about. The officials, concerned over the seriousness of Ken's recent arm injury, said the two of them would throw against each other and the winner would go to the Olympics, the loser would stay home. Ken was surprised but there was nothing left for him to do except throw in the impromptu second trial, so he did. Bantum posted a mark near 61' while Vick hit 57'. Vick, without saying much, picked up his belongings and simply walked away. Ken, without telling the officials on hand, re-aggravated his wrist injury in his effort to remain on the team. Ken knew that Jim Graham, out of Oklahoma A&M, had lost his berth on the team as a pole-vaulter owing to a training ankle injury. Ken kept quiet.

1956 Olympic Games, Melbourne, Australia

The Olympics bring back fond memories for Ken Bantum, and he recounted story after story of the men he had met, the fun they had, and the competition itself. Ken noted that when they arrived, the weather was still cool and wet though it would improve just as the track and field events would begin. He and his roommate shared an accommodation with a sort of stove/fireplace in a corner that became a popular place for various athletes to congregate, warm themselves, and enjoy each other's company. Bill Russell of basketball fame frequented the gatherings and one day, some of the track athletes were talking about how flexible a particular hurdler was. Bill Russell stood up, all 6'9" of him, and said, "Watch

this!" and he kicked one leg straight up over his head and held it there balancing on his other foot; then after a few seconds, he brought the extended leg down and repeated it with his other leg. Ken said, as a proficient hurdler himself, often around the track, he'd seen many hurdlers and other athletes with limber, flexible legs, just none who could hold it up and keep it aloft statically while balancing on the other leg effortlessly!

On another occasion, Parry O'Brien encouraged Ken to high jump with him, and they competed up to 6 feet where Ken said he missed his jump, but Parry cleared it. Parry thought he had won. Then, another thrower walked over and moved the bar pins up to 6'4" and backed off, ran at the bar and, using the old Western Roll high jump tech-

nique, cleared the bar for a clean jump. The youngster got up, circled around and made several jumps over and over clearing the bar each time. His name? Al Oerter. Oerter suffered a sub-par 1956 NCAA showing, but came back strong at the Olympic Trials, then upset Fortune Gordien and others for the first of his four Olympic discus gold medals. Ken Bantum marveled at the overall athleticism of the throwers suggesting, too, that Bill Nieder may have been the most gifted athlete of the lot as he was nationally-renowned in so many sports coming out of high school.

One other interesting story came about when the iconic heavyweight weightlifter, Paul Anderson, came down to the track to perform some short sprints and standing long jumps. Some of the throwers were there to watch and perhaps compete against him. Anderson made a standing broad jump that was so very far, Ken recalls, the throwers all gave Anderson a dismissive wave, accepted his superiority in the jump that day, and walked away to avoid an ignominious defeat.

The 1956 Olympics Shot-Put Competition: O'Brien Dominates

Parry O'Brien -18.57m 17.92,18.47,18.37,18.45,18.57, 18.23 Bill Nieder - 18.18m foul, 17.61, 17.81, 16.82, 18.18, foul Jiri Skobla - 17.65m 17.39, 16.70, 17.34, 17.51, 17.05, 17.65 Ken Bantum - 17.48m 16.99, foul, 16.27, 17.48, foul, foul

The results speak for themselves as the defending Olympic shot-put champion began with a fresh Olympic record and never lost the lead. A focused O'Brien had a remarkably consistent competition, suffered no fouls in his six attempts, with only one throw that wouldn't have earned him the gold medal. Nieder had somewhat recovered from his injuries and his relatively poor outcomes at the NCAA and USA championships, enough to win the silver medal. It would be another four years before Nieder would establish his dominance over O'Brien. A Czechoslovakian by the name of Jiri Skobla would upset plans for the American triune to sweep the medals; Ken Bantum's wrist and his chronic shoulder injury were too

much, and his throws had visibly faded from his longer efforts earlier in the season. Ken, beset by half of his throws being fouled, would end up fourth, just out of the medals.

It would be easy to blame injuries; all three Americans, and likely many of the other competitors, carried nicks and bruises into the Olympic Games, but history will show that the young Ken Bantum, at the '56 Olympics then only 21 years old, had developed truly nagging injuries, the kind that would prevent him from making further progress in the record books as a thrower. Where O'Brien and Nieder would continue to mature and evolve as

throwers for years to come, Bantum's injuries were of the sort that would hinder further progress toward his full potential as a shot-putter, a peak experts would have likely extrapolated to occur in his mid-to-late twenties. Ken, whose shoulder was too compromised to throw a javelin or a baseball competitively, had successfully managed to become an elite shot-putter in the short period fate's fickle door remained open to opportunity.

Remonstrations from Ken Bantum simply don't exist, not now. He wanted to go to the Olympics and expected to win and his misfortune bothered him for some years, but in my interview with him recently, it all seemed to make sense. Injuries happen to athletes, they happened to him, and they shaped his athletic career; even his Olympic experience might not have ever happened if not for the shoulder injury years earlier. It was this injury, after all, that oddly deflected Ken into the realm of shot-putting. Bantum was much more interested in telling me about his friends and fellow competitors, how very



Jiri Skolba

athletic they all were in an era just before weightlifting and scientific training and diet regimens were introduced. Ken wasn't the only one so well-rounded and so broadly athletic, he would say, for it was an era in which diversified athleticism was the main attribute to success in sports, even esoteric ones like shot-putting.

1957

Just seven months later at the 1957 NCAA Outdoor Championships, Ken was still throwing far below his best results from 1956 and unable to defend his NCAA title taking second place to Michigan's Dave Owen who threw 59'-5.75" to Ken's 57'-2.5". Ken's result was almost three feet off one year earlier. Dave Owen did to Ken what Ken had done to Bill Nieder by denying him a second NCAA shot-put title. Ken would again finish in the points with a sixth place in the discus event. Just a few weeks later, Ken only managed a throw of 56'-6.5" for a fourth place showing at the 1957 USA National Championships, again well off of his 1956 winning mark over Parry O'Brien.

The shoulder injury that summarily ended any aspirations Bantum had as a young man to play a professional team sport ironically led to his place in the history books as a great shot-putter. As a 180 foot first-time javelin thrower as a high school sophomore, his subsequent shoulder injury curtailed what "might have been" spectacular in that event, too. And, with Ken's great sprint speed and hurdling prowess, this added to his stellar throws, wouldn't he have possibly been a decathlete who'd have matched or exceeded the point levels then attained by the great Rafer Johnson?

The Bantum Legacy

Ken Bantum would stay fully involved in the athletic world as a highly-respected coach for decades to come. Yes, he would compete for several more years, a few while he was in the Army, but not at the level where he appears in national or world rankings. New injuries added to the old ones would put an end to that. The author last found evidence of Ken Bantum as a competitor at the 1960 Olympic Trials held on July 1, 1960. Ken placed seventh with a throw of 55'-3" that day. But, once again, he was among his friends and content to be in their company.

Ken Bantum, the first man over sixty feet in the shot put at a NCAA Championship meet; first man to beat Parry O'Brien after Parry had strung up 116 consecutive victories, earning himself an open national championship in the course of doing so. Bantum, the Olympian.

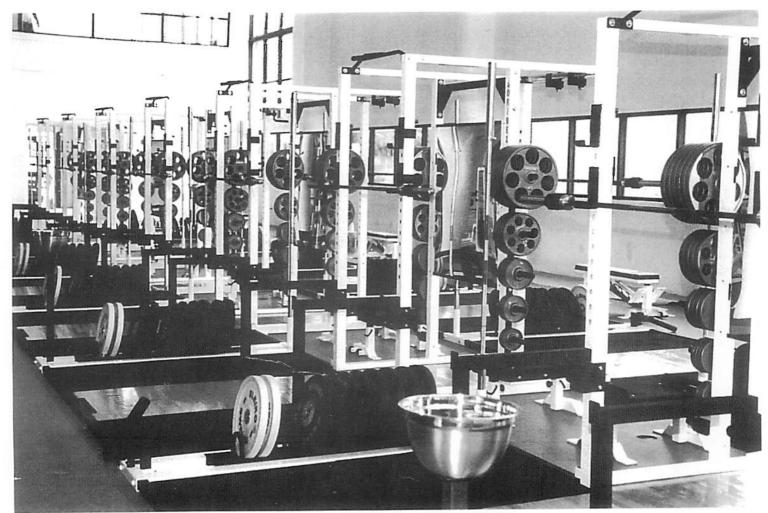
Coach Bantum

The author would have to double or triple the length of Ken's athletic biography to do it justice if it included his coaching assignments and exploits. What I would like to report, the area in Ken's coaching history that stood out to me the most, was the great progress he often made with athletes who were "off the radar," novice throwers considered too small, throws too short, starting too late, and athletic odds too long, to

even be considered as candidates for tutoring by coaches at larger, higher-profile universities. Coach Bantum excelled with these sorts of kids, those who really had the burning desire to throw, albeit some lacking the same "natural resources" that others might have enjoyed, Ken included. Examples like these abound: a 43' high school shot putter who would go on to throw over 58' a year later; a 108' female hammer thrower morphing into a 198' thrower in five seasons, and a 5'-2", 115 lbs. female athlete who'd go on to become one of America's top shot-putters with a put of over 58'. Over a coaching career spanning thirty-five years, Bantum could make a difference.

A final thought on Ken Bantum. I was tabulating the points Ken had scored in his two NCAA meet appearances (he scored a total of 20 points over his two appearances), this to compare his career total with other great 1950s era throwers I have covered for Long & Strong. Today, any foreign athletes in the NCAA meet top 8, and the top 8 placing Americans are all awarded the coveted All-American title. According to at least one source I found, prior to the late 1970s, All-American recipient records were not kept. "Coach Bantum." I asked. "You won the gold and silver in the shot-put in '56 and '57 so I suppose All-American status there, but you had those two sixth-place finishes in the discus, too, for NCAA meet points. In 1956 and 1957, did that earn you All-American status in the discus event too?" Bantum chuckled and said that he really didn't know what his All-American tally count was, that years later around 1963 or 1964, he ran into his college coach who said he had something for Ken, and he handed him a certificate acknowledging his gold medal shotput victory in 1956. For all of those years, Ken had never had any idea that the document even existed, whether he was an All American two or four times over, it was just a different world then.

There aren't many extant photographs of the 21-year-old Kenny Bantum from 1956. A nice collection of photos and clippings Ken once possessed was left behind at a friend's apartment, as he recalls, and lost to posterity. But, take a hard look at the one photo the author could find of Ken Bantum, this from the '56 Olympic Games, and contemporary throwers will see what today would be considered a tall and lean athlete. Ah! The history of one of our greatest shot-putters, the third man ever to pass sixty feet, done with a physique that today would look more like it belonged to an NBA power forward than to a stout contemporary elite shot-putter, one who trained with a set of weights small enough to roll under his bed in his dormitory room, one who could run 120 yard hurdles in 14.1 seconds, one who handed out defeats to two of the greatest shot-putters of all time. Ken Bantum threw in an era when all-purpose athletes dominated the throws and these special athletes established important natural milestones from which today's throwers are still measured. *L&S*



UNIVERSITY OF MIAMI HURRICANES

SORINEX EXERCISE EQUIPMENT

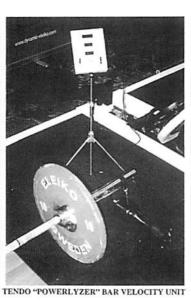
Have you ever noticed how many World Records have been set, or National and World Championships have been won by athletes using Sorinex Exercise Equipment? Cutting edge designs, bombproof durability, unmatched function for all power athletes. Built for athletes, by athletes.

CUSTOM OPTIONS * ELEIKO * IVANKO * ADIDAS LIFTING SHOES * REHBAND SUPPORTIVE GEAR * SISSEL STABILITY PRODUCTS * CHAINS * BANDS * CARDILLO BELTS * RED OXX ACCESSORIES * GRIP TOOLS * REVERSE HYPER EXTENSION











SCORPION SWISS BALL BENCH



SORINEX BRAND BUMPER PLATES

Second Coming

BY KURT DUNKEL, SHIPPENSBURG UNIVERSITY (PA)

The storyline is a familiar one. Strong-armed Louisianan makes his way to Athens, Georgia and goes on to accumulate national titles, and knock on the door of international success. Breaux Greer you say? Yes, he was the original script, but there is a sequel whose story is still being written in the form of Chris Hill. Hill swept the 2009 NCAA and USATF titles and made his first appearance at the IAAF World Championships in Berlin.

change if I lived at home.

L&S: Can you talk about your experiences at McNeese State? What prompted the transfer to the University of Georgia?

could teach me as much, or more, about the javelin than

anyone out there. It was 10 minutes from my home, so I

could pocket my scholarship money for some spending

Hill had an impressive pedigree without the javelin. He was an All-State defensive end and voted as the All-Southwest Louisiana Defensive MVP in football. He also played baseball at Sulphur High School, and was named to the LHSAA Academic All-State team.

Chris Hill took some time away from his winter training to chat with Long & Strong.

Long & Strong: Tell us about your athletic background. What sports did you play growing up?

Chris Hill: I grew up an average boy, played some baseball basketball and football. It was football and baseball in high school util my junior year, when I quit baseball and started throwing the javelin. VictorSailer

The powerfully built Hill sits atop the U.S. javelin scene.

I got tired of baseball, and my brother was a two-time state champ in the shot in Louisiana (60 footer), so I wanted to go throw shot and disc with him. I saw the guys throwing spears off on the football field and decided I should do that too. I threw all three during my junior and senior years.

L&S: Tell us about the recruiting process out of high school. How/why did you choose McNeese State?

CH: My priority out of high school was to get a full scholarship, and not knowing too much about college or elite track and field, I was very fortunate that my brother threw the shot for McNeese (LA) when he wasn't playing football. The coach there was Ty Sevin, who recruited me. He put me on full scholarship and convinced me that he

CH: After the USA Junior Championships in 2007, Ty told me that he had got the job at the Olympic Training Center to coach the vaulters and javelin thowers. With there not being anyone at McNeese to coach the javelin, and the odds of someone getting the job who could really get me better were very slim, I chose to hit the recruiting trail again. That's when I came to Georgia. Coach Babbitt and the people at Georgia were great; I really felt at home up there. I knew I could go and throw far over there.

L&S: You are coached by one of the best coaches in the world, Don Babbitt. Can you tell us what it is like to be coached by him, and what impresses you the most?

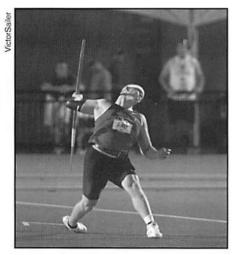
CH: Coach Babbitt is great to work with. The best thing about him is that he works with your

strengths. He really approaches each thrower differently and doesn't try to force a picture perfect form to each thrower. He works with what you do well, and slowly molds your form into a way that best suits your style, but is also technically sound. The experience he has with elite athletes, and overall high-quality throwers, cannot be rivaled by many. And the confidence of knowing that your coach has seen it all is very comforting as a thrower.

L&S: Is your javelin training fairly standard, or do you do some things that are specific to you or Coach Babbitt's philosophies?

CH: My training is not too crazy or off the wall like some people like to do with the javelin. I feel like all my lifts and drills are safe, but very effective for what I am trying to

accomplish. Coach Babbitt's philosophy with me is less is more. I have always been the kind of guy who can spend five hours busting my butt in the weight room, or on the track. But what he tries to get me to see is that I can get the same or better



results with a lot less wear and tear on my body.

L&S: Now that you will no longer be a Bulldog, what is next? Will you remain in Athens to train under Coach Babbitt?

CH: As of right now, I am at home in Sulphur, Louisiana. My family and girlfriend are here, and I get to fish a lot while I'm home. I don't need a whole lot more than family, friends and a rod and reel in my hand to be happy. I'm training and coaching the throwers at McNeese State right now and am taking a few classes to finish up my degree while I'm home.

In the spring, I'll be back to Athens to train with Coach Babbitt.

L&S: What are your feelings about being the top U.S. jav thrower? How do you see yourself moving into a position to challenge the world's best?

CH: Man, it's a thrill to be at this level of competition. Being able to go up against guys like Tero [Pitkamaki] and Andreas [Thorkildsen] is pretty amazing, especially since as long as I have followed the sport, they have dominated it. But in the U.S., it's a different story. I'm not that far ahead of the pack that I can get comfortable. I'm sure Mike [Hazle], Corey [White]and Cyrus [Hostetler] would all love to knock me off the top, but I'm not going to let that happen any time soon.

L&S: The javelin is certainly demanding on the body. You had Tommy John surgery in high school? How has the body been holding up?

CH: My junior year in high school, after my first season of throwing, I tore up my elbow. I threw the shot, disc and jav all season, but only made it to the state championships in javelin. So in a week where normally I would be throwing all three events during practice, I just threw javelin, and I threw too much.

On the Monday before the Saturday meet, I threw, and after too many throws, I had a few come out sidearm, and I felt a little pop. After that it was downhill, and stubborn me wouldn't stop, so I threw until I tore it completely the day of the State meet. I got an MRI a few weeks later and it was definitely torn. I went to Birmingham, Alabama where Dr. James Andrews did my surgery and I haven't had a problem since. He did an amazing job.

L&S: Any suggestions on how throwers can keep themselves healthy and injury free?

CH: Yes, less is more. When it comes to volume, do that in your medicine ball throws, and single arm ball throws. Don't kill yourself out on the runway with a javelin, but make sure your throwing is quality, not quantity.

L&S: How tough was it just missing the Olympic Team? Were you trying to outdo Breaux Greer (i.e., 1996 Olympic Trials)?

CH: It was rough, even though I had not thrown farther than 73 meters the season before. I was very hopeful that I could get the 'B 'standard. Even though I did not make the team, I surpassed my expectations I set before the season. But being that close to the Olympics and not making it can only add fuel to the fire. Especially for a 21-year-old.

L&S: Can you talk a little bit about the World Champs in Berlin?

CH: Berlin was a great learning experience for me. By far the biggest meet of my life, and I really needed that type of surrounding to get my career where it needs to be for the future. Being around experienced throwers like Reese Hoffa and Adam Nelson was an amazing experience, being able to see how they handle themselves in big meet situations was a great learning experience for me. I really hope to make many more teams in the future.



When not training, Hill is an avid outdoorsman.

BABBUT'S PERSPECTIVE

Long & Strong asked Chris Hill's coach, the University of Georgia's Don Babbitt, for thoughts about Chris Hill. Babbitt, having coached America's last great hope in the men's javelin, Breaux Greer, knows a little about elite spear Jalent.

Chris is highly motivated and has a great work ethic. I know a lot of coaches say this about a lot of people, but within the realm of highly motivated people Chris is at the top of the curve. He has great shoulder flexibility (a lot like Breaux Greer) and is a great competitor. Good competition brings out bigger throws from him. The two best performances of his life were the result of someone throwing a big throw just ahead of him.

He is eager to learn/and I like to teach. He has a very good head. Sometimes I have to remind myself that he is "only" 21 because he comes across as someone with much more experience and vision than a typical 21-year-old athlete. I think our communication is good and we are on the same page in terms of goals and expectations which is important for long-term success.

Chris is a big outdoorsman. Fishing is a passion of his.
If you look at where he grew up, you can see why (lots of great fishing in SE Louisiana). He trains very hard and intensely so this is his outlet to relax and bring life back into balance. Chris also had about 60 family and friends

up in Fayetteville. AR, when he won the NCAA title this past lune. They had a good old-fashioned SE LA tailgate after the meet in the parking lot across the street after he won. There was home-made jumbalaya, etc. It was something out of a LSU football tailgate, and he invited Corey White (the runner up from USC) and his souch, my good friend Dan Lange, as well.

[Our training] is nothing really special; just a very basic, well-rounded approach to training / really think with the javelin, the key is to stay injury-free, and a talented thrower will rise to the top and improve their marks. The initial program we began for the 2007-2008 season was basic because it was our first year working together, and he went from 72.80 to 81.72m. The next year we carried on the same type of training with the necessary adjustments in volume and intensity and things continued to get better. The trick was to find the right amount of volume. I think Chris may have been initially surprised at how little volume you need to actually make great improvements.

He has really developed so fast. I think we have made good joint decisions on how to proceed with training and have not tried to rewrite the book on how to do things, and it is going well. I can see there is a lot more left for him to develop as well which is exciting. *L&S**

L&S: How was it for you to extend your NCAA season into Europe and Berlin?

CH: That was an incredibly long season for me. Throwing in my first meet March 28, breaking my hand a week later, then throwing until August 22. That was really taxing on my body. I learned so much though, and can't wait for next year to have a full professional season. I really think I can have some big throws with people that will push me at each meet.

L&S: You don't have the body type of Thorkildsen or even Zelezny for that matter. You seem a little more like Andrus Varnik or even Matti Nahri. Regardless, trying to copy others is not typically advised. What are your strengths as a jav thrower? What do you do in order to maximize your strengths? What aspects are you looking to improve?

CH: I definitely think that my strength and explosive power is my biggest asset. I don't have the big, rangy wing spans the other throwers do, but I think I can manage with what I have. It's funny to see the pictures of meets, because I look half the height and twice the width of the other throwers. Babbitt is really good at helping me

maximize my strengths. The biggest thing we're working on now is my speed down the runway, and consistency. When those two things start to catch on more, I think we will see a lot more throws on the upper end of 80 meters.

L&S: Tell us about your training. What types of training do you focus/prefer?

CH: I love lifting. It's probably not the best thing, because I think I lift too much sometimes, but I enjoy it. And of course I love to throw; I don't know a true jav-guy who doesn't.

L&S: How will your training look now that you are not a student? Are you looking forward to this change?

CH: Now that I'm not a student-athlete, things change some, but I am still finishing school right now. The difference is that now I really get to focus on track and making a living doing something I love and am passionate about. School will be finished over time; I'm only taking a few hours at a time, but I really get to concentrate and set myself up to have a nice long career.

L&S: How do you keep yourself motivated and your training feeling fresh?

CH: To keep myself at top levels when I'm training, I make sure to stay motivated while I'm on the track. I make sure that when I step foot on the track, that is the only thing on my mind. For the next few hours I know that I got work to do, and I leave everything else at home. The same goes for when I'm off the track. For the majority of the day, I try not to think about it much and just relax and have a good time. I make sure to fish a lot and try to have that time balanced with training time. That works out pretty well.

L&S: What are you into besides javelin? Hobbies?

CH: I love to fish and hunt. I live in south Louisiana, here in a sportsmen's paradise that tends to be pretty fun.

CHRIS HILL By The Numbers Ht./Wt.: 6'0", 230 lbs 2006: 62.58m 2007: 72.80m 2008 81.72m 2009 83.78m

Power clean: 340 lbs. Snatch: 235 lbs.

Back squat: 500 lbs.

Front squat: 385 lbs. 30 meters: 4.2 secs.

Standing LJ: 2.97m

Other than that, I just like to be outside, spend a lot of time with family and friends. I love a good game of poker, and good food.

L&S: What did you study in college? What are your plans after javelin? Have you thought that far into the future yet?

CH: Most important thing is I want to have a family; get married and have some children. I'm a family guy and I have come from a close family, so that is what I want most in life. In school I am a business major. I have no real plans to use that degree for anything particular, but I do plan on the real estate business when I get out of track. I really enjoy coaching on the college level. I feel like if I can have a positive influence on some young athlete's life, then that's a whole lot

more fulfilling then working some 9-to-5 behind a desk, plus I want to wear sweats to work. *L&S*

BIG THROWS

Big Throws Clinics are mobile learn-by-doing camps. Our main objective is to provide the coach or athlete with a sound base of knowledge regarding the throws. All age groups are welcome!

Mike Hambrick, 8250 Remington Drive, Pittsburgh, PA 15202 412-635-7152 (H), 412-979-5195 (C) disc1714@comcast.net

http://longandstrong1.tripod.com/



2009 National Heavy Events Champion KERRY OVERFELT

By Mark Valenti, DynamoSports

"What in the hell are you doing?!" asked the voice on the other end of the line in that goofy southern drawl I had grown to recognize. "Is that you on the golf course?!" I had gotten lost on my way to the resort that would be our lodging for the next two nights at the Uwharie Games in North Carolina and had somehow ended up on the cart path near the 9th green of the golf course. My roommate for the weekend, Kerry Overfelt, was standing on the deck of the suite laughing and trying to direct me back to the highway. This was the start of my traveling partnership with Overfelt. I should have known right then and there, that it was going to be a bumpy ride.

Kerry, for all the good-natured ribbing we all give him, is an unstoppable force on the Highland Games circuit. When he shows up at a Games, it has come down to everyone arguing over who will be in second place. This year before the National Championships in Bethlehem, Pa, Kerry did something totally out character for him; he called his shot. He went on several Heavy Events websites and told the rest of the field that he would win the Nationals this year, and they all better be ready to accept defeat. He then went out a month later and won Nationals in a dominating performance.

The rest of the world is about to be introduced to this balding, chubby nightmare when he walks on the field at the World Heavy Events Championships in Vancouver, British Columbia, this May. Smart money is on K.O. bringing home his first World Championship.

L&S: Give us a run-down on the basics. What's your height and weight?

KO: I'm 5'11" and 300lbs.

L&S: Okay ,that's a total lie,. You are 315 lbs., if you are an ounce! What are some of your personal records in the throwing events?

KO: Braemar Stone - 41'7", Open Stone - 51', 56 lb. Weight for Distance - 47'-plus, 28 lb. Weight for Distance - 91' Heavy Hammer - 119', Light Hammer - 142', Sheaf Toss - 34', Weight Over the Bar - 18'6" with the spin, and 17'2" from a stand.

L&S: What is your athletic background like; what sports did you play in high school?

KO: I played football when I was a junior in high school, I was too insecure to play my freshman and sophomore years. I was a shy kid if you can believe that. I was not a good athlete in high school.

L&S: What sports if any did you play in college?

KO: I was a late bloomer athletically. I went to



Kerry Overfelt tossing the caber.

college for one year at Eastern Kentucky and left; I wanted to work and make money. I started lifting weights when I was 18 and I loved bodybuilding. I did four teenage shows but never knew what I was doing. I knew that I loved the iron game and liked working out. I loved football also and kept a dream I could play college football one day. My friends thought I was crazy. I was not good enough to play in high school; how could I play college? I was 20 years old when I met my other sister for the first time. She was a student at Campbellsville University. We had the same dad; the guy that never claimed me (laughs). I went with my sister to a Campbellsville football game and was hooked. I enrolled the next semester and played there for four years. I was a captain my senior year and was All-Conference my junior and senior years. I was also named offensive line MVP my senior year. Not bad for a kid who had no business playing football.

L&S: You started to touch on it in the last question; you have lived a pretty interesting life, especially growing up. Tell us about your early years.

KO: I grew up on the farm until I was six, then we moved to Cave City, KY and the cozy confines of a trailer park. We lived in a trailer most of my life until Mom upgraded to the projects (low-income housing). We lived there until we finally moved into a run-down old house. We were very, very poor growing up. Mom held two jobs usually, and we still shopped at the Dollar General store for our school clothes and shoes.

Never had a dad, had a step-dad for four years. He was a part-time drug dealer, but mostly a drug user. This ain't no lie either, bro'. My step-dad would physically and mentally abuse my mom, until one day she had enough and we left. I was that fat kid that got picked on for being fat and wearing two dollar shoes. Not much has changed; Mark still makes fun of me for being fat and not having a BlackBerry.

I never thought my sister and I had it rough, though. My Mom loved us and we always had food, clothes and a roof over our head. That's all a kid needs. I feel lucky that I had to go through that, because it made me a much tougher person.

L&S: How do you think growing up the way you did affected your athletic career?

KO: I think growing up and having to work hard my whole life helped me. Doing that gave me a work ethic that has carried over into my whole life. I remember as a twelve-year-old cutting tobacco and trying to race my uncles to see who could get through a row first. Can you imagine a parent nowadays letting their kid whirl a tobacco knife around all day?! I also want to add that I didn't have troubles as a kid. I had food ,clothes, and a roof over my head and a mom who loved me.

That's why my mom is the person I admire most. She taught me so much about being tough and hard work.

L&S: Wow! I can relate I remember growing up one time and my dad had to decide if he wanted a 40' SeaRay motor yacht or a 36' Wellcraft cigarette boat. Obviously one was bigger, but the other faster. Talk about a tough weekend!

KO: You're an idiot.

L&S: Did you play football after college? Where and how did you get started in the Heavy Events?

KO: After college I knew football was done. I knew about the Heavy Events because I had been to the Glasgow Highland games in Kentucky. My old gym owner got me started in the Games. He said, "Hey, let's go try this."

That's how it started.

L&S: Did you have any throwing background prior to the Games?

KO: I threw the discus in high school. It consisted of the coach throwing down the implements and saying, "Go throw." No coaching at all. It was humorous, sort of like my stone throwing now.

L&S: How did you prepare for this year's nationals?

KO: I did nothing different for this year's nationals than for any other. I took a week off from work, rested big-time and ate like a horse. I did not throw the entire week; I just rested. This year I won Nationals, the North American Championship and Fergus. I won 14 out of 19 Games this year.

L&S: Why didn't you go to Worlds this year?

KO: I did not go to Worlds this year because I was not invited! So when they had some injuries come up, they called me and I said, "NO." I had already planned on the Portland (OR) Games and the Enumclaw (WA) Games. I had already paid for tickets, lodging and everything.

L&S: Will you be going to Worlds next year?

KO: I will be going to Worlds next year, if I avoid injury and death (laughs).

L&S: Why don't you compete in Scotland?

KO: I don't compete in Scotland cause I hate the weather, food, implements and traveling over there. I just don't see the point when I can compete here.

I also run a personal training business, and if I ain't working, I ain't making money! So being over there I lose money each day.

L&S: Give us a rundown of what a training week looks like for you, both in-season and out-of-season.

KO: Training in-season is on an instinctive schedule for me. I do lower body Monday with some throws; two lifts and then throw. Tuesday I do upper body stuff and stone throws. If I feel run-down, then I do a lot less, or take the whole week off. I don't do a lot of throwing in-season.

The off-Season is fun for me. I do three-to-four days, Westside all the way; two max effort days, two explosive days. I use the Conjugate System as far as exercises go. I use all different types of exercises.

L&S: What are some of your lifting maxes?

KO: 725 lbs. deadlift, 600 box squat, 345 close grip bench. I don't do conventional Olympic lifts, so I have no maxes for them.

L&S: Why no Olympic lifts? They are God's gift to throwers. Don't you know that?

KO: I don't agree with using Olympic lifts to be explosive. I think that's crap! If you're stronger, then you can apply more force and be more explosive.

L&S: Who did you look up to coming up as an amateur in the sport of Heavy Events?

KO: Ryan Vierra, Myles Wetzel, Don Stewart and Sean Betz. Vierra helped me a lot technically. Don helped me with the training to be a thrower and helping me change up my weight routine. I admire all my competitors though.

L&S: What do you love about the Highland Games?

KO: I love the competition, the challenge of me having to push beyond the limits, the friends, and the relationships I have made through the Games.

L&S: Any final thoughts?

KO: You suck!

L&S: You're a tool. Thanks for the interview! *L&S*

World Throws Center

BIG THINGS BREWING IN THE DESERT

By GLENN THOMPSON

For John Godina, his retirement decision came relatively easy. There would be no lingering on the fringes of elite competitions. His last campaign came in 2008 in an effort to make his second Olympic experience as a discus thrower. When that effort fell short at the Olympic Trials in Eugene, Oregon, a plan that had been hatched and incubated, went full-blown shortly after.

Godina knew his athletic career was over when in December, 2008, "I was no longer interested in the training. I knew I would always want to compete, but the training got to be no fun at all because of all the injuries and pain."

So what was the plan the four-time shot put world champion and Olympic silver and bronze medalist moved on to? He had already begun Whole Fitness, a small training center in Mesa, AZ, after his shoulder surgery in 2006.

I decided before I started Whole Fitness. I knew I wanted to build a training center to develop throwers and other track athletes, but I needed a manageable growth plan. By starting with personal training I was able to acquire the equipment and facility that allowed me to legitimately begin training athletes. From there, if the athletes were successful, I knew more would come. As the PR's piled up, more people wanted to be involved with what we were doing and thankfully we have been able to grow the facility to accommodate the interest. Believe me, without a clear goal in mind at the beginning, this never would have come to pass. Some of the steps to advance the WTC forced me to take backward steps in Whole Fitness. Limiting the growth of a successful company like Whole Fitness is not the best idea unless there is a greater goal on the horizon.

"The World Throws Center was built around the idea that all throwers, from junior high to Olympians, needed a place to call their own. A place where we can get our type of work done, when we want to get it done, and with the help of quality coaching. The last thing throwers need is to work around the football team's schedule, or be told not to use chalk in the weight room. I wanted complete freedom. No strength coaches telling us what to do when, no collegiate governing body telling us who we can train with or be coached by and what hours, and a coach whose sole responsibility is to the athletes and not an athletic department or administration"

"Don't get me wrong, I love all the great things the collegiate environment provides for student-athletes. I think the coaches are incredible at their jobs and the schools do everything that can be expected as well. The World Throws Center just provides a private training environment for athletes who are no longer fortunate enough to be a part of the collegiate sports environment, or young athletes who are trying to improve enough to be able to someday compete in college."

Godina has an impressive collection of post-collegiate talent training with him including Trevor Berner, Vikas Gowda, Jordan Young, Loree Smith, Tim Muller, Kevin Bookout, Abby Ruston, Dan Taylor, Suzy Powell and Erik Whitsitt. And that list will continue to grow.

On August 4, 2009, Godina entered into an agreement to work with the Athletes' Performance. Athletes' Performance is known worldwide as a leader in Performance Training. AP has a list of All-Stars clients in a variety of sports including NFL, NHL, NBA, MLB, MLS, International Soccer, Professional Tennis, PGA and more. By partnering with the Godina World Throws Center, Athletes' Performance has began building a track and field training environment to rival that of any Olympic Training Center.

The WTC began operations in Athletes' Performance's sparkling new showplace facility in North Phoenix beginning September 1st. The facility -has an incredible array of amenities and services at the athletes' disposal. Among

them are



Another day at WTC, from far left: Godina, Abby Ruston, Kevin Bookout, Koji Murofushi (center), Dan Taylor, Loree Smith, Paul Wagner and Trevor Berner.

- Full weight room with 12 Keiser power racks, 6
 Olympic Lifting platforms and every piece of
 weightlifting equipment imagined or needed
- On-site shot put Training area and long throws training just 3 miles from the facility
- 4 Lane 50 Meter Sprint track
- 60 Yard Field Turf Field
- Agility and Bounding Area
- · Full Training Room
- Certified Athletic Trainers, ART Specialists and Physical Therapists
- Chiropractic, Orthopedic Surgeons
- Metabolic specialists, sports nutritionists, chef, staff and Kitchen

The state-of-the-art Athletes' Performance facility is accompanied by world-class throws coaching from John Godina and two-time National Collegiate Throws Coach of

the Year, Dave Dumble of Arizona State University.

Godina is far from satisfied and has aggressive plans for 2010 as well.

"Mohammed Saatara (Northern Arizona University throws coach) and I were talking about his throws camp when we went up to Flagstaff for a last chance meet last summer," recalls

Godina. "As we were talking, he asked if I was ever going to host a camp. I knew that with the amount of time I was putting in at the World Throws Center it would be unlikely to happen anytime soon. He then suggested that we work together to make it happen."

"Over the next month or two he laid out a great game plan for the camp, and I knew that his new facility is one of the best, if not the best, throwing facilities in the country with plenty of room to host hundreds of kids."

"This is going to be great fun and I know the athletes are going to learn a lot about throwing," continues Godina.

"We will cover everything they need to know when they get back home to get that new PR. We will introduce them to the World Throws Center Throws Progression as well as teach them about nutrition, recovery, core training and functional training. This will also be the first chance for almost all of the athletes to learn the hammer throw from Mohammed, who is a GREAT hammer coach. All of that

plus you can't beat the setting. NAU is nestled in the mountains above Phoenix with the throwing field cut out of the Pine trees. Summer in Flagstaff is gorgeous."

Godina's 2010 will wind down with a big splash as the WTC and Athletes Performance plays host to the National Throws Coaches Association convention.

"Rob Lasorsa (NTCA President) and I were talking about my speaking at the NTCA clinic this year," Godina recounts. "He mentioned they had not decided on a location for 2010, and I thought the Athletes' Performance would be a great place for the convention. With 31,000 square feet and every bit of equipment you could ever need for education or demonstration, it only made sense."

Godina has big ideas for the convention.



Some of the glittering facilities at Athletes Performance.

"We are planning on having lots of new speakers that the throwing world has never heard from. New perspectives and insights are often hard to come by in the throwing world because we are already so refined in our methodology. Any chance to add to the knowledge base of the throws community really excites me. We will have presentations

on just about everything a throws coach needs to know." Godina lists some of the tentative subjects to include nutrition, supplementation, strength training, program planning, injury prevention, functional training, core training, Triggerpoint Therapy presentation and much more.

"What I am looking for is to present the best NTCA Convention/Clinic yet. I want people to leave saying, 'Wow! What a great experience!"

So what else could Godina possibly sink his teeth into? He's not saying just yet, but you can bet it will be another great experience. *L&S*

HELLO DIAMOND LEAGUE

By G. MARTIN BINGISSER

New league offers new opportunities to throwers, but excludes the hammer throw

Track fans across America have grown familiar with the Golden League over the past twelve years. With few track meets on televisions, fans eagerly tune in to watch the world's best athletes chase after a million dollar gold jackpot throughout the summer at the top six one-day meets in the world. But the Golden League is no more. Starting in 2010, the league will be replaced with the new Diamond League. While this change will be a great opportunity for most elite throwers to shine on the world stage, it will not afford hammer throwers the same opportunity as the event is not included in the schedule of events for the upcoming season.

The New Format

Compared to the Golden League, the new Diamond League offers wider geographic diversity and inclusion of events. Rather than having six events in Europe, the Diamond League will feature 14 meetings including two stops in America (Eugene and New York), a stop in China, and a

stop in the Middle East (Doha).

Typically, the Golden League only included six events per gender at each meet. There would normally be one throwing event, most recently only the men's javelin. The new Diamond League will include 16 events for each gender, including the

men's and women's shot put, discus, and javelin. The events will be alternated at each meet, with each event being held at every other competition.

In the Golden League, any athlete that won all six meetings would get a share of a million dollar jackpot. The prize structure of the new league is completely different. Each meeting will have prize money of \$416,000, and all 32 disciplines will be awarded equal prize money. In addition, points can be accumulated at each meeting throughout the season, with double points awarded at the last meet for each event. The athlete with the most points at the end of the series will be awarded a 4-carat diamond (worth approximately \$80,000).

The second-tier of track competitions will also be reformatted in 2010. The IAAF World Challenge League will feature 13 competitions on four continents. Additional details about the World Challenge League are forthcoming.

Impact on the Throwing Events

As mentioned above, the new league will offer greater opportunities to compete for most throwers. Men and women shot putters, discus throwers, and javelin throwers will get the opportunity to compete at some of the biggest one-day meets in the world, like the Weltklasse Zurich competition. Previously, such opportunities were rare. The Diamond League is also signing select athletes to centralized contracts that guarantee their participation in multiple events. So far two-time Olympic javelin champion Andreas Thorkildsen is the only thrower that has been signed to such a contract, but the opportunity might allow for future throwers to cash in on the opportunity. The Diamond League also offers the shot put, discus, and javelin greater international exposure on television and other forms of media.



However, one event has been left out: the hammer throw. The IAAF has cited "infrastructure reasons" as the explanation for why the hammer throw is excluded. Only the Eugene and Paris venues indicated that they both had

the facilities for the hammer throw and could accommodate the logistics of including the event within the tightly-timed Diamond League program. Because the events in the Diamond League will rotate between the meetings each year, the hammer throw didn't fit into the IAAF's plan.

While the decision to exclude the hammer throw was announced last spring, last-minute efforts were made to reverse the decision. Some of the world's top hammer throwers, including Olympic Champ Primoz Kozmus, began circulating a petition at the World Athletics Final for the hammer throw to be included in the Diamond League. Athletes such as Usain Bolt, Asafa Powell, and Yelena Isinbayeva signed on. Kozmus' agent continued the effort after Kozmus announced his unexpected retirement in October. However, the movement was too late to have an impact. It also appears that the hammer throw will not be included in the IAAF World Challenge League as a normal event.

The Hammer Throw Challenge

The hammer throw was not left completely out of the loop. The IAAF announced in November that they would be forming the IAAF Hammer Throw Challenge. While complete details have yet to be announced, the challenge will likely be similar in structure to the current IAAF Combined Events Challenge and IAAF Race Walking Challenge. Throwers will accumulate points in at least six competitions throughout the season. The highest point earners will vie for season-ending prizes. Many of the competitions will tentatively be hosted in conjunction with IAAF World Challenge League events. The IAAF has not announced the structure of prize money or which meetings will be included in the Hammer Throw Challenge.

Impact on the Hammer Throw

This exclusion of the hammer throw deals a big blow to the already marginalized event. The hammer throw has never been a premier event, but this decision will only ensure that the event's status will not change. Not only will the hammer throw be excluded from the world's top one-day meetings, but it also will not have normal event status in the World Challenge League. In all likelihood, the Hammer Throw Challenge will be comprised of competitions that already frequently included the hammer throw (such asOstrava, Zagreb, Osaka, etc.), thus not providing any additional competitions for elite hammer throwers. It is also possible that some of the competitions will be hammer only, similar to how the combined events and race walking challenges are held.

Furthermore, while the Hammer Throw Challenge will create a jackpot for throwers, hammer throwers likely won't have the chance to earn any additional prize money than they did during previous season. The Hammer Throw Challenge jackpot likely will be similar to what was offered at the discontinued World Athletics Final. By being marginalized, the exclusion of the hammer throw will also make it more difficult for hammer throwers to gain publicity and secure international sponsors.

The sport's image is also harmed since the reasons for the hammer throws' exclusion are still not clear. While the IAAF cited "infrastructure reasons," they have failed to clarify what reasons were to blame. This lack of an explanation leaves people to think that the hammer throw was excluded because it was too dangerous, the facilities were inadequate, or the competition takes too long to fit into a condensed meet format. It is hard to swallow any of those explanations. While proper facilities may be an issue, several of the competitions have hosted the hammer in the past without problems (Doha, Eugene, New York, Paris, etc.). Even Zurich, which claims that the hammer throw will damage an underground turf-warming system, is hard to believe since they have launched a bid to host the 2014 European Championships, which would include the hammer throw. The safety issue is not backed up by fact,

since the only major injury at a high level meet in recent years was not from the hammer, but from the javelin at the Rome Golden League meet in 2007.

The only upside is that in addition to the regular events, each Diamond League competition will apparently be allowed to host "National Events" which feature mainly competitors from that country. This regulation may provide a way for the hammer throw to sneak its way into a few Diamond League events next year, although likely as a pre-program event. It is also an outside possibility that competitions such as the Eugene's Prefontaine Classic could host a Hammer Throw Challenge event in conjunction with their meet.

We can only wait and see how things play out as more details are released and the league matures over the coming years. The IAAF World Athletics Final similarly marginalized the hammer throw for its first three years. Rather than being held in Monaco with the rest of the competition, the hammer was held one week earlier in Hungary. In 2006, however, the hammer throw joined the main competition. Perhaps similar change will take place with the Diamond League. *L&S*

Martin
Bingisser is a
former AllAmerican
hammer thrower
for the University of Washington and current
member of the
Swiss National
Team. In
addition, he
runs the
Evergreen



Athletic Fund, a non-profit organization that publishes many hammer throw websites, including HSHammer.com and Harold Connolly's Hammerthrow.com. Read his updates on the hammer throw and his training at www.mbingisser.com,

DEVELOPING AN EFFICIENT DISCUS MODEL

MIKE MAYNARD, HEAD COACH -UCLA

The discus throw allows for a wide range of individual expression of the technical fundamentals. Current successful technical expressions of the discus cover a wide variety of styles and philosophies of throwing. The physical parameters of successful discus throwers, on the world stage, indicates the necessity for well above average size. For example, world class male discus throwers tend to be about 1.95m/115kg. However, exceptions to these physical parameters readily exist on both the national and world levels. The athletes who comprise these exceptions typically compensate for physical deficits with a particularly exceptional specific physical talent(s), and/or an exceptionally well-adapted technical model.

The dynamic nature of the discus movement has historically witnessed a variety of successful technical expressions. Many of these utilize large and sweeping movements to accomplish mechanical advantage within the throw. Those technical models will continue to be successful. The technical model should seek to maximize the athlete's particular physical attributes (i.e., system of levers, range of movement, bio-motor capabilities). The technical model to be presented and discussed in this article is meant to pare down the movements of the discus thrower to a bare and essential minimum.

The objective in restricting the variables of the technical movement within the discus model is meant to create a system of throwing which is efficient and easy to replicate as a model. The efficient technical model promotes consistency of expression via repetition, faster progression toward habituation of movement, and offers the opportunity of lower degradation of the quality of movement due to competitive stressors. In addition, this type of model can offer coaches a simple and precise task-oriented teaching progression. The successful lowering of the minimum physical parameters necessary for high level success, offered by an efficient technical model, may also offer coaches a greater population with regard to athlete selection.

ESTABLISHING SYSTEM AXIS

A key and central element of the technical model being presented is a stable and consistent axis of the thrower-implement system. This system axis must be established and maintained throughout the throw. Athlete posture is the basis of this efficient dynamic axis. The development of an efficient axis can be accomplished by stabilizing the trunk axis in an upright posture with the hips tucked under the athlete during the preliminary wrap of the discus. This vertical posture should be maintained

throughout the entire throw, with the exception of the axis tilt in the power position.

Coaching Cue: The coach should introduce, and consistently cue, the athlete to maintain an erect posture with the hips stabilized and tucked underneath throughout the learning process. Posture precedes balance.

The objective of establishing this axis is intended to minimize head radius of the athlete throughout the entire movement. The error of excessive lateral deviation of axis is best observed when viewing the athlete from the back of the circle and towards the throwing direction, or 180 degrees. The goal is to minimize any lateral deviation (I.E. wobble) of the axis. This stable and efficient axis allows forces imparted to the system, such as the push in the direction of the throw off the single support base out of the back of the circle, to result in a corresponding increase in forces available to be applied to the discus during the delivery phase. If the axis remains efficiently stable, the treatments of the free leg, drive leg, and CMT displacement, can be organized to create effective resultant forces for the discus delivery. An efficient system axis allows for effective maintenance and use of separation/torsion, in the form of stored elastic energy, within the throw delivery.

PATHS OF CENTER OF MASS

An additional technical goal of the athlete during the discus throw should be the creation and use of dynamic / directional displacement of the center of mass. An efficient technical model should seek to align those forces generated parallel with the intended direction and angle of projection of the throw. This aim should be achieved while creating a dynamic and specific directional balance of the thrower-implement system about an efficient axis. Direction, paths of the thrower/implement system, and angle of

implement
projection should
be taught early
and often within
the teaching
progression of the
discus throw.
Paths to be
covered should
include the paths
of Center of Mass
of the Thrower
(CMT) and Center
of Mass of the
Implement (CMI)

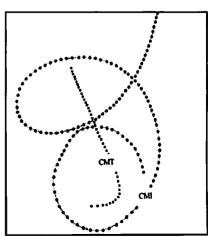


Figure 1

and with intended angles of projection and orbital considerations. Development of the awareness of these paths by novices, early in the learning progression, can be effective in the development of spatial and kinesthetic awareness of the athlete. At the outset of the discus movement, the transition from double support to single support necessitates a shift of the CMT toward the single support base. The degree of this shift over the base of support is relative to the degree of Center of Mass displacement / counter in the direction of the throw (i.e., hip counter). In order to create an effective throwing direction the necessary path of the CMT is roughly as follows (see Figure 1).

ALIGNMENT OF FORCES

The actions of the swing/ free leg and the push off of the drive / support leg aid in establishing the intended path of projection of the implement. The CMT and the forces established by the swing/ free leg and drive/ support leg out of the back of the circle combine to create a resultant which is ideally parallel to the discus projection path. Those forces should be directed as closely as possible to align with both the intended angle of projection, as well as the directional path of the implement. The direction of the push out of the back of the circle should be aligned with the path of the CMT (see Figure 1). The push direction may require modification, due to the actions of the free/ swing leg, so that the resultant system direction is accurate to the intended path. Reduction of deflected forces makes it easier to apply those forces generated during the throw into an efficient delivery sequence. This efficiency of movement offers either higher performance for a given level of forces generated or equal performances with less force required, relative to a less efficient model of throwing.

The discus orbit is a resultant of the system axis and the forces applied to the thrower/implement system. The push off of the first single support establishes the direction of CMT, as well as the pitch angel of the orbital plane. When viewing the throwing movement from 90? to the side in the throwing direction, the angle of the push off of the single

support leg should be applied parallel to the desired angle of projection of the implement (see Figure 2).

Coaching Cue: Single support push angle alignment can be determined by checking to see that the angle of the lower leg (tibia) is parallel to the angle of projection of delivery, when the athlete executes the push out of the back of the circle (see Figure 3).

The discus orbit should be symmetrical. A symmetrical orbit is evident when the implement is neutral, relative to horizontal, at both 90 and 270 degrees. There should be minimum yaw of the orbit on the longitudinal axis. Applying forces within a symmetrical orbit aids the efficiency of the thrower-implement system upon delivery.

Coaching Cue: Orbital mistakes, such as late high point or "scooping," should be addressed by developing proper axis, and proper alignment of forces with regard to both direction of CMT and angle of projection.

SEPARATION AND TORSION

Separation and torsion are distinct skills that are required in the discus throw. The elastic energy that the combined movements of torsion and separation provide serves as the primary engine for the acceleration of the discus in the delivery. A technical model that stresses the maintenance of an efficient axis offers the athlete the ability to maintain and utilize separation and torsion to a higher degree.

Coaching Cue: Torsion can be defined as the positive angle, or space, created between the hip axis, and the trailing end of the shoulder axis. Separation can be defined as the positive angle or separation of axis between the shoulder axis and the throwing arm axis as it extends through the CM of the implement. For the purposes of this article, and to better delineate between the aspects of these energy storage systems, the terms total lead/space will be used to define the cumulative amount of torsion and separation (see Figure 3).

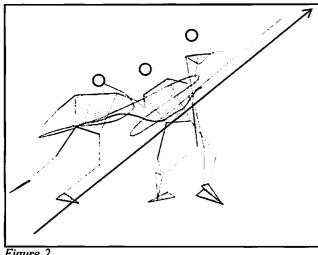


Figure 2

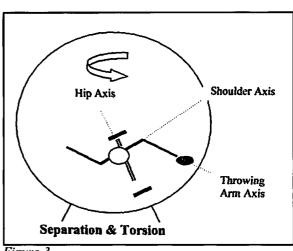


Figure 3

Separation & Torsion

In the case of each of the skills of separation, and torsion, the thrower can pre-stretch the agonists, and thereby facilitate and maximize the storage of elastic energy. In addition to creating the ability to exploit the stretch reflex, the throwing side arm/lever, and trunk, range of motion is maximized through these movements. Proper delivery timing will generate the conditions optimal for the efficient summation of forces and delivery sequence.

SEPARATION

When properly executed, both separation and torsion offer the thrower an opportunity to maximize bio-motor and mechanical components of the throw. Separation can be achieved if the athlete contracts the triceps, and cocks back the throwing side shoulder. The contraction of the rear throwing side (antagonistic) musculature causes a relaxing of the chest deltoid area (agonistic) musculature that increases both the range of motion of the throwing arm lever, and the storage of elastic energy.

Coaching Cue: The coach should introduce, and consistently cue, the athlete/ thrower early in the learning process to actively contract the antagonistic to the throwing side musculature. Active cues such as "squeeze the backside muscle," or "cock & lock" the rear shoulder and inside head of the triceps aids in maximizing separation. Lowering the throwing side arm increases range of motion and contributes to proper discus tilt on delivery.

Over time and as throwers progress in the skill of creating and maintaining separation, it is likely that passive cueing of the skill of separation can be used. This is especially true for those throwers who have gained stabilization of the skill. The passive cueing of separation would be achieved by instructing the thrower to relax and leave the discus trailing behind the system during the movement as far as possible. The goal of this passive cueing is meant to maximize the total lead in the system.

National and world-class discus throwers can at times lose their separation levels during high intensity throws. The most common cause of this fault is related to an inefficient axis. The problem can also be the result of an especially effective push off of the single support / drive leg out of the back of the circle. The stretch created by an effective push creates stretch through the chest and may cause the discus to "bounce" forward, thus creating slack in the system. While the creation of this negative separation is not a goal of the technique, the cause can be a positive sign of the effective translation of force to the thrower-implement system. The skill of regaining position and the necessary separation level with the corresponding elastic energy can be taught through effective use of drills.

Coaching Cue: The Cast & Catch style of the South African drill can be effective for this purpose. This drill can

be practiced with balls, puds, pipes, or just about anything that would typically be thrown in training. It may be advisable to use the standard style of South African drill, with a constant total lead, when throwing the discus as the primary drill. This will reduce confusion within the athlete regarding the differing goals between the drills.

The lack of separation of the throwing arm axis relative to the shoulder axis can be simply described as "slack" in the system. Slack becomes evident to the coach by observing the relationship between the throwing arm axis relative to the shoulder axis. A negative separation angle is easily noted as the discus seems to lead the thrower as the thrower-implement system moves in the direction of the throw toward the orbital high point. The negative/neutral separation angle effectively inhibits the opportunity for the thrower to impart any force to the implement until the slack is removed from the system. If the separation angle is reduced to any extent, during the conclusion of the first single support or non-support phase, it should be regained prior to the re-contact of the second single support in the center of the ring.

TORSION

Torsion can be defined as the positive angle, or space, created between the hip axis, and the shoulder axis (see Fig. 4). Torsion affords an opportunity to store elastic energy in the torso of the thrower for use during the delivery sequence. The counter wrapping of the free arm in non-support can be an effective means of re-establishing and maintaining torsion. Actions of the free side arm and shoulder, when combined with active counter rotation and contraction of the torso musculature, will maximize the torsion level between the shoulder axis and the hip axis. It is possible to establish a torsion position upon the preliminary wrap of the discus movement by "setting" the left shoulder inside the left hip in the initial wrapping movement of the throw. Some athletes are sensitive to the tendency of this early torsion to somewhat inhibit rotation within the throw. However if the axis is efficient, then additional rotational forces can be added via the swing/ free leg inversion, as well as shortening the free arm, to counteract this inhibited rotation. An early establishment of torsion greatly reduces the opportunity for later mistakes that may result in the loss of torsion.

Coaching Cue: The torsion position can be set from the back of the circle by setting the shoulder axis behind and inside the leading side hip axis. Cue the athlete to hold this left shoulder inside the leading side hip until delivery sequence is initiated. Free arm can aid in re-establishing torsion in non-support by casting it in a subtle counterwrap motion.

SECOND SINGLE SUPPORT

The second single support contact phase is a critical phase within the throw, because it represents a major opportunity

for the loss of angular velocity of the implement due to thrower-implement system friction. This friction tends to reduce the separation/ torsion level via system deceleration. The loss of separation can be avoided if there is an active cueing of squeezing the throwing side arm/ shoulder back to maintain separation level. This can be achieved by cueing the contraction of the antagonistic/ backside musculature, and/ or an active inversion, or pivoting ahead, of the second single support side both prior to and subsequent to the second double support re-contact (i.e. left foot re-contact for a right-handed thrower).

The loss of angular velocity of the thrower-implement system, due to the second single support friction, can also be mitigated by reducing the time between the second single support contact and the second double support contact. Delaying the re-contact of the second single support in the center of the ring will reduce friction, and shorten the time interval between the second single support contact, and the second double support contact (i.e. the time between right foot, and left foot touch down for a right-handed thrower). This delaying of the re-contact of the second single support foot can be accomplished by lifting the knee of the swing / free leg (right leg for a righthanded thrower) during the nonsupport phase following the swing invert action. The re-contact of the second single support can also be delayed by the active dorsiflexion of the swing leg foot. These movements serve to delay the re-contact and shorten the time interval between single support and double support. They also have the added benefit of creating knee flexion and an ankle lock position which aids in the storage of additional elastic energy in the leg for use later in the delivery sequence. The re-contact of the second single support should be with the foot axis oriented at, or around, 315 degrees. However, a case could be made for delaying re-contact even later to reduce the negative impact of friction on implement velocities.

Coaching Cue: The athlete should be instructed to turn in the air, not on the ground. The desired angle of the foot axis upon re-contact of the second single support should be approximately at 315 degrees. It is important that the thrower does not stay on the first single support beyond the line of direction of the CMT out of the back of the circle. This error leads to the technical fault of "overrotation" and results in a poor heel tuck/ heel recovery on the drive leg.

TILT OF AXIS IN POWER POSITION

When observing the axis of the system, from the perspective of 90 degrees in the throwing direction, there should be a tilt of the axis away from the throwing direction when the athlete is in the Power Position (see fig. 4). However in order to maintain effective summation of the system upon delivery, there should still be minimal deviation of the axis (i.e., head radius) in the system axis. The axis tilt aids in establishing the angle of projection of the implement. The

axis tilt maximizes the force path of the implement, and thereby the opportunity to impart forces in the delivery of the discus. In addition the axis tilt delays the transition of the CMT in the direction of the throw, which results in a more effective use of forces generated. The tilt/orientation of the axis is achieved during the non-support phase of the throw. As the free leg is inverted, and lifted, a center axis of rotation is established. The free arm, and shoulder, is counter wrapped away from the direction of the throw. This wrapping of the free arm side maximizes torsion between the hip axis and shoulder axis, and initiates the tilt of the axis away from the throwing direction. The lower body travels toward the front of the circle, and the tilt is complete. The tilt of the axis is relative to the desired angle of projection of the implement, and the technical proficiency

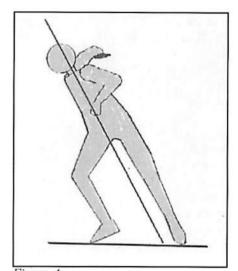


Figure 4

of the thrower (i.e., throwers with greater technical mastery can achieve and utilize a greater axis tilt).

Coaching Cue:
During the
learning phase
athletes should
be instructed to
maintain a more
erect vertical
posture
throughout the
throw until
technical

mastery allows the use of greater system axis tilt. Axis tilt should be introduced as the novice thrower becomes more adept at achieving the fundamentals of the standing throw position.

COACHINGCONSIDERATIONS

Teaching progressions should be based on task/ skill identification and should develop the athlete toward mastery of necessary skills. The coach should seek to create specific learning periods with an objective emphasis towards specific skill acquisition. The process of skill introduction should follow the following process:

Coaching Cue: Repetition of an introduced movement creates a learned movement. Stabilization of a learned skill occurs through repetition of the learned movements. Habituation of a movement skill occurs through repetition of stabilized movements.

- · Introduce the skill
- · Drill the skill
- · Instill the skill (via repetition)

The goal of the teaching progression should be to move motor skills along the continuum from learned movements to habituated skills/ movements. Related/ parallel movements and task-oriented drills should be used, in conjunction with cueing within the throw, to aid in the learning progression of identified skills. For the aid of developing an appropriate skill progression the following is a non-exhaustive list of skills related to the discust technique:

Task/Skill Identification

- 1. Double Support Axis/ Balance/ Posture
- 2. Hip/Pelvis stabilization
- 3. Pivoting in Single and Double Support
- 4. Transferring/Countering of CM
- 5. Single Support Axis/ Balance/ Posture
- 6. Use of Focal Points
- 7. Establishing and Maintenance of Torsion & Separation
- 8. Free Arm Mechanics
- 9. Swing/Free Leg Actions
 - a. Sweeping
 - b. Inversion
 - c. Knee Drive/Lift
 - d. Dorsiflexion (ankle lock)

10. Drive Leg Actions

- a. Sprint/ Push
- b. Heel Tuck/ Recovery
- c. Adduction

- 11. Maintenance of position Axis/ Balance/ Posture during Non-Support Rotation
- 12. Re-contact Stabilization
 - a. Single Support
 - b. Double Support
- 13. Effective Transfer of CM
- 14. Use of Torsion & Separation in Delivery Sequence
- 15. Blocking Mechanics
 - a. Upper body
 - b. Lower body
- 16. Recovery Mechanics

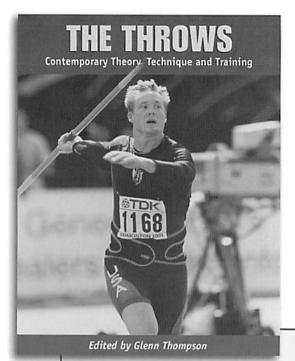


Maynard

SUMMARY

It is possible to pare down the movements of the discus throw to an essential minimum. The creation of a throwing model based on a stable vertical axis is an important part of that endeavor. Such a model may promote consistency of expression, faster progression toward habituation of movement, and lower degradation of quality of movement due to stressors. A stable system axis allows for maintenance of increased levels of torsion and separation, as well as promoting the effective use of the elastic energy stored in the torso. In addition a stable system axis will aid in maximizing the utilization of properly aligned forces for the delivery sequence. *L&S*





Get Your Copy Today!

CONTEMPORARY THEORY, TECHNIQUE AND TRAINING

TEROWS

The latest edition of *THE THROWS* is a collection of recent outstanding articles and it's a must-have volume for any coach of any of the throwing events and for the serious athlete.

Glenn Thompson, Long & Strong's editor/publisher, has selected 34 of the best recent articles on the four throwing events, a compilation that essentially gives you an invaluable course in the latest thinking and research on these events. These articles are taken from such publications as Track Coach, L&S, Modern Athlete & Coach, Athletics Weekly, and so on. Here are some of the contributions:

- Fremd High School Throwing Program, Jim Aikens
- Mixing Weights and Plyometrics for Maximum Results in the Throws, Meg Ritchie-Stone
- ─■ Building Up Your Female Throwers, Larry Judge
- —■ The Right-to-Left Rhythm Glide, John Smith & Connie Price-Smith
- ─■ Developing Rotational Shot Putters, Don Babbitt
- Developing Discus Technique, Scott Cappos
- Step-by-Step Teaching of Discus Technique, Bill Pendleton
- ─■ Hammer Throw Technique, Harold Connolly
- ─■ Range Throwing, Jud Logan
- ─■ Development of the Soft-Step Javelin Technique, Jeff Gorski
- Developing a Javelin Run-up, Duncan Atwood

Paperbound. Well illustrated. 152pp. \$18.50 from Track & Field News, 2570 W El Camino Real, Suite 606, Mountain View, CA 94040. Calif. residents add 7½% sales tax. Shipping & handling per book: add \$2.95 for US delivery; \$12.00 for foreign delivery. Credit card orders welcome by phone (650/948-8188) or fax (650/948-9445) or order online at www.trackand-fieldnews.com.

PSYCHOLOGICAL PRINCIPLES FOR THROWING

By Pat Corbett, B.S.- Kinesiology, Certified Strength and Conditioning Specialist [NSCA], USA Weightlifting Senior Coach

Here are four principles for training and competition that you can incorporate to enhance your training. The following three principles are part of a philosophy attributed to five-time Olympic gold medalist Matt Biondi:

- 1. Believe in your training.
- 2. Be eternally optimistic.
- 3. Be willing to risk.

The fourth principle is, "know your job." This aspect will be explored in depth later.

Believe In Your Training

To train at a high level, you must first believe that what you are doing is the best way. To be the best you must also seek out the best. There are many coaches out there who can help you excel but you must be diligent in your evaluation of yourself and your coach. Make sure that your training is of a progressive nature and that you can see each stage unfold.

Be Eternally Optimistic

Being positive with yourself may be the single most important aspect of your athletic career. Your ability to excel will, in the end, be a reflection of what you think and how you think. Positive, realistic self-talk can take you as far as your abilities will allow. But without it, you will not reach your full potential. Being eternally optimistic then becomes as important a part of your training as any of the physical attributes you possess. So, stay positive!

Be Willing To Risk

Many athletes have talent but they also have fear. This fear, born from an experience or some psyche they have developed, can be a big obstacle. A fear of failure or even a fear of success can leave a thrower far behind in their progress. Leaving our comfort zone is often more than some athletes can handle. But risk and going beyond and outside of our normal confines of training are essential to growth as a thrower. Risk is a part of life and in order to know how far we can go, we must step outside the boundaries we have created and search every path for the best ways to achieve success.

Sports Psychology?

Many psychologists and coaches speak of *sports psychology*. But when broken down, it is simply *psychology*. The ability to apply mental abilities/strengths, whether it is in the business, academic, scientific or athletic world, is still just that, mental strength. It is not necessary to break them

down and call them business psychology, academic psychology, scientific psychology or sports psychology. But what is the best way to train for this psychology? One way to train for this psychology and the many psychological obstacles that we must overcome as a thrower is to simply know your job, and then do your job.

Throwing competitions have a unique forum in that individual competitors see their competition and what they are doing at the time they're doing it. This is quite different from many other sports where your competition is right in front of you. In many sports it is a matter of action and reaction: call a play and see what happens. Make a move and settle for the results. Because many competitions force you to deal with an opponent who is right in front of you, there are many times when you must change your initially desired move to adjust for your opponent's move. Many variables are out of the individual's control as to the final outcome of each play or competition.

But a thrower has control of almost every variable. Outside of the physical environment, a thrower has complete control of every aspect of the competition with no limits on her/his execution of a throw. Short of knowing how far competitors will throw, the pressure is then squarely on the shoulders of the individual thrower. Thus, the need for mental training is indeed great.

How can you develop mental abilities that will focus and calm you and get your emotions under control? You can accomplish this by simply knowing your job and doing your job. This is achieved by knowing what to do, how to do it, then doing it over and over. It doesn't take a motivational speech, pump up music or an inspirational quote. It only requires you to know what to do, and then to do it.

In the throwing ring, all your sweat, work and training time are put on display. Your competitions are a direct reflection of how well you prepared. Your teammates can support you, but they can't help you throw any farther. It is ALL up to you. Again, the most important thing is to know your job and do your job.

Carrying the entire weight of a competition can be a daunting task for any athlete, but if broken down to its simplest form, it can be quite easy. If you can remember this formula during training and competition, you can minimize the stress and improve performance: "What is your job? Know your job. Do your job."

This may seem to be a repeating mantra, but that is really

the end game for success in the ring. Repeating and practicing some simple ideas and then performing them. And the word *job* may seem to carry the idea of work or some other negative connotation, but *job* is used to simplify what we are trying to achieve as throwers. When heading to the training field, pack your lunch and go to work. But as with all things we love to do, never forget that this should be fun! With this in mind, training and the ideas of training and competition as a job should be less onerous.

First, "Know your job." But what is your job? Through the course of your career you will get to know what your job is, and technique will improve through consistent, smart training and experience. You will also develop specific training practices that work best for you. In the course of this training, you will get to know strengths and weaknesses (these weaknesses should be addressed in some way during every training session to facilitate improvements and change them to strengths). All of this training teaches you what to do and how to do it correctly. This, then, is your job: To do things right (and do them right all the time). Your training emphasis should always be to master the technical aspects of your event. This is only possible through carefully planned and directed drill work and thousands of throws. A wise man (Ted Nugent) once said, "Do everything so slowly that you cannot possibly make a mistake." Although the throws are performed at high speeds, the beginner should always progress at a slower pace to insure the mastery of proper balance, posture and positions throughout the throw. That is, throw better, not harder.

As an athlete in an individual sport where the outcome is based on who is on top of their game on a particular day, it is important to remember that your job is not to win. Your job is to throw as well as you can. You have control over what you can do and nothing else. Do not concern yourself with other athletes and what they are doing; they only become distractions from your performance. Your job is to relax, focus on your technique, start in the right posture, be balanced, hold and hit your positions through the throw and finish. When you can focus on your throw and nothing else, success will take care of itself.

As you progress in your training, you become more astute in the knowledge of your own technique and what parts need to be refined. As you get better (which is the reason you train, to get better), you add intensity and speed to your technical skills and drills. As your confidence builds through each training session you become more able to relax and focus on your task: "Doing your job."

How do we know our job? We know our job by training correctly and consistently and through years of experience, and competitions. We train correctly by mastering the basic skills and then progressing to the more complex drills

until we can put them all together to complete a throw. This is accomplished through constant repetition of the basic skills (through drill work) to more complex skills (through drill work). When specific skills are mastered, we develop cues and triggers that become consistent with certain stages of the throw. These cues, although few and simple (compared to the complexity of any throw), make it easier to relax and put you in a position to be successful. Here are some examples of cues used by throwers and their coaches:

- "Relax, Relax, Relax."
- "Get over the left."
- "Slow, quick, quick."
- "Slow down in the back of the ring."
- "Squeeze the knees."
- "Stay long and loose."
- "Block, finish, rhythm."
- "Eyes on the shot."
 - ... and there are many more.

You must develop your own trigger words or adopt the cues that your coaches have used. Remember, your job is to throw with precision technique, not to throw harder. If you throw better, you throw farther. Focus on your technique rather than results.

One way to develop your cues or trigger words is to go to a quiet place and make a list of words that suit you. This list should be broken down to a few simple words or phrases. These words should clarify in a general sense of what you need to do at a given moment or for a specific element of your throw. Relate these to your coach and use them frequently. These words will become part of your training and can help get you through difficult training bouts and also settle you down when emotions are high and the competition is big because of their familiarity.

So, "What is your job?" Depending on your event (discus, hammer, javelin, shot), your job will vary. It is always, however, to execute the best throw possible, with the best possible technique. How do we know our job? Through years of training and competition. How do we do our job? We do our job by mastering each stage of the throw and moving from basic to complex skills.

Ultimately we want to build success in competition through success in training. When we experience success on a consistent basis in training, it becomes easier to translate this success to competitions. So, success becomes something we get used to, and competition anxiety becomes less of a factor. In essence it is practiced success.

Although knowing and doing your job in any sport may seem to be a simple process, the throws are extremely complex neuromuscular movements and take years to master. Be patient! Expert throwers become experts by consistent, focused and intense training over the course of

many years. The throwers who have made it to the highest level set long and short-term goals. They drilled and trained on their own and wore out many a throwing shoe. They also maintained the spirit of youth by having fun. This is paramount to the success of any thrower. More than anything else, this will keep you going and make those days when training is the last thing you want to do more bearable. And remember, take the time to know your job and then do your job.

Author's Note: Many times during the course of an athletic career the word luck is used. This is a friendly comment which seems to be the equivalent of hello or goodbye in its impact on us and it is appreciated by most throwers. But in reality, luck has nothing to do with it; you can't luck your way into a good throw. Now, if your competition somehow misses the meet or starting time, fouls every throw or slips in the ring and breaks an ankle, that may be luck, but is most unlikely. The overall competition would suffer and maybe your motivation to compete at a higher level would also disappear. Luck is not part of anyone's success. Success comes from "successful" practice and training. You succeed in competition because you have already been successful in your training. When success in your training becomes part of your everyday practice, nothing is a surprise and your success in competition merely reflects what you have already achieved in your training. Again, what is your job? Train the way you compete through proper technique and progressive intensity. Train correctly, do the little things flawlessly and the big throws will come.

"You must master the simple before you can ever expect to approach the complex"

Pat Corbett

"Fundamentally, the marksman aims at himself."

Zen in the Art of Archery

L&S

Wilkins vs. Powell

A Comparative Study

By Ernie Bullard, Larry Knuth
*Photo-rich 62 pages
*Internationally acclaimed
*Detailed Q&A

Legends of the Discus DVD

35 mins - titled, exceptional footage Includes big throws by Oerter, Wilkins, Powell, Schmidt, Plucknett, Silvester, Babka, Cochran, many Europeans, Gordien, Consolini

Wilkins vs. Powell book: \$22.00 Legends of Discus DVD: \$20.00 Book & DVD package: \$36.00 postage & handling included Send check or money order to: LK Publications 30100 Town Center Drive, Suite 0-160, Laguna Niguel, Ca. 92677















SuperSource for Encountry Track & Field

For Quality Throwing Essentials Backed with Sound Advice, Call Us!



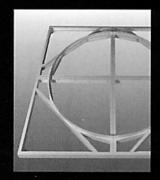
M-F ATHLETIC COMPANY • P.O. Box 8090 Cranston, RI 02920-0090 Toll-Free 800-556-7464 Fax: 800-682-6950 Visit us online: www.mfathletic.com











THE TEACHINGS OF THE DYNAMIC DROP GLIDE

By Mark Mirabelli, Mirabelli Throwing school

If I could use one word to express success in all three styles of throwing the shot put, I would have to say the word "drill." When doing any of these technical forms of throwing the shot put, one must decide what form is best, based on the thrower's athleticism. Boy /girl makes no difference. To be a successful thrower, the athlete must encompass strength, flexibility, endurance, and technique. The Dynamic Drop Glide is excellent for an athlete who has good speed and balance. The Drop Glide gets you across the circle quickly and into a quick release because of the speed developed from the back to the front of the circle. Below are the necessary step by step drills that will help the thrower throw farther using any of the three shot styles. Personally, I have had a great deal of success using the Dynamic Drop Glide and would like to share how I have developed many Local, State, and National throwers. By no means is this the only way to teach the dynamic Drop Glide, but it is the way that has been successful for myself and for my athletes.

The Grip: Place the shot comfortably on the base of the hand with the thumb down and the four fingers balancing the shot. Hand-Shot-Neck



<u>Placement:</u> Place the shot under the jaw bone with the elbow below 90 degrees. Press the shot into the neck so it doesn't fall out.

<u>Flat Back throws:</u> Athlete will lie on his back, positioning his throwing arm correctly with the elbow out. The coach will stand behind the thrower as







shown below; the thrower releases upwards snapping the shot off the fingers. Stress extension. (Use a softball, 8lb. or 10lb) for safety and proper form. 2x10

Release Drills: Good morning throws are an excellent way to warm up at a meet since the officials only allow two warm-up throws. Bend at the waist placing the shot under the chin; bend forward in a 90 degree position and release downward, snapping the shot off the fingers upon reaching full extension of the throwing arm. The thrower can do this 10 times before entering the...







Medicine Ball Drills: Beginners and advance throwers now and then need to go back to the basics when their timing is off. The following drills are a few examples that will enhance explosion of the shot put. The thrower should do a lot of reps prior to the beginning of the season and gradually decrease the amount of reps during the season. When doing any of these drills, return and complete the same drills using different weighted shots. For beginners, I like using a 6lb-8lb-10lb. For the boys, I like using 8lb-10lb-12lb.

Sit down throws: The thrower sits at a 90 degree angle placing a 4k med ball under the chin with the elbow evaluated at 90 degrees; the thrower will explode the ball forward to a partner or wall.
 (2x10). Use a shot after you complete all med balls.

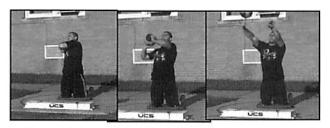


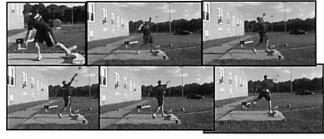




2. Double Knee Release drill: Kneel on both knees placing the 4k med ball at the top of the chest again. The thrower should load up and push the med ball forward thrusting the ball forward at a 45 degree release angle. (2x1)

square and hips ahead of the shoulders and eyes back. Punch release the shot forward with hips leading the throw. (Punch the face of a 7 ft giant). Release the shot put. (2x10) Stress Quality! (Frame 5 is a non-transfer. Frame 6 is a transfer)





3. Single Knee Release Drill with Med Ball & Shot: Kneel on one leg on a deflated basketball making sure the bent knee is at a 90 degree angle so to create better balance. Place the med ball back and behind the throwing hip and release forward. Shot Put: place the shot under the chin with the left

arm relaxed; turn to the right with the eyes back, shoulders level and hips fighting forward. Release the shot at a 45 degree angle. (2x10)

6. The Drop: The thrower will stand tall in the back of the circle with his throwing arm long and above his head. He will get on his toes and drop straight down behind his right leg. (Remind the thrower not to drift back; instead keep the CM (center of mass) behind the hips and eyes, focused back. Drive hard off the right leg and extend the left leg making sure the shoelaces of that foot are facing downwards. This will help the thrower from not opening up too soon. The right foot will land at 90 degrees in the center of the circle with the shoulders parallel to the back. The hips will shoot forward followed by the shoulders. (Remind the thrower that there is a race going on between the hips and shoulders and that the hips must always win the race). (2sets of 10 or more)

4. Push Release Power Throws: Place feet outside shoulders; 1/2 squat and explode the shot at a 45 degree angle snapping the wrist outwards at release.











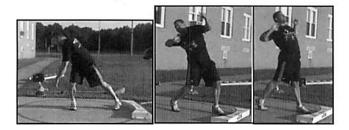
5. Power Throws: Position the feet as shown with the left foot cutting the right in half and extend the left foot forward. Do not extend it too far. I like to use the following commands when doing this drill with large amount of throwers: 1. Place both arms up with correct position of the feet. 2. Place the shot correctly under the chin. 3. Rotate over the back right hip comfortably, keeping the shoulders

7. Come Across And Hold: This drill is great! It develops a great deal of muscle memory because of the repetitiveness of getting into the correct position in the middle of the ring. The thrower will position his body in the back of the circle with the right foot slightly turned 20 degrees inward. This will allow a faster positioning of the right foot landing in the middle of the ring at 90 degrees. The thrower must remember to keep the back leg foot facing the ground (shoelaces down). This will help keep the thrower's hips from opening up too soon when he drives across the circle. Have the thrower go through a mental checklist when he gets to the middle of the circle. Is my right foot at 90? Are my

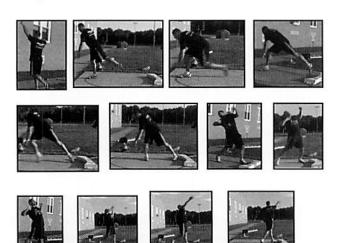
hips ahead of my shoulders? Are my eyes back? (2x10)



8.Come Across And Hold & Open Up In Slow Motion: Same as above, but this time when you get to the middle and you go through the three questions, you will kick the right foot out forward and open up the hips first; left arm out and in (called the block) and then form the power "C" position. (2x10). Repeat the above Come Across and Hold drill but this time when you hit the middle, open up in slow motion. This drill is excellent for improving the thrower's balance and muscle memory.



9. Full Dynamic Drop Glide throws: After spending many hours of drilling, the thrower is ready to do complete his/her workout with 10-20 quality throws. I do stress that it is beneficial to do a full throw 2-3 times when you're drilling a certain body position (Part to hold). Using variable shot weights is also helpful and will allow the thrower not to get fatigue.



When you start throwing a complete throw, do a lot of volume throwing; use 2 lbs less than your competition shot. If you throw a 16lb shot, throw a 14lb. If you throw a 12lb shot, throw a 10lb, and if you throw an 8lb shot throw a 6 lb, etc. In this way your throwers will get repetitive muscle memory without getting fatigued. (3 sets x10)

In closing, remember that the more you do these drills, the more your body will respond correctly. Do every drill with quality, working on one body position at a time. It takes time, but this is what winners do: drill, drill, and drill!

You can purchase my new DVD Basic Shot II and Basic Discus II that will guide you through all three shot put styles and discus drills by going to www.mmtrackandfield.com. *L&S*







Mark Mirabelli

DVD Throwing Series II

Basic Shot II

Basic Discus II



Basic Discus II is an outstanding DVD that will teach both coach and athlete everything thing they need to know about the Discus. The DVD covers Upper and Lower body stretching, Core Training, Upper & Lower body Ply ometrics, Medicine Ball drills, Endure Runs for the throwers, a step-by-step analysis of the throw using Dartfish Analysis. Slow motion throws and all the necessary drills needed for teaching the full rotation are all right here on this DVD. The DVD also shows outstanding footage of past and present Olympic throwers for left and right handed throwers! Watch World Class Thrower Adam Kuehl (212') throw and a breakdown of Adam's throw using Dartfish Software. \$39.95

Basic Shot Put II is an outstanding DVD that will teach both coach and athlete everything they need to know about the Traditional Glide, Drop Glide, and Rotational Spin. The DVD covers Upper & Lower Body Stretching for throwers. Core Training, Enduro Runs, Medicine ball throwing drills; Upper & Lower body Plyometrics, drills for each style along with video analysis of the each style of throwing using High Tech. Dartfish Software. This DVD also shows some monster throws of some great Olympic throwers for left and right handed throwers past and present! \$39.95

To purchase online go to:

<u>www.mmtrackandfield.com</u> and click the New DVD Throwing Series II

JAVELIN CONSIDERATIONS

By Jeff Gorski, KlubKeihas, JaveLand

I consider myself a very lucky guy: I've had some success as an athlete and as a coach which has allowed me to meet and talk with (or really listen to) some of history's greatest athletes and their coaches. The variety of influences and information I've gleaned from them is part of a constantly evolving philosophy on throws training and technique: there are many ways to incorporate the fundamentals based on the ability and need of the athlete. Finding the best way for the basics to be effectively used is one of the challenges of coaching- which blend of positions, movements and concepts results in the longest throws and how do you produce them when needed? Over the last 4-5 years I've had a great deal of discussions with some great javelin minds: Kari Ihalainen (former Finnish national javelin coach), Garry Calvert (coach of several elite Aussie throwers) and Bill Schmidt (1972 Olympic bronze medalist). Each of these guys has been a wonderful source of information on every aspect of javelin throwing which has helped me grow as a coach and be more helpful to athletes I train regularly or work with at camps and clinics.

Javelin is very much a full body, reactive event that requires speed, power, flexibility and both physical and mental toughness. The margin for error is very small for big throws, but the window of things that can go wrong is pretty big, so a lot of time has to be spent ingraining the movements and concepts that lead to long throws and few injuries. Just like building a house, this is a "ground up" progression: each body segment is dependant on the action of the previous one and will serve as the platform for the next segment to work from. This is both for power generation and technical positions- you can't get a big release speed if you have poor leg timing or weak core ability. Understanding this is fundamental to a good training program and technical competence- big upper body weight room numbers will not add much distance if



Figure 1. Janis Lusis shows a stable launch platform.

the leg effort in the run-up and plant do not give a platform for that upper body power to work from. (Figure 1) As a coaching friend often says, "You can't shoot cannon from a canoe." (Figure 2) It's very important to plan, train and understand that the legs give a huge percentage of the

distance you throw and work to use them effectively. Explosive leg ability is needed for 2 reasons- to get the athlete down the runway in a relaxed and accelerating manner and to suddenly stop that movement and be a stable base that the rest of the throw comes from. In terms of training, the focus is more towards explosive, elastic



Figure 2. Shooting a cannon from a canoe.

power rather than raw strength: you'll get better results by training for improved jumping ability than a heavy squat, for example. I can't stress jumping ability enough: in all the throws if jumping results improve and all else is the same, you will throw farther.

In technical terms the leg action, once you get to the throwing position, is somewhat unique. While the right leg (for a right-hand thrower) is quite active, it is active in a clearing, pivoting action with a well bent knee and not a driving or pushing action. (Figure 3) A bit of an explana-



Figure 3. Janis Lusis shows the soft step.

tion..... the biggest factor in long throws is high release speed, and the highest release speed is a result of an elastic reflex action of the muscles and connective tissue, not a willful muscular effort. And the fastest release will come from as many elastic reflex re-actions in proper sequence as possible, again, from the ground up. So, as the thrower comes down the runway with acceleration from each step, you need to get to

the plant or block at the fastest speed of the run-up and end that acceleration with a very firm and sudden jolt. That left leg impact is the main factor in producing the classic "reverse C" or "drawn bow" position (Figure 4) that gets

the whole body involved in the throw, not just shoulder and arm. In that final transition of body weight from right foot to left block there is no way to push or drive with the right leg and maintain the



Figure 4. Reverse C position.

speed of the hips you generated in the run-up: if you sense weight or push off the right leg into the plant, you have lost much of the throw. Quite a number of athletes have found some image or concept of "get off the left to get on the left" or jumping across a puddle without concern of right leg drive has helped gain consistently longer throws. As mentioned earlier, the right leg is very active in getting out of the way; the right knee turns in and down very quickly so as not to support any weight and allow the hips to move into the left block without loss of speed or any deviation from a flat path into the left. For example, Tom Pukstys (former US record holder at over 285') liked to think of sliding into the left side block. The action of the right leg upon landing from the last crossover is very soft (hence the "soft step" term) or quiet- almost a brushing of the ground without force or weight- with an immediate and fast pivoting on the right toe for that bent knee in/down action (or heel whipped out- same effect with a different trigger image) to put the body fully into the left block without loss of run up power. This photo of WR holder Jan Zelezny shows how quickly he has rolled out the heel/ rolled in the knee of his right leg before his plant has even landed: this is not a position that you can push from with the right. (Figure 5) He's running into his left side block in the same way a vaulter would run into the pole in order to



Figure 5. Zelezny.

clear a height: strict horizontal force application against a resistance (box for vaulter, block side for thrower) that will give a vertical aspect without trying for it.

Notice I talk about a blocking left side, and not just the left leg. Here again we look at the need to generate an elastic reflex action: there is a vertical one from the run into the

block and a horizontal one from the reaction to a fully-fixed left side. The rotation of the right side around/against the left block is hugely important to getting the high release speed desired. There has to be a firm base from both the left leg and the left shoulder to the throwing chest/shoulder/arm complex; a base to stretch and re-act against. The concept or image of blocking sideways or closed, without your hips or chest facing the throw direction, is very helpful in mastering this important technical point-look at that picture of Zelezny again to see his left side is pointed into the throw, not his hips or chest. This is very much different from American ball throwing sports that are where many javelin athletes come from. In football and baseball the throw is made from a fairly static position, so the left arm must move quickly and violently in order to put

the throwing shoulder under stretch. Great when done in the NFL or MLB, major injury time when done by javelin throwers. If the "soft step" right leg action is executed correctly, the left side is jammed into the ground firmly and the right side- from the ground up- rotates around that fixed side like a door swinging on its hinges. The hips then chest will square up in the throw direction and stay there, putting a huge elastic stretch on the chest and shoulder that whip the arm and javelin out with great speed and power without willful effort or tension. A number of top throwers have related in some way the need to "keep" the left shoulder up, or high- dropping the left shoulder during the delivery will cause a bending at the waist, a loss of

both stability and elastic reflex and puts a great deal of stress on the throwing shoulder and elbow. (Figure 6) Imagine bench pressing on a waterbed- that's what throwing with a dropped left shoulder is like. When done properly, the "soft step" with knee/heel rotation into the firmly blocked left side will



Figure 6. Low left shoulder.

generate big power and a lot of right side rotation around/ against that left side "hinge"- your big muscles generate power that gets into the javelin and your skeleton supports the body with little waste of muscular energy on trying to be stable. (Figure 7) The importance of the left "hinge" side also is a factor of the use of the left arm in both the crossovers and into the block. In any effort to run faster, the action of the arms directly affects the turnover or speed

of the legs- it's why sprinters have such great upper body development. As a javelin thrower, you have one arm



Figure 7. Left side hinge allows big right side rotation.

rendered useless as it is involved with carrying the javelin. So you really need to work that free arm during the crossovers; it's doing the work of two arms! As you move in the crossovers to the block and delivery, you are moving sideways down the runway: your left side is pointed into

the throw direction with hips and chest at right angles to the throw direction. (Figure 8) The action of the left arm should swing from well across the chest as the right knee moves forward (Figure 9) to pointing down the center of the sector as the left leg recovers out in front of the body (Figure 10). At no point during the crossovers and delivery should the left arm pull the left shoulder past a vertical line from the outside of the left foot (viewed from in front or from behind: Figure 11). Remember, the chest opens to the throw because the left arm swing into the throw direction is coupled with the rotation of the body against the left side "hinge" and not from a baseball style action.

The path of the throwing arm will most likely find its own correct and most powerful path if you have been correct in the crossovers, "soft step" and block. The old image of the arm and elbow passing close to the head or ear is quite bad: biomechanically this



Figure 8. Moving sideways into block.



Figure 9. Juha Laukkanen shows left arm across chest.



Figure 10. Tero Pitkamaki shows left arm pointing to sector.



Figure 11. Left shoulder stays over left foot.

angle is very weak and restricts you to the power of just the shoulder and arm. A fast, powerful arm path is anchored against the left shoulder and will be more of a "3/4 arm" path (Figure 12) with a very long lever as compared to the "near the ear" arm strike. When done correctly, the throwing action of the arm is fast, relaxed and a re-action to the rotation against the block side- there is very little you



Figure 12. Boris Henry shows three/quarter delivery.

can do willfully at this point that won't screw things up and cost you distance. During the block and delivery is when your body is under the most elastic pressure, and having great mobility allows this big "bow" position to give you a very long

pull on the javelin without undue tension: the throw just "happens" from the block/bow action as long as the left side keeps firm. Pukstys commented on the javelin just "coughing" out from the accumulated power of run-up, block and stretch. A whippy, fly rod action of the arm is desired much more that a big, powerful arm throw: the arm transfers energy into the javelin, it's not the source of this power. Think sling, not throw.

There are a lot of similarities between golf and javelin: rhythm and relaxation produce better distance than brute force. So I suggest the fall and winter training is very important for going to the driving range and hitting buckets of balls: you need to have a good volume of correct throws off 2-3 crossovers and from run-ups of various lengths. This is the time to correct mistakes and ingrain proper movements and make them second nature. While these throws are intense, it is intensity of quality and focus on being correct, not throwing hard or far. In fact, this is a good time to start to establish the relationship between correct throws feeling "easy" (many athletes relate that on their best throws it "felt so easy") and you should see throws going farther than the effort you put into it would make you think they would fly. If you do it right, it will go far: don't try to throw far and hope it's right.

You can train quite hard in the weight room, throwing med balls and shots/weighted balls, bounding, jumping and sprinting all of which will improve your physical abilities of speed and power. But never lose the connection between using your ability to perform correct technique: keep the correct feeling of the throw as you gain small amounts of new power. In this manner you can make modest gains in the gym yet have all that gain find its way into the javelin. This is much more productive than making huge power gains, and hoping some bit of that gets into your throwthat would be like driving a 12 cylinder sports car with 5 working spark plugs. In conjunction with this you need to keep a positive focus, mentally: develop the connection of positive re-enforcement in your training. Avoid negative feedback ("That sucked!") and use positive input ("Get into the left side quicker!") as you go about your training and keeping your training log. Correct technical movements, soundly-planned training and a positive outlook on how all this comes together will make for a difficult athlete to beat come the season! *L&S*



Dear Prospective Member,

The Long & Strong Throwers Club (LSTC) will once again offer extended benefits to our membership benefits for 2010.

The 2010 membership dues will remain at \$50. 2010 members will receive:



- 1, 2010 LSTC tee-shirt
- 2. One year subscription to the Long & Strong Throwers Journal (or one-year extension to existing subscriptions)
- 3. 20% discount on throwing shoes (all major brands) from InsideTrack
- 4. 10% discount on M-F Athletic purchases
- 5. 50% discounted NTCA 2010 National Throws Coaches Association (NTCA) membership (\$25)

Once you join, you'll get the details by email or post. You'll recoup your dues (and more) in no time!

Who should join? To carry the Long & Strong name, members should demonstrate (1) a sincere love for the throwing events, and (2) good sportsmanship. Kickin' butt in the circle, on the runway or behind the trig is a bonus!

For information about the club, please visit our website at http://www.longandstrong.com.

Yours in throwing,

Glenn A. Thompson Minister of Propaganda

LONG & STRONG THROWERS CLUB 2010 Membership Application

City	State	Zip Code	
Phone Number		<u> </u>	
E-mail Address			
Events		T-Shirt Size	

WEIGHT TRAINING FOR THROWING

Ollie Whaley, M.A., C.S.C.S. Oliver Whaley, Brigham Young University Deezbaa Whaley, Brigham Young University

For the modern-day thrower, resistance training, or lifting weights, is a major component of training. At the post high school level any competent thrower who doesn't lift would surely be a rare exception. A statement that we hear often is, "We want to develop throwers, not weightlifters." Fair enough; training throwers exactly like weightlifters wouldn't be optimal. However, weightlifters and throwers do have a lot in common.

There are some important similarities in the two sports. Both require maximum explosiveness combined with some specific flexibility and ability to move quickly with precision. Weightlifting consists of two lifts, the snatch and the clean and jerk which are done for three attempts each. So a weightlifting competition consists of six single attempts of maximum effort. Of course a throwing event follows that same pattern. It makes sense that throwers and weightlifters would share a great deal of training commonalities.

That being the case, there are a few select athletes who have excelled in both sports. Al Feuerbach may be the foremost example as a world-record setting thrower who won a national championship in weightlifting in 1974 with a 341 lb. snatch and 418 clean and jerk. Others who reached high levels competing in both sports include Ken Patera, Bruce Wilhelm, Gary Gubner, Kevin Coleman, and others of whom I may have forgotten or am unaware of. It is also not

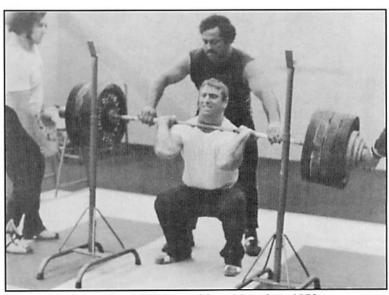
at all uncommon for competitive lifters and throwers to train together, as the demands of their sports are so similar. I have a picture in my weight room of George Frenn (hammer thrower) spotting Phil Grippaldi (weightlifter) as he squats in Munich prior to the 1972 Olympics which they were both competing in. Harold Connolly also mentions training with the weightlifters at Olympic and Pan-Am championships. The two sports are closely knit.

On the other hand there are important differences as well. In weightlifting, the objective is to lift the maximum amount possible, while in throwing, the objective is to throw a relatively light weight for maximum distance. It is not who can throw the heaviest weight a fixed distance.

With these similarities and differences in mind, we would like to offer some guidelines for effective weight room training for throwing.

Here are some concise, basic guidelines I would recommend.

- 1. Once a basic strength foundation is built, power, not strength, is the highest priority. Since the competition is not to see who can throw the heaviest weight a set distance, but who can throw a set (and relatively light) weight the farthest; speed of release is the major component that can be affected by weight training (women's implements are even lighter and therefore more speed driven). While it is true that an increase in force production (strength) is a big factor in increase rate of force production (power), there must consistently be a focus on moving the weights quickly.
- 2. Power is best achieved with Olympic style lifts and their variations. Variations can include lifts from the hang above the knee; hang below the knee, pulls from the floor or blocks, etc. Repetitions in the quick lifts should rarely exceed three and never exceed five. Singles and doubles should be used often. The reason for the lower repetition range is that these explosive lifts tax the neuromuscular system, and both speed and technique break down with higher reps. The



George Frenn spotting Phil Grippaldi in Munich in 1972.

result is counterproductive in terms of performance and dangerous in terms of safety. I cringe when I see high repetition (6 reps or more) sets of snatches or cleans. If the goal is to build endurance, (which is not really what throwing is about), then other more basic movements are more appropriate.

- 3. Throwing is done in single attempt fashion with breaks in between. Sometimes the breaks can be long. Training with "clusters" or sets of single attempts should be a part of the training program. This develops that ability to exert maximum effort repetitively with breaks in between. Throwing is performed one throw at a time, not in sets of multiple throws one after the other in rapid-fire fashion. Train to develop the qualities you need in competition.
- 4. There is no such thing as a "one size fits all" program. The program needs to be tailored to the needs of each individual, taking into consideration the training background, body proportions, recovery ability, past injuries, inherent strengths and weaknesses, work and school schedule...etc. Once a program is formulated, then continual adjustments need to be made according to the immediate circumstances.
- 5. Listen to everyone, worship no one. There are so many "gurus" out there. I have learned a great deal from many other coaches, but I never buy completely into any 'system.' The art of training and coaching is being able to understand basic principles and apply them to individual situations. You cannot copy success out of a single book or find it in a bottle. Become your own coach.
- 6. Coach technique, not just effort. Throwers (or any athlete) should be as fanatical about lifting technique as they are about the technical aspects of their event. Good lifting technique maximizes results and prevents injury. Learning to always keep a rigid lumbar arch and a tight core is vital to success in lifting and throwing. Sufficient flexibility in wrists, shoulders, and ankles is also a necessity in lifting and a plus in throwing. Being able to perform a full overhead squat with flat feet is a good flexibility screen. If I had an athlete who could not perform an overhead squat properly, I would work with them until they could.
- 7. Weight training needs to be balanced with the throwing workouts as power training and throwing are both stressful to the central nervous system (CNS) and endocrine systems. Don't overdo heavy structural exercises like squats. Less can be more when combined with throwing. This takes both knowledge and experience to manage proficiently. This is why the ideal situation is to have a throwing coach designing

the strength training programs. The amount of work that can be handled will vary greatly from individual to individual. Quality of work is more important than volume of work. Avoid overtraining and injury at all costs. It is better to be slightly undertrained than even slightly over-trained. If your weight room workouts leave you stiff and/or sore when it comes time to throw, you need to make some adjustments.

- 8. Training exercises and/or sets and reps need to be changed every 2-3 weeks. Everything works for awhile, nothing works forever. Variation keeps you mentally and physically fresh. Changes in exercises, sets and reps, and training times all add variation.
- 9. Recovery is a component of training. Make it part of your plan. Training is a three-sided affair. The workout is a stressor that has the immediate effect of making you weaker. Our miraculous human bodies will rebuild and regenerate stronger than before IF... it has sufficient building materials (nutrients) and time (rest, particularly sleep). All the hard work will be for nothing without adequate nutrition and rest.

10. Training should lead to improvement in distance.

Never lose sight of that. If you are not throwing farther with less effort, then your training should be adjusted. If you are throwing farther, then resist the temptation to increase your training. It is too easy to get caught up in the weight room numbers. One advantage of adjustable barbells as resistance exercise is that they are so measurable, but one should never become a slave to the numbers. Having said that, it is a good practice to keep a training log of both lifting and throwing. That way you can evaluate and see patterns over time. You can more readily identify what is effective and what isn't. *L&S*



From right, Oliver (right), Deezba and Ollie, pictured near their home in Monument Valley, Arizona.

A New Approach To Throwing

Speed = POWER

By Chris Hardie, Waynesburg University (PA)

For anyone that has been around the sport of track and field for any length of time understands that there are many different shapes and sizes of athletes. Typically, the distance events provide us with our "lean" athletes, the sprinting events with our "athletic" looking athletes and our throwing events with our "bigger" athletes. It's these bigger athletes and the different philosophies behind coaching them that has compelled this throwing coach to write about the intricacies to the throwing events.

You can tell by the title of this article that this philosophy on coaching the throwing athlete may differ slightly than many throwing coaches today and throughout history. It is a preference of many coaches today (and in the past) to urge their athletes to "bulk" up in the weight room during the offseason and early part of the training season. This is a good approach that has been effective for decades. But under my guidance, my athletes are urged to go down a different path, a path called "speed=POWER."

No matter the coach and his/her approach to the throwing events, the bottom line is that they must teach their athlete to throw the implement with as much body control and explosion as possible. All coaches differ on how to get the athlete to that point. In the paragraphs to follow a case will be made toward the speed=POWER philosophy.

WHAT IS SPEED=POWER AND HOW DID IT EVOLVE?

Personally, I have been associated with throwing at the high school and collegiate level for over a decade. Over those years, I have found that my athletes respond positively to an approach of speed and endurance training. You may be asking yourself how endurance training increases the performance of a three hundred (300) pound shot-putter who can throw fifty (50) feet. Believe me, it is a tough sell at first, but once the athlete understands that strength is not most important element to throwing, and that explosiveness is the key, they seem to adopt the philosophy and trust the approach.

Overall, speed=POWER is a combination of speed sessions (anywhere from two to five times a week), endurance running (starting at once a week and extending up to three times a week), and explosive towel work with high technique repetitions. As you will see in the upcoming summaries, this isn't your "old school throwing program" where you come to practice and throw as much as you can. Every day is deliberately planned out to maximize the training cycle of every athlete. As the equation states in the title of the philosophy: speed (and the hard work that is associated with speed work) gives the athlete power. Speed gives

the athlete the power to increase their performance, and if used correctly with some guidance by the coaching staff, gives the athlete power over the competition.

The evolution of the philosophy is pretty simple. As a Division III institution, we are not always getting the top talent in America. Therefore, we must develop the talent we have on a consistent basis. The speed=POWER training program grants each and every athlete the opportunity to succeed, even though they may not be as gifted as another athlete. Hard work, respect for their sport, and dedication to the training program will give every athlete the upper hand.

WHATARE THE BENEFITS OF THIS APPROACH?

What sets this philosophy apart from many other training programs are the benefits that the athlete sees almost immediately. Specifically, there are three overriding benefits for the athlete.

The athlete will develop speed which develops into "explosiveness."

Speed training introduces the athlete to quick motion. Every quality athlete takes quick motion and translates it into explosiveness within the circle or runway. The athlete learns that short quick motion and explosiveness actually adds distance to their throws.

The athlete will develop endurance which extends their maximum training time.

Many coaches have their athletes train for endurance in the offseason and back off during the competition cycle. Our athletes continue to train for endurance throughout all training cycles in an attempt to get their fitness levels to the maximum point. When the athlete is at a high fitness level, they naturally can work harder on heavy throw days, will not tire out during competitions, and will be able to gradually increase their workload throughout the track season.

The athlete develops confidence in their event which relates to an increase in performance.

The athlete feels that they deserve success when they have worked through a 3 mile run or have given a great effort in 40 meter wind sprints. Also, the athlete will gain confidence knowing they finished a workout that most of their competition could only "dream" about. Continually pushing your athlete to their maximum threshold is a confidence booster and will pay dividends in the long haul.

All three positives go together cyclically. The more speed

training you can accomplish on a certain day will increase your cardio levels and your ability to recover from hard workouts. The more endurance training you can accomplish, the more sprint repeats you can get through on another day's workout. As stated previously, confidence is built by using speed and endurance workouts through the training cycle. This philosophy could very well be the "small step" towards creating a better athlete.

As for negatives of the program, of course, we don't feel there are any. But some drawbacks would be the following: exhaustion or overworking, the ability to peak in a timely fashion, and the diminishing role of the weight room. But, these will only become issues if the coaching staff does not monitor each and every athlete and coach them accordingly. At no point should weight training be removed from a track program; each athlete should still be weight training a few times a week as the coaching staff sees fit.

WHAT IS A TYPICAL TRAINING CYCLE AND HOW DO IMPLEMENT THIS INTO MY TRAINING?

Implementing the philosophy into your normal training cycle should start in the fall for collegiate track programs and can vary at the high school level. It is at this time that the athlete learns what is expected of them in terms of speed and endurance work.

Obviously, the athlete has six months or so until the season gets going, so their workload is a little lighter.

As the winter months start rolling in, we take the training up another notch to prepare for indoor track competition. The coaching staff needs to decide the correct peaking window for each athlete. The key here is to peak the athlete correctly at the perfect time. The philosophy can fail if the peaking is done too early or too late.

If the main goal is indoor competition, the workouts can be more structured with a • peaking schedule in the workouts. If the main goal is outdoor three months down the road, then the athlete should focus on a good indoor season and not peak at all during the indoor months. In many cases, the athlete and the coaching staff will have peaking goals for both indoor and outdoor; if that is the case, then an organized schedule will need to be created with appropriate "backing down" of the athlete's training cycle.

The ten week schedule below is an example of a training cycle for an athlete that is looking to peak during outdoor competition. As always, the schedules are used as a guide, and they change based upon weather conditions, the psyche of your athletes, and other outside factors. The key is to stay focused on the bigger picture of implementing speed in an organized fashion.

For peaking purposes, we recommend the biggest speed session of the year ten (10) to fourteen (14) days from the main competition.

WHATARE SOME EXAMPLES OF WORKOUTS?

The first element of the training program, as we stated earlier is speed work. The most creative workout that we have developed within this system is called "Exhaustion." The key is to map out a workout on paper and hand it to the athlete to complete on their own. The workout consists of working three body areas (core or midsection, arms, and legs) and then the athlete goes straight into a full throw. An example is listed below (but keep in mind that you can change it depending on the weakness of the athlete):

Set #1

Squat with no weight (X 20) and back bend (30 seconds) Throw your primary implement 1 time (full approach or full spin)

Set #2

Pushups (X 20) Moguls (X 10) and Balance/Squat/Push (X 10)

Throw your primary implement 1 time (full approach or full spin)

Set #3

Flapping bird (X 30) Crunches (X 30) Mountain climbers (X 15) Throw your primary implement 1 time (full approach or full spin)

The following are some speed workouts that we have found to be challenging, yet effective for our athletes:

- ♦ High repetition sprints anywhere from 20-40 meters (examples: 10X 40 m, 20 X 30 m, etc.)
- ♦ Hill repeats (we typically have our athletes rest on the walk down the hill)
- Stairs (two approaches are effective: endurance stairs which would be anything over 3 minutes and sprint stairs which would be quick repeats)
- ◆ Lunge sprints lunge walk ten times and then sprint to a point (roughly 15 meters)
- ◆ Track sprints a set distance anywhere from 50 meters to 200 meters

As for the endurance portion of the philosophy, we tend to have our athletes max out at 23 miles. At times, when the need arises, we will increase the workouts a few more miles, but for the most part we stick to the 2-3 mile rule. Keep in mind that many of your throwing athletes may be distance running for the first time and you may need to do some extra coaching with these athletes to make sure they are increasing their fitness levels each week. Also, injury prevention is important, especially with larger athletes. It is vital to start out slow with pace as well as mileage base and increase the athlete each week. The following are some of the endurance work that we institute in our program:

- ♦ 1 mile timed a great way to gauge the progress of your athletes
- ♦2 mile jog simple; yet effective
- ◆Endurance stairs anything over 3 minutes (be cognizant of knee pain)
- ♦400m repeats a staple in our training program
- ♦800m repeats only done a few times in the training cycle
- ◆Pickup team runs the leader sets the pace and the team follows every thirty seconds a new leader runs from the back and sets the new pace
- ♦ 1-2-3 runs the coach or a captain needs to be with the team — they do the exercise and yell out a number (#1 means slow, #2 means medium, and #3 is a fast sprint)

The final component to this philosophy of speed=POWER is towel technique. As is the case with most of our training plan, we are working towards high repetitions. Rolled up towels or t-shirts provide a light weight training implement for the athlete to use during technique sessions. Shotputters can roll the towel up and simulate a shot-put on their neck while they spin or they can release the towel to learn explosiveness. Discus throwers can hold the towel on one end and make a whipping motion or let the towel go for their drills. Javelin throwers can hold the balled end of the towel to make a whipping motion or they can let the towel repel from their hand.

By utilizing lighter implements, the athlete can train for longer periods of time, thus adding more repetitions into a normal practice. Studies have shown that a bad habit can only be broken if a correct habit is practiced more than 2000 times. In order to get 2000 repetitions completed in a 10 week program the athlete will need lighter weight and more throws. That is why towel technique can be beneficial to this program.

SUMMARY

Speed=POWER is not a training program that strays too far from mainstream coaching. But as was stated earlier, the mindset of the coach and athlete must turn from strength to explosiveness. A perfect combination of speed work, endurance training, lightweight technique training, heavy throw days, and weight training will give the athlete the confidence to reach their goals. We urge you to try this program out during your next track season and see for yourself if this philosophy has results within a few weeks. Who knows, maybe speed=POWER is something that will work for you and your throwing program. *L&S*

Chris Hardie is entering his fifth season with the Waynesburg University track and field team. Hardie has specialized in working with the men's and women's throwers, who have been some of the most successful athletes on the team since its rebirth in 2005. During his time at Waynesburg, Hardies' throwers have broken every school throwing record and he has coached nine All Conference Performers, two Conference

ence Champions, one Conference Record Holder, fourteen Eastern Collegiate Athletic Conference (ECAC) qualifiers, two ECAC champions, three NCAA Division III qualifiers, and one NCAA Division III All American.

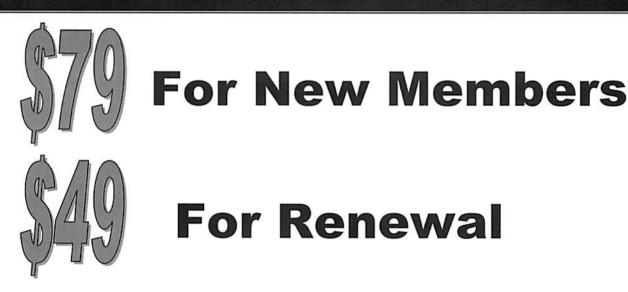


Chris Hardie

Hardie earned his bachelor's degree in political science in 2000 and a master's degree in regional planning from California University of Pennsylvania in 2002. While at California, Hardie was a four-year participant in track and cross country where he competed in eleven different events but specialized in the throws.



2010 Membership



- Throws Coaches Journal (four times per year)
- Long and Strong Throwers Journal (four times per year)
- In The Sector On Line Magazine (minimum six times per year)
- Membership Discounts to all NTCA Clinics, Conferences, and Events
- Membership Discounts to all NTCA Products
- Discounts with NTCA Partners

1-760-779-9148

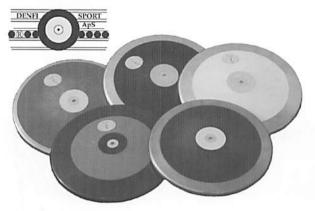
www.nationalthrowscoachesassociation.com

SPEND LESS...THROW FARTHER

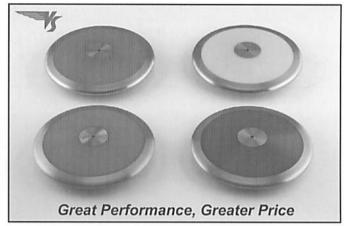
STRETCH YOUR BUDGET FURTHER

Denfi Discus

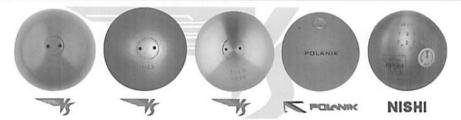
VS Challenger Discus



Denfi...Thrown by World and Olympic Champions



VS Competition, VS Iron & VS Steel Shots, Polanik Steel Shots, NISHI Iron Shots



VS Athletics Throws & Weightlifting Shoes

Aussie 2000 and Denfi Javelins









