

REFLECTIONS OF A MASTER: AN INTERVIEW WITH DR. ANATOLY BONDARCHUK

By Dane Miller

The author is an American shot putter training with Anatoly Bondarchuk in Kamloops, British Columbia Canada. He sat down with his coach over a period of weeks in the winter of 2008 and crafted this superb question and answer format interview with the throwing legend. Forward by Derek Evely, Canadian Athletics Coaching Centre. Re-printed with permission from the author.

FORWARD

I suspect that this interview is going to stir up a few opinions regarding throwing training in North America. Great, we need the discussion. That being said, Dane Miller – an American - has done what I believe to be the best job I have seen at getting to the core of Dr. Bondarchuk's beliefs and opinions surrounding throwing training... hands down. This, in combination with the videos that will be appearing on our site in April of 2008 and Dr. Bondarchuk's books on training transfer, provide the best information ever available in the west on Dr. Bondarchuk's theory and methodology of training. Enjoy.

INTERVIEW

What was a crucial aspect of training as an athlete that you were able to implement into your system of training?

Bondarchuk: As an athlete I knew everything could change and for proper progression, things needed to change. I knew the system of training had to change and the technique itself had to change. As an athlete I realized over time, the technique and system needed progression. Average athletes in 1972 had no acceleration with the hammer. Maybe this was because they had no special strength for the hammer. From 1970-1976, I believed the athlete (me specifically) needed to train maximal strength. After this, I recognized the athlete only needed a base foundation of strength. Before I thought athletes would need a 300k full squat for 80-84 meters, now I know that they only need 200-250k quarter squat. Before, I thought athletes needed a 150k+ snatch for 80-84 meters, now I know they only need to snatch their bodyweight for this throw. Before I thought the athlete needed a 3.50 standing long, now they only need a 3.00 -3.15 meter long. This is because the specific throwing training has progressed over 30 years. Now, I realize that the athlete does not need maximal strength but special dynamic strength. Special strength is much more important and has a much higher rate of transfer into the

specific throw. In the 1960's, I had a friend that squatted 320k, cleaned 200k, had a fast 100m but only threw 17.20 in the shot put. Later I realized that the maximal strength training does not have a high rate of transfer and my friend was one of many examples for this.

What do you find is the most important aspect of throwing?

Bondarchuk: The thrower must use and have explosive muscle, not maximum strength. Nelson has amazing explosive muscle, then Hoffa, they both need this muscle because they are smaller and usually smaller athletes have more explosive muscle when compared with taller athletes. Hoffa and Nelson have better muscle than Cantwell but Cantwell also has good muscle for how tall he is. It is very rare to find a taller athlete with very explosive muscle. There are many, many programs of training. Some coaches have athletes throw heavy, some throw light and some just competition weights and some throw all weights. If the athlete needs strength, they may throw heavy and give more volume. If the athlete needs explosive muscle, give them light weights. There are many exercises and programs to help with these problems.

How much time should an athlete spend throwing/lifting/special strength?

Bondarchuk: Percentages change with each thrower. Some athletes need technique, some speed, some strength. It all depends on the athlete. Strength does not help develop speed and speed does not help develop strength. I have been coaching Dylan (Armstrong) for two and a half years and he needs 70% technique and 30% special strength. He has plenty of natural strength but some throwers may not have this strength. It also goes back to special strength and speed. A 21 meter throw is achieved at about 14 meters/second and a 22 meter throw is achieved at 14-15 meter/second (rough estimates). The closer you train to this, the better. Benching 150k at 8-10meter/second is much better than benching 250k at 1-2 meter/second. Slow, maximal training has virtually no transfer to the throw.

At what point should a shot/disc/hammer athlete stop training maximum strength?

Bondarchuk: A good measure for shot and discus is around a 160k bench, 200k squat, and 150k clean. The discus throwers could incline a bit more for development of the shoulders. At the average level, every exercise is good. Once the shot putter hits 19, 20 – 22, the exercises and transfer need to have a much higher correlation.

What is the major problem with US hammer throwing or US throwing in general?

Bondarchuk: The system of technique and strength has not changed in hammer, discus or shot for 20-30 years. In 1972 my technique was as good or better than some top US hammer throwers today. That was 36 years ago, this should not be the

case. The US is always thinking about maximum strength. Until the US realizes the research of special and dynamic strength, there will be minimal hammer throwers over 80 meters. After 1975 in Europe the average athlete no longer used a full squat, only quarter squats, step ups and jump squats. Maybe the US is too influenced by bodybuilding and power lifting which takes their focus away from special strength. The US has not progressed technically in 40-50 years with the hammer. There has been very little progress since Hal Connolly, outside of maybe Deal but even Deal did not have near the technique he could have achieved. Deal's technique was 50/50, he did not push the ball but he also did not pull the ball.

Do you feel 80 meters is attainable for a female hammer thrower?

Bondarchuk: Sure, no problem with a good system of training. Females may throw as far as males. Why not? The weight is only 4 kilo, this is nothing for a female.

Who do you feel has had a good understanding of the hammer system since Sedykh and Litvinov?

Bondarchuk : All of the Soviet countries have a decent understanding of the hammer system. Yes, they can fix technical aspects but they understand the importance of special strength. Gescek had very good technique. If the US does not change their mind in regards to training, they will never beat Belarus, Ukraine, Russia and most of Europe in the hammer.

In the United States most hammer coaches teach the technique by pushing with their entire body. Meanwhile, you train the hammer thrower to push the ball well past the left leg and never really thinking about the feet. What is the advantage of this technical training?

Bondarchuk: It is more important to push the ball and the push comes from the upper body. If the athlete thinks about their feet first, they will lose connection with the push and may start to pull on the ball. The athlete needs to be patient in double support, the longer the support, the better. The thrower needs to work the push and then the feet will follow. The push comes from the hands, not from the legs, feet or hips. (Dr. B compares pushing the hammer with doing a plate twist with stationary feet.)

Why is the US discus not as strong as the US shot putters?

Bondarchuk: The US has been weak in the discus for the past 20-30 years. The US discus technique has not changed and the system of training has not changed. Since Al Oerter, no one has had a good final position. Al Oerter had one of the best final positions into a transfer of all time, since Oerter virtually no one has a good final position. Wilkins has a good final, that is it. Now discus throwers from the US jump in their final position as soon as the front leg touches. This final position is geared more for high jump than it is for discus.

Why has the US had such success with the shot and not the hammer?

Bondarchuk: The US shot putters all have excellent transfers with their technique. Nelson, Hoffa and Cantwell all have excellent transfers at the front of the circle. They all have great explosive muscle. Plus the US has countless talented athletes to train for the shot put. Everyone talks about maximum strength but no one keeps their eyes open to these athletes and their explosive muscle. Special strength will tremendously improve the average US shot putter.

So you are saying that if the average US shot putter trained special strength, the average distance would indeed go up?

Bondarchuk: Yes, yes. Take a tractor engine vs. a Ferrari. Some athletes have the motor of a Ferrari, others have the motor of a tractor. The athlete must train special strength like a Ferrari, the athlete cannot focus on having good special and good max strength. The athlete must train like a Ferrari and for the shot, it is better to throw like a Ferrari than a tractor.

In the United States, most coaches focus on turning the right leg and jumping up off the right when teaching the rotational shot and discus technique. You teach a bit differently where inertia keeps the right foot moving, the weight is transferred from a bent right onto a bent left at the front of the circle. Can you explain the difference in this technique?

Bondarchuk: It is impossible to stay on the right leg and turn. Biomechanics will let the right foot turn from inertia out of the back. There is no need to think about turning that foot. Look at sequences of Baryshnikov, Schmidt, Wilkins (1976 Olympics) and even some top throwers today. Their middle foot pauses for a brief second because they are not thinking about constantly turning the foot. The athlete needs to think about the legs as one system. There is no need to think of the foot or the knee or the hips, the leg works as an entire system together. Think about the transfer on a bent left leg at the front (right handed throwers). Look at Gunthor, Timmerman, Baryshnikov, Nelson, these throwers all have excellent systems of transfer at the front of the circle.

What weights do you recommend using in an entire training system for men's shot/discus/hammer?

Bondarchuk: Shot and Hammer: 5k all the way to 10k, sometimes you may use a 12k from standing depending on the strength of the athlete.

(Interviewers note: Anytime shot putters throw over the 8k, Dr. B has his athletes throw with a special made glove for protection.)

Discus: 1.5k-3k, sometimes even up to 6k shots for stands

How about women's weights for shot/disc/hammer?

- Shot: 3k - 6k and sometimes 7k for stands
- Hammer: 3k - 7k
- Discus: 700 gram - 2k

A lot of coaches discuss the types of athletes that they train. You have concluded that there are 3 types of athletes with a possible fourth. Can you explain?

Bondarchuk: Yes, there are three athletes and an occasional fourth. This is not the key however. The key to coaching is finding a type of system that best fits each individual athlete. Each athlete is different with how their body reacts, just like each athlete looks different, walks different and has different personalities.

How many times a year can a good coach peak their athletes?

Bondarchuk: Some athletes have a short peak condition, some have long peak conditions. Some athletes may achieve 3 in a good system and some may achieve 4 in a good system. It all depends on the individual.

What do you do as a coach when you encounter an athlete that is no longer progressing in your system?

Bondarchuk: Some athletes have incredible talent in the beginning and some have a very good ability to develop strength and speed. Some athletes might not have the same ability to continue to grow because of genetics, they might put in a lot of energy but their result may still not grow. Some athletes might grow a lot in another system. Tamm and Sedych always grew. They were the special athletes that continued to progress over time, some others grow and grow and grow but then their body makes a defense and they can no longer grow.

How can the US university system fix the underdeveloped high school athletes in regards to hammer and even shot put and discus?

Bondarchuk: The Soviets started throwing around 13-14 years of age. They did not throw three implements. If you threw discus, you only threw discus and this was the same with every implement. Sometimes the athletes would throw shot and discus if they were rotational. In the US athletes throw shot, disc and hammer and they are also students. This is difficult. It is ok to throw disc and shot if you are a rotational shot putter, otherwise the athletes should attempt to focus on one event. The other problem with the US university system is the weight throw. The best way to throw the weight is by pulling the weight. It is impossible to push the weight because it is too

short. The idea behind the weight is different when compared with the technical idea behind the hammer and this creates more technical difficulties with the athlete.

What is the probability of the world's top throwers taking steroids today?

Bondarchuk: Steroids first came to the US and reached Europe about 10-20 years later. In Europe, most athletes did not start taking steroids until 1970; in the US it was maybe 1950-1955. I think a lot of supplements as well as steroids can have anabolic effects. During my many years of scientific research and coaching, I have concluded that throwing 22m is impossible without an anabolic effect; however this anabolic effect may come from steroids or from legal supplementation. Look at the list of 22 meter throwers, nearly 80% of these throwers are linked to steroid usage.

What is the problem with the US javelin? Why have there not been as many top notch javelin throwers, outside of Greer?

Bondarchuk: The problem is similar to the hammer. There is no good technique and this is the same with discus. Max strength, max strength is what the US always thinks of. A good lifting system is completely different from a good throwing program.

What will it take for North America to catch and compete with the top athletes in disc, hammer and javelin?

Bondarchuk: The US needs to change their mind and listen. It is about special strength and technique, they should think less about maximum strength and more about explosive strength and technique. Strength is a simple idea but in practice with throwing, it creates a bigger problem. Take my friend Alexeev for example. He had a 240k press and a massive clean and snatch and a huge full squat but he only had a 16.50 shot put, other top superheavyweights like Taranenko only threw 14 meters in the shot. In the US hammer technique is also terrible with about 80-90% of the throwers in the US having bad technique. The shot may be about 50% good technique, discus is nearly 70% bad and this is the same with javelin. Athletes need more full throws and special strength. Some of the athletes are ok with special strength and their technique. Improve these things and the average level of throws will improve. Another problem is that university kids watch the top US hammer throwers and then they continue to throw like them. I just watched the 1988 Olympics and other videos from the late '80's on my computer and 20 years ago, the hammer throwers had better technique than they did this past year in Osaka. This is a problem.

Dane Miller is a native of Reading, Pennsylvania. He is a graduate of the Pennsylvania State University and is currently an athlete learning and training under Dr. Bondarchuk. Feel free to contact him with any questions, comments or concerns at Danemichael.miller@gmail.com.