When we began the Round Table feature in 1988, it was envisaged that the format would be to ask each of a number of experts the same questions in order to get their personal opinions on a specific topic. It was hoped that the answers they provided would complement the articles in the rest of the issue in which the feature appeared. One thing that was not really expected was that an actual discussion would take place.

However, for the first time this instalment is the record of a discussion in which all the participants were in the same room. Taking advantage of the NSA Advisory Editorial Board Meeting in Cologne in May 1989, where it was decided that the Practical Theme for this issue would be Horizontal Jumps, a number of questions were prepared. The Advisory Editorial board was then put on the spot and asked for their answers without any preparation. The members of the board who took part were Jim Alford (GBR), Dr. Li Chengzhi (PRC) and Dr. Kenneth Dyer (AUS) both of whom were participating for the first time in the Round Table, Dr. Ruth Fuchs (GDR), Vern Gambetta (USA), Victor Lopez (PUR), Tom MacWilliam (CAN) and Dr. Juris Terauds (CAN).

The entire session was tape recorded. The result was a lively and wide ranging discussion which we hope provides the reader with some insight into the events discussed.

1. Describe the qualities you would look for in a potential horizontal jumper.

LOPEZ
“Speed”, “explosive power” which includes elastic components, “flexibility” and good “coordination”.

GAMBETTA
“Speed”, and I always like to break it down into “acceleration ability” which is indicated by acceleration over 30m from blocks and “absolute speed” which is indicated by a 60m sprint, “coordination” which is indicated by repetitive hops, over five or ten hops with an approach, looking at the differences
I. Describe the qualities you would look for in a potential horizontal jumper.

between right and left, and "jumping power" which is indicated by a standing triple jump.

ALFORD

"Speed", naturally good "neuro-muscular coordination", "elastic strength" and "resilience", that is the ability to do many jumps without incurring injury.

TERAUDS

"Speed" is number one, then "vertical jump ability" that is "explosive ability" as indicated by a sergeant jump and a "high centre of mass".

MACWILLIAM

Obviously "speed" is critically important. When looking for athletes I look for somebody with "long limb length" and "strength" in terms of power, that is the ability to convert speed into the jump, and "elastic strength".

DYER

I think "speed", both "absolute speed" and "acceleration" is important as everybody has mentioned and "coordination ability". I think we have to mention that the athlete has got to have willingness and the ability to train in different ways. It is different training than, say, for a sprinter and a lot of it is quite different from jumping. So there has to be a "character" component as well.

CHENGZHI

I think that all the things that have been mentioned are important but I think we should also mention "accuracy" and in the case of the triple jump "rhythm".

GAMBETTA

Based on the research that Hay has done with elite jumpers there is something which he calls "steering ability" which furthers the idea of "accuracy". It involves depth perception and could be measured by putting objects out and seeing how close from different run-ups the athlete can come to them. If the athlete has no ability at all in this area he probably won't be a very good horizontal jumper even if he
1. Describe the qualities you would look for in a potential horizontal jumper.

has great horizontal speed. If you could take off anywhere the world records in the long jump and triple jump would be significantly better than they are, but accuracy on the board is extremely important.

LOPEZ
I think that you can improve that. If the athlete has speed and strength and all the other things, I say it is the coaches job to improve his accuracy. Buy them glasses if you have to improve their depth perception.

2. Rank the technical components of each jump in their order of importance.

GAMBETTA
In both jumps basically the same. In order of importance it is approach, take-off, landing and inflight technique. It is important to have a good tempo and rhythm in the final strides of the approach in order to optimise the speed the athlete has at take-off.

LOPEZ
Approach is number one, basically because the more horizontal velocity you have the longer you will fly, assuming that take-off preparation is okay and that you can get enough vertical velocity. After that, the "take-off" and the landing.

ALFORD
In any event you have to start at the beginning, if you don't get the first phase right you won't get the rest right. So, the approach, then take-off, in the triple jump you have to think of landing take-off each time and preparation for take-off each time, and landing. The flight phase is of the least importance I think.

TERAUDS
I think the development of optimum/maximum velocity in approach, then the development of optimum maximum vertical velocity, then the flight in the air which I think is important even though the path of the centre of mass is determined at take-off. By changing the moment of inertia of the limbs as one flies through the air, one can move the bottom of the body forward for a good landing position.
2. Rank the technical components of each jump in their order of importance.

ALFORD
The reason I say that is because for many years I spent far too much time working on the flight phase. I reckon that by improving the flight phase you can gain perhaps six inches (15 cm), if that, whereas you can lose a metre on the take-off. When you watch the women jumpers from the GDR, their flight phase is extremely simple but they do get a very good take-off and landing. I do coach the flight phase, of course, but I don’t spend too much time on it.

MACWILLIAM
Not much to add really, the approach, take-off, landing and flight phases are all important. I think that it is absolutely critical that in the approach we don’t just talk about speed or maximum speed but, as Juris mentioned, we need to look for optimum speed.

CHENGZHI
I just want to add that to maintain horizontal speed, especially in the take-off phase, is a very important technical component.

3. In the triple jump, what ratios for the various phases would you recommend?

LOPEZ
I think the most important thing in the triple jump is to maintain the horizontal velocity through the three phases. The landing of each phase is very important in order to prepare for the next take-off so that you can best maintain the horizontal velocity. For me it is important to maintain a balance in all three phases of the triple jump. If you overdo one of the phases something will happen to the next one.

GAMBETTA
Rather than discuss the ratios, which I think is an exercise in intellectual gymnastics, I think we should look at the proportion of the three jumps and distribution and conservation of the horizontal velocity through the three jumps. There seems to be a trend to emphasize and try to lengthen the step phase but it is my feeling that this may be contributing to the detriment of the overall jump. I think we need to look at the hop phase and the cyclical action of the free leg through the last 2-4 strides of the approach.
3. In the triple jump, what ratios for the various phases would you recommend?

ALFORD

I think that anybody who has coached beginners in the triple jump knows that the weakness at the start is usually in the step. It's fairly easy to get a good hop, and it's fairly easy to get a good jump. You can then get some improvement by concentrating on the step but what you really have to concentrate on is rhythm, that is the rhythm of the hop, step and jump. If you're going on ratios I think it must be fairly rough, it could be 10 - 7 - 10 but it might be 9 - 7 - 10 or 11 - 7 - 8. It could be any of those but I think rhythm is the thing. Also, I think it is important to emphasise increasing height in each of the phases.

TERAUDS

I do not really know that much about the triple jump but I can say that the basic mechanical idea is, as the others have said, to preserve the kinetic energy and, if possible, add something to it during the phases. In order to add something to the kinetic energy, you need to place the foot as close as possible under the centre of mass. When you get the foot placement ahead of the centre of mass you are putting the brakes on. How to achieve that I don't really know, but mechanically that's where you want to go, that is the optimum. I should also add that the athlete must be able to accomplish the movements rhythmically.

ALFORD

What you really mean is that the foot is going to come down and move backwards at great speed. If you think too much of maintaining velocity you could lose distance in the hop.
3. In the triple jump, what ratios for the various phases would you recommend?

LOPEZ
I was thinking that, in order to maintain the energy of the jump, you do not want to sink because you lose velocity. You also have to use your strength to add more to the jump, but it has to be rhythmic and balanced.

4. What are your views on youngsters and women triple jumping.

MACWILLIAM
I think that, because the physical stresses are so high in the triple jump, until youngsters have achieved a degree of physical maturity (after the rapid growth spurt) it is not an event that is appropriate and can be dangerous. Young athletes should not be encouraged to take part seriously, only as a play activity.

LOPEZ
It is amazing how the triple jump is being done by women in the USA. In every middle school, high school and college in the country the event is growing. The number injuries that I know about is zero and I see the event every week. If the event is properly taught, there is no emphasis on wrong technique and you just let them do it with rhythm it should be okay.

ALFORD
Kids are going to do the event because they like to. As long as they are playing at it I think it is fine. But modern methods of training are different and the trouble will start with intensive training.

MACWILLIAM
I am not making a sex discrimination, I am not saying that women should not do triple jump, my point is I don't think that boys should be doing triple jump at the ages of twelve or thirteen when they are going through the rapid growth spurt. The bones are not strong, the growth plates are very open to damage. We've gone now to synthetic surfaces, we are no longer doing the run-ups on grass and we are not just playing at it, we are out doing intensive training. The stress that is put on these youngsters is far greater than any other event.
4. What are your views on youngsters and women triple jumping.

GAMBETTA

I strongly disagree. I feel that you made a point that is very important, that is if you train, it must be training age appropriate training. I have coached that age group with no significant injuries. Kids love the triple jump, it's probably one of their favourite events because it is a natural activity. For kids that age, all you should have them do is play. You can teach them how to hop, you can teach them how to bound and if you look at the guidelines in the article I wrote for NSA (NSA no. 4 Vol. 1) or that other people have written, you are not going to have kids training six days a week.

I don't even think this is a problem for the developing countries as much as in the industrialised countries where the kids watch TV all day then try to go out and do things they are not physically prepared for.

LOPEZ

In my meeting, which is for women only, I have seventy triple jumpers. They are jumping the whole day. But I haven't seen any injuries. I was really scared beforehand, but nothing has happened.

MACWILLIAM

The point that Vern made about training age appropriateness is critical. What I am conscious of is coaches who will take a twelve year old who wants to be a triple jumper and look at the training of a top athlete and follow it. I agree that kids should play at bounding and hopping and jumping, but if coaches start to try to develop something by increasing loads then we will have problems.

DYER

As a non-expert in the triple jump I would like to make a couple of general points here. The first is that perhaps we, as NSA, should have a look in say, 1991, at all events and the appropriate age for introduction as well as appropriate levels of training for junior athletes. A second point is that part of the problem is that perhaps the youngsters will get too competitive, and then training problems will occur. Maybe, to
4. What are your views on emphasise more the playing and learning aspects, we should restrict the triple jump to a very short run-up.

GAMBETTA
In the western countries we hear a lot of myths about what is going on with the training of youngsters and women in the GDR. Maybe Ruth could briefly explain to us the philosophy of introducing events like the triple jump to youngsters and beginners.

FUCHS
In the GDR, as in other countries, people are working to introduce both the triple jump and pole vault for women. In my opinion, women are as capable of performing in these events as men. At present, coaches and doctors are looking at the possibilities of long term damage to the skeletal system from triple jumping which is the reason why women participating should be extremely careful, until the results are known.

At the age of 11 or 12 years, boys do triple jump. But it is done as part of general sports training, not as a specific event. That comes later. At 16 or 17, specific long jump and triple jump technique is taught, but again not as a specialist event. Triple and multiple jumps are also used as part of the throwers training.

LOPEZ
I think that sometimes we look at just the technical aspects of this problem without considering the socio-cultural factors. For example, the northern European countries and parts of North America where physical education has to be done indoors for a large part of the year, the youngsters do not have the same chance to just play around and build-up their bodies naturally like kids in the Caribbean or Africa do. All our games, when we were kids, were running and jumping, every day all year round. Therefore, I believe that our bodies are more prepared for a speed-strength event like the triple jump.
4. What are your views on youngsters and women triple jumping.

ALFORD

The point of what you say is that adaptation over a long period of time is very important, especially at an early age. After this adaptation, the individual is ready to begin training and performing well in a clearly defined event such as the triple jump. When we are training young athletes we must also try for this adaptation, keeping in mind the time factor to make it as natural as possible rather than just starting off with the event.