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# Talent Selection In Throwing Events

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*Jones wrote this article for the Spring, 1997, issue of Athletics Coach. In this piece you can clearly see Jones's wide grasp of the issues in throwing, and his intense interest. Could we do more in the U.S. to identify throwers? This is exactly the thought that was in my own mind as I read this.*

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## ONCE UPON A TIME

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Back in the mid-sixties Simon was born. Both his parents had excelled in sport having gained regional representation in rugby and swimming. At primary school Simon was the star pupil, both academically and in sport, winning the sports day sack race by the proverbial mile. Simon's parents made financial sacrifices to send their son to a private school which had a reputation for rugby and, in particular, cricket.

Simon, being very tall, excelled at rugby and was a fearsome fast bowler. The rigors of rugby brought with it a persistent back injury but he made the English Schools team regardless. Progressing on to Cambridge, the university welcomed the rugby prodigy with open arms as did the cricket team—a double blue.

As with all Freshers Simon “had a go” at many new activities at college including a “try-out” for the athletics team. Being now almost two meters

tall he was guided toward the shot circle and, after some rudimentary instruction he astonished everyone by throwing almost 14 meters! Simon loved the feel of the shot and the satisfaction of seeing the implement land a long way from the stopboard and vowed to return in the summer and gain a third blue. Unfortunately, his chronic back injury once again sidelined him. Simon never did put the shot again but often wondered “what could have been”.

Upon leaving college he played rugby for Bedford when his back injury allowed and, because of frequent absences from the game, never quite made the full England team. Now retired with a young family, the occasional glimpses of shot and discus

on the TV cause an unaccountable tingle of regret—of what “might have been.”

The fictitious account above is of Simon, an athlete with the potential to be the greatest shot/discus thrower the world had ever seen. However, the system never allowed him to be exposed to the sport that he could have excelled at. Simon was born and lived in Kent [England], while Jürgen Schult was born and lived in the German Democratic Republic.

Possibly Britain and the former GDR were as far apart as is possible in terms of organization, with the former relying upon a form of Darwinism (survival of the fittest) to discover and develop talent, whereas the latter nation implemented a planned system of

Great Britain top 12 finalists in throwing events

1972	1976	1980	1984	1988	1992	1996
1	3	2	13*	2	3	3

\*Boycotted games—no Eastern Bloc athletes.

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*By Max Jones, BAF Chief Coach—Throws, Great Britain*

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talent selection and elite development backed by funding in the order of three per cent of its GNP. It is interesting to note the respective achievements of both systems.

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## THE GDR IN SEOUL

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### 1988 Olympics (the last Olympics in which the GDR appeared)

#### Throwing events

Four gold—one silver—one bronze  
Number of finalists—12

At the time of the Seoul Olympics GDR athletes held five of the seven world records in throwing.

The above statistics convey the overwhelming success of the GDR system and the mediocre results (with certain exceptions) of the British system.

It is my opinion that a major element for the success of the GDR model of sport development was the talent identification program which was the most advanced in the world. It is worth comparing the two systems.

In Britain the sport of athletics relied upon the secondary school (11-16 years) for exposing children to the sport, backed up by an almost universal club system to which promising youngsters graduated. This system was not efficient as the following examples indicate.

Example one:

#### ARTHUR ROWE—1985 European champion, Shot Put

“At the age of 16 I played a few games (soccer) for Rotherham reserves and they were ready to sign me. Just before the soccer season got underway I was playing in a local cricket match. Standing about in my pads waiting for my turn to bat I got bored so I strolled over to the nearby fence to watch athletes practice. I fancied having a go at putting the shot, which was new to me. Cricket pads on and all I succeeded in putting the 10lb shot about 43 feet.”

Example two:

#### FATIMA WHITBREAD—1987 world champion, Javelin

“I went to school where the PE teacher was an ex-international thrower—Margaret Whitbread—she later adopted me.”

Example three:

#### GEOFF CAPES—Commonwealth champion, Shot Put

“Had he been born a few miles further south in St Ives, he might have ended up in Andy Smith’s stable as a boxer, like local boy Joe Bugner. But Holbeach, his home town, was a place for throwers and jumpers.”

All three quotes, taken from biographies of the above champions, indicate an element of chance in the process of selecting athletics as their main sport. Certainly Britain could have lost three great athletes but for that element of chance.

Since the retirement of the above three athletes, the school system which exposed children to athletics has declined somewhat. Today, at best, it offers an *ad hoc* system of talent selection and it is certainly not universal. There have been attempts to augment the school system by national projects such as Startrack and Sports Hall Athletics but, although such projects are worthwhile, they are, when compared to the GDR program, only partially successful.

The selection problem is further compounded by the fact that Britain is very much a multi-sport society where children have the choice of dozens of activities, all of which offer an outlet for their talents. The 12-year-old child who is suitable for elite throwing is also the type of physical talent that basketball, rugby, soccer, swimming and hockey are all too keen to recruit. It is a sad reflection upon British sport that each sport in turn is devising mini-sport strategies in order to recruit children into specializing in their sport. This is ironic when all clear-thinking physical educationists agree that a child’s early years should be a series of varied physical experiences

and not specialization.

In the former GDR the number of sports selected for development was limited to those which would enhance the reputation of the country on the international scene. The system of talent selection adopted by the state underpinned the whole elite sports program. This program in 1988 produced five world records, four Olympic titles and four world junior titles! This outstanding record was in the throwing events and from a country with only 17 million people.

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## REVIEW OF THROWS-RELATED LITERATURE

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From a review of the literature it appears that only the GDR and USSR adopted a comprehensive policy of talent identification in athletics for throwing. Certainly they screened for talent at any early age (10 years old onward) and it is probable these factors contributed a great deal to the excellent results of the GDR in world athletics.

Universally there appears to be a policy of only using simple field tests for talent identification, and no country appears to use sophisticated methods of talent identification for large numbers of athletes. From the literature it is seen that the tests used fall into distinct groups:

1. Sprinting—almost all reviewed batteries of tests include a short duration sprint, varying in distance from 20 to 60 meters.
2. Static jumping—either the standing long jump or vertical jump are used.
3. Multiple jumps—a majority of countries included multiple jumping, either hopping or two-footed.
4. Weight throwing—a majority include throwing a shot in a non-specific movement, such as the two-handed overhead throw or the two-handed forward throw.

For the purpose of general throwing talent identification of the novice

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athlete, the above groups are those most commonly used. When testing experienced athletes two further categories of tests are used:

- Event-specific tests—using movements that resemble the event, i.e., weight ball throw for javelin.
- Strength exercises—usually with the barbell, i.e., bench press, snatch or static (isometric) measurements.

Less popular tests include an endurance group and reaction tests.

Several authors indicated that at 12 to 13 years girls are going through their adolescence while boys have yet to reach puberty, or puberty is only in its initial stages. This fact is particularly meaningful because the biological age decisively influences the physiologically justifiable degree of load.

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## TALENT SELECTION CONSIDERATIONS

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### Psychological

When asked how he knew that tennis player Tim Henman would make it, David Lloyd replied.

“No doubt about it he’ll go all the way. He’s a tough little bugger. When I take youngsters for coaching, first thing I do is make ’em run until they drop. The ones that fall down, but then get up and keep on running are the ones I want. Henman (as a child) ran until he was knackered, kept falling down but kept getting up. That’s what you want to know—not about their physical endurance, but their mental toughness, which is the greatest asset of any athlete.”

It is significant that the GDR placed great emphasis upon this so-called “mental toughness.” Each year every athlete was set a personal target to attain (Table 2) in competition the following year. Any athlete who did not achieve his/her target was dropped from the program. The German coaches said that in this way only the hardest-training, most tal-

ented throwers stayed in the program through to senior levels. If a thrower was very talented but did not have the necessary attitude to training to succeed at the highest levels, he was dropped from the program. Similarly very hard training, dedicated athletes who could not perform to the highest levels were also dropped.

### Age

Trying to predict adult success in children is a difficult task and certainly the later you leave it, the more accurate you can be in your predictions. Children develop at different rates and certainly chronological age does not, in the majority of cases, match biological age. At the age of 11 the biological age span can be as much as six years (8-14). While initial selection at a young age is essential, there must be stages of later selection so that the late developing child can achieve.

It is interesting to note that one of the world’s greatest athletes, triple jump world record holder Jonathan Edwards, at the age of 17 only finished ninth at the ESAA Championships with a personal best of 13.84. Who would have selected Jonathan to jump 18.29 12 years later?

Studies have shown that those athletes recruited by talent selection do not progress at an even rate. Young athletes who made fast progress during the first 18 months of training were usually the most successful later on. Athletes whose initial performance levels were only average but who later improved at a rapid rate often passed those with excellent initial performance levels.

Early talent selection does not guarantee success and the Soviet system admitted that 50% of those selected early failed to reach their predicted potential level.

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## A BRITISH SYSTEM OF TALENT SELECTION

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I believe it is the role of the physi-

cal education teacher to help develop a child’s physical potential. To do this the child must first discover in what areas he/she has potential and hence the need for some talent selection program. As part of the physical education program of secondary schools (11-16 years) time should be set aside to talent select—only in this way can every child be made aware of his/her potential. If British sport is to embrace talent selection then the initial introduction must be through the education establishments.

### Stage one

There is a need to carefully decide on the age of selection—too early and the results will be unreliable—too late and perhaps the universal eagerness of children will be lost. As a compromise I would make the initial selection for boys to take place at 13 (year eight) and for girls at 12 (year seven). I would envisage that one double (60 minute) lesson be incorporated into the physical education program. The Sports Council should devise a “potted sports” lesson that is fun to perform but encapsulates all the tests necessary to identify those youngsters that will form the pool of talent out of which our elite performers will emerge.

It is my belief that virtually all our elite sportsmen and women come from the top 20% of the population. The school would identify the top 20% and forward these results to a central venue for storage and recording.

The tests included in the battery would be simple basic tests for power, speed, endurance and skill. They must be easily applied and require equipment/facilities that are readily available in schools.

### Stage two

With the top 20% of children identified it would be up to individual sports to make use of this data. Children could be invited by the sport to attend a post-school-hours session and be given a further battery of tests

specific to that sport.

The sport of athletics would devise tests to indicate a child's talent for jumping, throwing, speed events and endurance. The original batch of identified youngsters would then be further reduced to provide children who have indicated specific talent for athletics.

At this point the sport would have to start to develop this talent initially in event groups, e.g. throws, in after-school-hours classes based upon the catchment area of several schools.

### Stage three

After two years at stage two the children would be selected to specialize in an event or combination of events, e.g., shot/discus. This specialization would be based upon further testing over the two-year period and the recommendation of the coach who would have recognized elements that tests cannot screen for ability to work hard, ability to coordinate, etc.

At this point the identified youngsters would be delivered to the club system.

Before a talent identification system could be operated in this country the country would have to decide at what age they wish children to specialize. At this moment in time it would be no use testing at age 12/13, when all sports are involved in a dogfight to ensnare children at eight or nine years of age.

Perhaps large grants made to governing bodies should be on the proviso that they do not include in their development plans encouragement for children to specialize at primary school age.

## CONCLUSION

Athletics in its simplest form is a series of events which are basically test and measurements with the skill element only one fraction of the whole picture. To produce elite performances one must have elite material to work

### GDR Selection—Stage One

#### Basic selection

This took place either at school or at the various non-residential sports clubs at the ages of 10 or 11. The main standards observed at this stage included:

- Height and weight
- Speed (30m)
- Endurance (12-15 min run)
- Work capacity (step tests)
- Power (standing long jump)

Sport-specific tests—for performance level and technical efficiency.

During this period the children were taught general skills.

### Stage two

#### Preliminary selection

This occurred 18 months after basic selection.

The assessment was based on a number of factors:

- Progress made in physical ability and sports
- Specific tests (Table 1, see below)
- Rate of physical growth
- Biological age
- Psychological aptitude

**Table One: Monitoring standards for selecting young shot putters (girls) for sports schools.**

Age	30m Sprint	Standing	Standing	Forward	Overhead
11-12	Standing Start	Long Jump	Triple Jump	Throw (2kg) Medicine Ball	Throw (2kg) Medicine Ball
	4.2 sec	170 cms	530 cms	10 meters	12 meters

At this stage (12-13 years) it is usual to guide youngsters toward a group of events. Those youngsters found suitable in this second assessment would join the training squads at the sports schools until the final selection took place. Children were taught the fundamentals of all four throws.

### Stage three

#### Final selection

This occurred about three or four years after the initial basic selection, usually at the age of 13-14, depending upon the sport. Based once more on ideal model parameters of the particular sport, the final selection takes account of:

- Standards attained in a specific sport—distances thrown
- Rate of progress in the sport
- Stability of performance
- Results of physical capacity tests
- Results of psychology tests
- Anthropometric measurements, i.e., arm reach for discus
- Results of event-specific performance capacity tests.

The tests used to indicate throwing potential were:

- Vertical jumps
- Standing long jump
- Standing triple jump
- Medicine ball throw from chest
- Standing five hops
- 30m sprint—both standing and flying start.

There is a place for the "coaching eye." The visual impressions of the explosive straightening of the athletes' legs when throwing a medicine ball are taken into account.

Once the person is identified as possessing potential talent, he or she would often be offered a place at a residential sports school. The GDR had 20 sports schools for 8000 pupils.

The screening of talent operated by the former GDR helped produce outstanding results and other countries have tried to discover talent by such methods.

with—gone are the days of making a race horse out of a cart horse—you need talent.

If the country and therefore the British Athletics Federation want to improve performances in the accelerating world scene then it must ensure that talent is delivered to the coaches.

The training of talent is not the problem. Developing athletes is comparatively easy. But by far the biggest problem is the initial identification of talent. With new and considerable funds diverted into athletics, the development of a talent identification system is essential—the old system of Darwinism is no longer appropriate.

I would like to finish with a statement made by Ted Black which says it all.

“You can send a turnip around the world and it will not come back a professor of geography, only a well-travelled turnip.

### Questionnaire

A questionnaire sent to leading Soviet gymnastic coaches asking them to list the 14 essential qualities for success in sport came up with the following leading qualities:

- Love of sport and determination in character
- Physical strength

The essential ingredient called “mental toughness” can, in my opinion, only be spotted by the “coaching eye.” It is therefore essential that at some level in the selection process the coach must be consulted and given a subjective view.

“Talent is the magic expression which makes people (namely parents) feel too good, too often, too soon. True talent requires much more than mere manifestation of certain physical skills. It must include such attributes as:

- Desire
- Determination
- Drive
- Courage
- Self discipline
- Love for the sport.”

*Josef Brabanec (Canada LTA)*

There is a saying in Germany—“A talent is he who is seen as a talent by his coach.”

**Table 2**

### Expected performance for male athletes at Halle-Neustadt.

Event	12	13	14	15	16	17
30m standing	4.3sec	4.1sec	4sec	3.9sec	3.82sec	3.74sec
30m + 30m timed	3.9sec	3.7sec	3.55sec	3.45sec	3.35sec	3.25sec
3 Hops	7m	7.5m	8.2m	8.6m	9m	9.3m
SLJ	2.4m	2.65m	2.8m	2.9m	3m	3m
Vertical jump	55cm	60cm	65cm	70cm	74cm	77cm
Overhead shot	14m	16m	17m	18.5m	18m	20m
	(3kg)	(3kg)	(4kg)	(4kg)	(5kg)	(5kg)
Forward shot	13m	16m	16m	17m	16.5m	17.5m
	(3kg)	(3kg)	(4kg)	(4kg)	(5kg)	(5kg)
Snatch	40kg	50kg	60kg	70kg	80kg	90kg
Power clean	—	75kg	80kg	95kg	105kg	120kg
Jerk	55kg	75kg	80kg	95kg	105kg	120kg
Prone pull ups	55kg	75kg	80kg	90kg	100kg	110kg
Front squat	—	80kg	90kg	100kg	110kg	120kg
Shot	13m	15m	16m	18m	17m	18.5m
	(3kg)	(3kg)	(4kg)	(4kg)	(5kg)	(5kg)
Discus	36m	44m	52m	58m	51m	56m
	(1kg)	(1kg)	(1kg)	(1kg)	(1.5kg)	(1.5kg)
Hammer	45m	55m	60m	67m	68m	73m
	(3kg)	(3kg)	(4kg)	(4kg)	(5kg)	(5kg)
Javelin	45m	54m	56m	62m	68m	73m
	(400g)	(400g)	(600g)	(600g)	(600g)	(600g)

Table compiled October 1991.

NB Maximum strength tests only made once every six weeks for 12- and 13-year-olds.

### Expected performance for female athletes at Halle-Neustadt

Event	12	13	14	15	16
30m standing	4.4sec	4.3sec	4.2sec	4.1sec	4sec
30m + 30m timed	4sec	3.9sec	3.8sec	3.7sec	3.62sec
3 Hops	6.5m	7m	7.7m	8.2m	8.5m
SLJ	2.3m	2.45m	2.6m	2.7m	2.77m
Vertical jump	50cm	55cm	60cm	65cm	68cm
Overhead shot	12m	14m	16m	16m	17m
	(3kg)	(3kg)	(3kg)	(4kg)	(3kg)
Forward shot	11m	13m	14m	14m	15m
	(3kg)	(3kg)	(3kg)	(4kg)	(4kg)
Snatch	35kg	45kg	55kg	60kg	65kg
Power clean	50kg	62.5kg	75kg	85kg	90kg
Jerk	40kg	50kg	65kg	80kg	90kg
Bench press	40kg	50kg	60kg	70kg	80kg
Prone pull ups	42.5kg	50kg	60kg	67.5kg	75kg
Front squat	50kg	60kg	70kg	80kg	90kg
Shot	11m	13m	14m	13.5m	15m
	(3kg)	(3kg)	(3kg)	(4kg)	(4kg)
Discus	30m	36m	44m	45m	51m
	(0.75kg)	(0.75kg)	(0.75kg)	(1kg)	(1kg)
Hammer	35m	41m	46m	51m	58m
	(3kg)	(3kg)	(3kg)	(3kg)	(3kg)
Javelin	38m	42m	46m	45m	50m
	(400g)	(400g)	(600g)	(600g)	(600g)

Table compiled October 1991.

NB Maximum strength tests only made once every six weeks for 12- and 13-year-olds.

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“Therefore, although training is important, selection is even more important.”

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*Max Jones edits a periodical called The Thrower, and at this writing he had published 73 issues! Send a check payable to a UK bank for \$30, and get 8 issues: Max Jones, National Athletics Coach, 152 Longdon Road, Knowle, Solihull B93 9HU, England. Athletics Coach is the British Athletic Federation coaching bulletin, and well worth it. Subscriptions are only paid to the end of a calendar year. So, you have two choices: pay the whole amount, and get back issues, or send a lesser amount on a pro-rata basis for the remainder of the year. Send £21.50 for a one-yr. sub. (USA) to: Athletics Coach Magazine, Tower House, Lathkill Street, Sovereign Park, Market Harborough, Leicestershire, LE16 9EF, or call their HOTLINE at 011-44-1858-468888 from the USA.*