

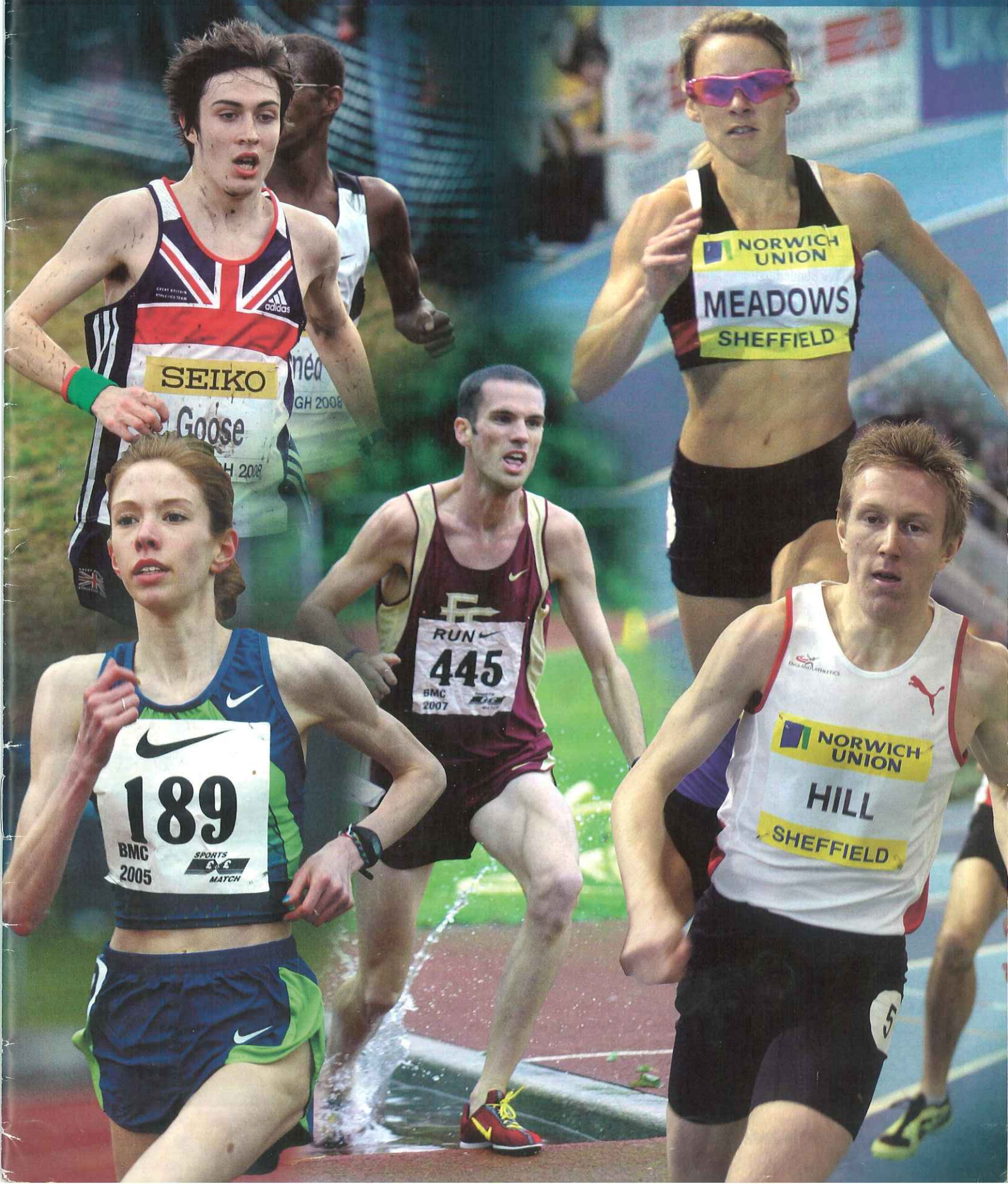


BMC News

OFFICIAL JOURNAL OF THE BRITISH MILERS' CLUB

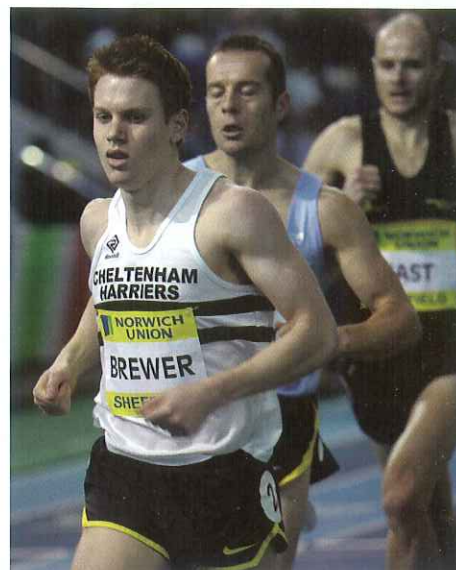
VOLUME 5 ISSUE 1 - SPRING 2008

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James Brewer – World Indoor Trials, Sheffield



British Milers' Club

Founded 1963



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All official correspondence to the BMC should be addressed to the National Secretary at the above address. All matters so received will be addressed by the national committee at their next meeting. All other requests should be sent to the BMC Administrator Pat Fitzgerald and will be dealt with as soon as possible. Matters concerning specific areas of the club should be sent to the relevant person from the above list.

The BMC is always looking to expand its network of people and locations that host BMC races. If you feel that you can help or want to get involved then please contact the BMC Administrator Pat Fitzgerald.

Welcome to this edition of the BMC News and welcome to our new editor Dave Sunderland. We are very keen that the BMC news communicates the best possible information particularly in the coaching articles. We are very pleased that a coach of Dave's experience and success has agreed to take on the role. Dave has been a National coach and coached athletes to European medals. Dave is building on an already strong magazine, and thanks must go to the retiring editor Les Crouch for the years of dedication he has put in.

The season will soon be getting underway and the BMC fixture list is extensive. We will have races in all the English regions, Wales, Northern Ireland and hopefully Scotland. A big help in making this happen is our sponsorship from our long term supporters Nike and also support from UKA and England Athletics. UKA have increased their funding level of the Grand Prix, and we have also agreed with them that we will fully integrate the endurance events into our meeting structure. Support from England Athletics has come through various arrangements with the regions, from supporting facility costs, electronic timing and even help with local organisation. This should enable the BMC to offer more focused competition in more areas than was previously possible. Hopefully this can be developed even more in the future with the new regions.

When we plan out the Grand Prix fixtures we have to take many factors into account and our aim is to deliver the best possible opportunities for athletes. It is worth explaining a bit about this as planning has been very difficult this season resulting in a slightly strange fixture list which includes three visits to Watford. The most important factors to consider are finding the right date and the right venue. In terms of venues we want sheltered tracks conducive to fast times. We did not believe that the venue originally proposed to us for the BMC and UK Challenge final offered this and instead put forward Watford as a proven track which is popular with athletes.

When it comes to dates we are looking for opportunities for athletes to run major games qualifying time. The dates need to be clear of other events, fit in with the trials, and be before the closure of qualification. The BMC is represented in the planning conferences along with all the other organisers of meetings and we negotiate what we can whilst respecting other events. This year we were very keen to get a fixture in early June as it fitted in well with our criteria. With the congestion of the fixture list the only way we could achieve this was by agreeing to take June 14th as the date for our Watford fixture and make this an elite event in order to not detract from the regional championships which are on the same day.

Sadly the June 14th fixture will not

have all the endurance initiative events which Watford has hosted over the last few years, and from which a good number of championship qualifications have been produced. The results have been impressive with the Women's 10k and men's steeplechase producing the fastest times run by a Briton in Briton for the last three and two years respectively. The women's 3k chase has also had its successes with a British record in 2006. These events have been moved by UKA to a new meeting created the previous weekend. Some members who were counting on the normally favourable conditions at Watford to attempt qualification times have already been in touch and as a result of this we will be putting on a men's chase at Watford.

The final factor to mention in our choice of venues is that we have to go to places where we have a strong local organisation in place to make the meetings work. At all our venues a team of BMC volunteers will be working extremely hard for weeks before the meeting, and on the day we will have a solid group of well qualified match officials prepared to help. Some of our events are promoted jointly with clubs such as Trafford AC, Sale Harriers - Manchester, and Watford Harriers and their cooperation makes a fantastic difference to the BMC work load.

Best of luck to all of you for the season, Olympic years are always a bit special and there is a great deal to look forward to.



Cover Photographs

By Mark Shearman

Front (clockwise, from top left):

- Mitch Goose - Edinburgh, 30.3.08
- Jennifer Meadows wins the 800m - Sheffield, 10.2.08
- Richard Hill leads in the 800m final - Sheffield, 10.2.08
- Andrew Lemoncello, winner of the 3,000m steeplechase - Watford, 30.6.07
- Sian Edwards - Loughborough, 20.5.06

Back (clockwise, from top left):

- Helen Clitheroe leads in the women's 3,000m from Lisa Dobriskey - Sheffield, 10.2.08
- Chris Thompson on his way to winning the men's 3,000m 'A' race - Trafford 11.8.08
- John Beattie - Edinburgh, 30.3.08
- James McIlroy leads from James Brewer in the men's 1500m final - Sheffield, 10.2.08

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Can you? Will you?

Whatever ability or ambition an athlete may have, there are many imponderables that present themselves during the conquest to attain the ultimate performance. It is how the athlete addresses these problems from novice through to having the capacity of achieving that definitive goal that will allow them to develop purposefully. David Lowes looks at some reasons why athletes may or may never reach their potentials and also highlights some interesting enquiries which he has been asked to respond to.

One of the great debates over the years is why do youngsters who are successful in their early to late teens never make it as a senior athlete or why do they lose interest and drop out of the sport altogether? The most ubiquitous reasons given these days are that there are too many distractions and that life is too easy with less exercise taken and the electrical gadget syndrome. All of these suggestions are valid, but youngsters were dropping out of the sport and failing to develop at a similar rate 30, 40, 50 years ago. There are now fewer athletes in the sport, accentuating drop-out instances that may previously have gone unnoticed.

It is without doubt that you need a special genetic make-up to reach the highest level in athletics. However, I feel a unique mental thought process is needed and may be almost as important to ensure success as having the natural ability to produce extraordinary performances. Therefore, if genes are handed out at birth by the blood parents, the mental thought process is developed from birth onwards by contact with parents, in particular, and also close friends. So if your parents spoil you or did everything for you and didn't instil discipline then there is a good chance that you will fail when the going gets tough!

Is it not a coincidence that the many great African nations have to put up with adversity every day of their lives? Surely any pain or set-back in their running is a small price to pay compared to life-threatening hardships and perhaps this is just another reason why they continually run well? Do you ever hear an African athlete making an excuse?

Although this critique is entitled 'Can You, Will You?' it is not intended at any one individual or particular age group, indeed it is meant to encompass the whole spectrum through novice, developmental, established, elite and veteran athletes.

No matter what ability an athlete has, poor, good or exceptional, everyone has inherent ability and to nurture that ability

the training ethos has to have as few flaws in it as possible. Therefore everyone 'can' do something, i.e. reach a goal; however, not everyone 'will' reach that goal through inappropriate training, competition, nutrition, lifestyle and lack of confidence to name but a few reasons.

If everyone realises that they 'can' achieve something no matter how exigent or relatively undemanding their goal may be, then the seeds are sown to reap dividends through pbs or medals. 'If you think you can, you will' is a motivational quotation and although the intention is perfectly correct, the desired outcome is only possible if many things are done appropriately.

If it was as easy as doing 80-100 miles per week with 2-3 quality sessions a week, 52 weeks of the year, then wouldn't everyone be running at similar levels? Perhaps this is the basic plan for success, but this plan can be fraught with many problems and is open to much elucidation.

Sometimes in a training plan it is not so much how or what you do that brings success, but what you are prepared to ease back on when necessary to move forward. Therefore, more is not always better, training smart definitely is and the more astute you are in your thoughts the more chance you will have to produce good results when and where you want them.

It is without doubt common knowledge that people in general have no idea or don't realise what their true potentials are. Most of these feelings come through lack of confidence or not having the prescience to imagine something out of their comfort zones (looking outside of the box). If only these people could change their thought processes from one of negativity to positivism then they would be on the road to attaining some or all of their goals and performing at a much higher level than they could ever envisage.

If athletes have the confidence, determination, desire to succeed and train smartly then there is a fair chance that

their goals may be achieved i.e. they 'can' do it. However, whether they 'will' is a different matter with so many internal and external barriers to overcome or suppress.

For younger athletes and females in particular, a change of body shape can ruin the ability to perform forever. Where an athlete once had an excellent power/weight ratio which allowed them to glide over the track, nature's cruel distribution of fat cells and bone development can leave them a former shadow of themselves.

What everyone has to remember that in a race of say, 800m, of the eight finalists everyone may think they 'can' win. But perhaps only one, possibly two, know they 'will' win. At the time of putting this article together, the 2007 World Championships in Osaka had been ongoing and what better way to illustrate the 'can' and 'will' than the men's 10000m?

This was simply one of the greatest ever races and is a classic example for youngsters and any athlete that a race is never lost until the finishing line is crossed and also that success comes to those who never give up. Three athletes tried to run Bekele into the ground, two nearly succeeded and a betting man would not have put money on Bekele with 800m to go? He appeared beaten to everyone who witnessed the race, but only one person knew that if he kept reasonable contact up to the bell there was a chance and that was the great man himself! The look on his compatriot's face, Sihine, was one of bewilderment and total disbelief! He must have thought to himself that if he couldn't beat him with his tactics and the quality of his run on that day, then perhaps he would never beat him?

What it demonstrated to me more than anything was that when the discomfort and turmoil is great and there appears no hope in a race, keep going, push beyond the iniquitous pain barrier and come out the other side feeling fresh! This is exactly what happened to the Ethiopian, from looking distraught and forlorn to looking as if the last lap was in fact the first of the 25! This dramatic metamorphosis happened within around 5 seconds on the back-straight of the final lap. This example should be compulsory viewing for every middle and long distance athlete to inspire them to greater things. So next time you are suffering in a race, think about this race and perhaps anything will be possible? Champions have great talent, but

more importantly they have great mental strength, with a never-say-die attitude.

Clubs are often said to be the lifeblood of the sport and this is certainly true to an extent as without clubs it would be difficult to have a competition structure as we know it and indeed the athletes themselves. However, some clubs are renowned for sucking the blood out of the athletes' development, even if inadvertently. Coaches train their athlete(s) to specialise in one or two events and for specific competitions, but how many athletes are asked to do multiple events to get points for their team? It may not be only 'can you do a 1500m and 4x400m as well as your 800m?' But it may also include a throw or a jump. I have witnessed sprinters and field event athletes doing a 3000m steeplechase just to get one point!

Okay, so this shows great loyalty to the club, but what does it do for the athlete in the short and long term if they are continually asked to follow this kind of protocol? I can tell you exactly what it does, it diminishes an athlete's season through inappropriate overload and upsets the rhythm that they have been working on for a peak performance. Clubs will claim that they always put the athlete first, but I personally think they need to be constantly reminded of this. Athletes first, club second should be the motto!

Those who fall into the 'will' category will almost certainly be adaptable to change and prepared to try different things in their pursuit of excellence. These changes may not only be running related, but also physiological, psychological, nutritional etc. The running adjustments may not necessarily mean more volume, but could be less if that is what it takes for improvement to happen. By keeping your options open to change means you will not become stereotyped into thinking that only one type of training works for yourself.

Can

There is no doubt you 'can' achieve your targets if you meet some of the following criteria:

- Ability (talent for event)
- Desire (aspire to succeed)
- Hard Work (prepared to train above comfort zone)
- Mentally Strong (not easily fazed and never give up, even when results are not good)
- Good Diet (eat more good things than

poor things)

- Plan (have a 'map' of where you're going)
- Patience (prepared to wait and endure setbacks)
- Injury prevention (avoiding major setbacks and time-out).

Will

To attempt to make sure you 'will' accomplish your personal goals you have to have a little more 'meat on the bones' to give yourself the chance to make sure those targets and goals become a certainty, along with a sprinkling of luck, even if only sporadically!

- Ability (using the talent wisely, not over-training or over-competing, training smart)
- Desire (have a clear picture of what success looks like and maintain those aspirations through good and indifferent times)
- Hard Work (must be measured and applied correctly in the micro/mesocycles)
- Mentally Strong (the athlete must have the 'guts' to do things outside of the box and when discomfort from exertion is great, also the ability to be mentally strong in life outside of athletics)
- Good Diet (eating the beneficial things constantly and not just periodically and avoidance of convenience foods as much as possible as well as over indulgence of alcohol)
- Plan (make sure the plan is structured and adaptable, the 'map' must have alternative routes to allow for any setbacks or unforeseen circumstances)
- Patience (tolerate setbacks, lack of progress, prepared to wait and have self confidence and trust in the coach)
- Injury prevention (everyone gets some niggles or muscle pull that necessitates a little time off, but doing something about strengthening and conditioning areas of weakness and other sites is paramount to ensure peak performances are attained and recurrence of injuries are minimised).

In my role as British Milers' Club Chairman for the Young Athletes Academy and Course Director for our national courses I get many interesting thought-provoking e-mails which ask for advice and opinions which I duly give as a purely personal observation. Whether my views are deemed correct

is open to interpretation, but what I do is give a lot of thought and attention to any enquiry and each and every reply is projected as a personal opinion only. The following are a selection of the enquiries I have had. Obviously some of the content has been altered to ensure confidentiality and anonymity. The purpose of highlighting these is to illustrate instances why athletes may be misguided and prevent them from fulfilling their potentials.

Example 1

The parents of a 14 year old female 800m/1500m athlete were concerned that their daughter was doing too little in her training plan. They admitted they knew very little about athletics and had been told by other coaches at the club that she was not doing enough. Her coach at the club wasn't aware of any dialogue and was kept out of the 'loop' because of respect to him. I was presented with excerpts from her training diary and immediately it was apparent to me, that if anything, she was doing too much! She recorded pbs throughout the season at both distances and seemed to be developing well. She was already running five times a week and sessions such as 6x1000m with 3 minutes recovery and a 50 minute steady state run indicated that the volume was far too much for an athlete of her tender years. Her parents were thankful for my response and left things as they were.

The conclusion of this was that varying uneducated and differing opinions can quite easily destroy an athlete's progression by sheer ignorance of training physiology and the want for success now and no forethought for the future through a structured and tolerant plan. Therefore this athlete 'can' achieve her goals, but without careful planning 'will' she ever get them?

Example 2

An athlete aged 26 years old who was targeting 10k and 21.1k road races as his main goals, was wondering why he hadn't recorded a pb for over 2 years even though he felt his training was of the right intensity? This one took a little bit of delving into as his training schedules were not very detailed. However, after getting much more information it was apparent that two things were preventing him from progressing. The first was that he was a high mileage athlete, around 100 miles constantly, of which most were around

6½ minutes or slower per mile. The second was that he raced nearly every week almost exclusively at 10k on the roads with very little or any peaking for any specific race. His coach had told him that 100 miles a week worked for him in the 1970s and would work for his athlete now and also racing often was the only way to succeed.

After discussing and suggesting with the athlete that perhaps cutting back to around 80 miles per week with some better quality sessions at faster than race pace with more recovery days and fewer races at varying distances (3k, 5k, 10k, 10 miles and 21.1k) he agreed to try the new format and within 3 months he recorded his first pb over 10k, followed by others at 3k and 5k and finally after 6 months he targeted a 21.1k and reduced his pb by 2 minutes! This athlete has now also started to run competitively on the track at distances from 1500m up to 5000m!

Obviously the moral from this example is that coaches need to 'look outside of the box' as what was successful for them may not have the same effect on their athlete. Athletes also need to question their coach to quantify why they are doing any unit in their workloads and they certainly need to use their initiative at times. Many coaches treat all their athletes the same in group sessions and obviously what is good for one may have a detrimental effect on another. Unfortunately training 'hard' is not lots of miles at slower than race pace and racing constantly for most means average performances through a lack of motivation by not being ready psychologically.

Example 3

A coach contacted me asking for my opinion on his 14 year old female athlete who has glandular fever and wants desperately to run her schools county cross country qualifier so that she can run at the English Schools championships the following month. She had missed a large amount of training and wasn't very fit, so it was going to be a struggle in any case, but with her illness would be doubly so.

My response was one of the easiest I've had to deal with, in fact I didn't even have to think! All I said was that because of her illness she should seek medical guidance and in my opinion she should not even contemplate running. She should be satisfied with the assurance that if she recovered well and her training progressed

along the right lines there would be many more English Schools championships in the future for her where she could qualify and run to her potential.

The moral here of course is to listen to your body and accept the decision made by your general health and well-being. Perhaps the athlete and her coach were getting a little avaricious by wanting to run when in fact that should have been the last thing on their minds. This is another example where unnecessary competition may lead to complications in the development of the athlete.

Example 4

A coach informed me that his athlete who specialised in 10k road races ran well about once or twice a year and that he tended to get a lot of injuries and colds. After talking with the coach and the athlete and looking at the training schedule it quickly became apparent why.

The athlete tended to average 80 miles a week and about 70 miles during a competition week. His job necessitated working shifts at night (9pm-6am) and was a manual job that involved being on his feet for most of the hours he worked. He trained twice a day on three days of the week and the first session was at 6.30am and the second at 4.00pm after going to bed from 8.30am until around 2.30pm.

He was obsessed with not missing a day's training even when fatigued from running and work and this led to habitual tiredness which in turn resulted in his immune system being run down and upper respiratory tract infections (URTIs) being frequent malaises. Also because of his fatigue, his body was exhausted and this usually caused muscle fatigue and matched with the time on his feet was the main reason why he had constant niggles in his calf muscles.

The undeniable reason for his good races was that it coincided with his transition period where he had two weeks off from training completely and his 'purple patch' was after 5-6 weeks back into full training when he was relatively fresh and when his training had just reached his normal levels and also when his night shifts had ceased periodically.

To rectify and ensure that he reduced the incidence of illness and injury and hopefully run well more consistently, it was suggested that he rearrange his training and if possible a change of department or

job may do the trick.

He did change his training significantly with much faster quality sessions specific to his event and began a 3 week cycle of two weeks hard training followed by one week easy (50-55 miles) which coincided with a race. He also had a word with his firm and they arranged for him to re-train for a 9am-5pm clerical job in another department which helped tremendously with his tiredness levels. Within 2 months his pb for 10k had come down from 32-04 to 31-16 and although he was reticent to change his regime at first, he was elated with his progress and was now open to suggestions as to how he could progress further!

This athlete was very much in the 'can' do it category, but he would never have gotten to the 'will' stage unless drastic changes to his training and lifestyle had been made.

Example 5

Another female athlete aged 14 years old who had nothing but success from 11 years at 800m and other events started to lose her form quite dramatically and improvement stopped abruptly. She became quite emotional after races and then in training when things weren't going to plan or when other athletes who she normally finished ahead of managed to leave her behind. Even conversations became disjointed with tears at the slightest negativity.

This athlete was very competitive and although an extremely nice girl outside of athletics, she was only interested in herself and no one else when training or racing. This was not necessarily a bad thing before a competition but it started to alienate her from her squad, especially when she had emotional outbursts on a frequent basis.

She certainly had high ability levels and was certainly in the 'can' achieve status. However, almost all of her training had been done in the 100% zone with no aerobic steady state runs and inevitably all those runs were done in spikes on the track and against the stopwatch. She had become brainwashed into thinking that only efforts at 100% were good enough and that she had to attain set times at every session and finish a certain distance ahead of her fellow squad members. When asked to do some steady state runs she always reported back that she had run faster than the last time and in actual fact had ran hard as opposed to the intended pace of around 70%-75%.

MHR.

The coach made his intentions clear and he thought she understood what was required, but in one run she was told to run 25 minutes easy and the e-mail that she sent to her coach reported that she jogged for 15 minutes followed by five hills with each one getting faster! The coach was aghast and clearly felt that there was no point in giving her his valuable time if she continued to disobey his strategies. At the time the coach relented and the athlete started to get a clearer picture of the ethos of training and began to slowly improve.

She was always very nervous before competitions and was concerned about what times her opposition had done and these nerves were compounded by an even more anxious parent who wouldn't let her relax before the start by telling her what to do when all the athlete needed was either reassurance or to be left alone! She was also obsessed with running from the front, as this had been a successful previous tactic, but her pace judgement was naive at best with much too fast first laps. At first, when running well, she slowed less than her rivals on the final lap, but now she was slowing dramatically in the last 100m and this was where she was getting demoralised. In training also, she would run uneven times in her repetition work even after been told that to get the full benefit from a session she needed to run within ± 2 seconds. In both racing and training she said she couldn't run slowly or behind athletes, which of course was a preposterous statement and showed a lack of understanding and immaturity.

At her tender age she was starting to develop body mass and from being known as a little, skinny athlete she now had muscular thighs and had grown significantly. Because of these changes she wasn't as fluent in her running style as she had been and this was affecting her performances greatly. She was in no way over-weight, but her anthropometry had changed dramatically. It will be an interesting next couple of years to see how she develops physically. The next two to three years may be crucial in her development and her coach will need to monitor her sessions carefully as well as her emotions and it could be a make or break scenario for her. The first task for her coach was probably to work on the psychology side first and then the physiology second. She had to change her attitude to disappointments

as soon as possible to have any chance of regaining her former glories. Hopefully with cautious planning and maybe even a change of event and priorities may help to get her back so that she can produce the performances she is capable of.

Example 6

This example was an interesting one and in my opinion a very common occurrence. It involved a 22 year old athlete who ran distances from 1500m to 5000m on the track and also cross country and road races in the winter. He was a county standard runner who had picked up some podium places in his county's championships, but never gold. He was a diligent trainer and enjoyed helping his club in the winter by running in regional and national cross country championships and also road relays at the same level.

His form was erratic in competitions, although in training he was always at the front of the club group and many more talented athletes. This is a classic example of an athlete being a better trainer than a competitor. There are many reasons for this and some which are not clear. More often than not the athlete is relaxed in the training environment and is prepared to give 100% where there is no pressure, however in competition the pressures can come from within and from others as well as other external anxieties.

Many athletes don't tend to give much thought to training sessions and do them almost as a matter of course and that is why there is little stress because of the lack of thinking about what is to happen and also because they are not necessarily running flat out and aren't too bothered if they finish behind a certain athlete on some or all of the reps as long as they meet their times set before the session.

Once in the competition scenario, doubts can set in about the other athletes, the course, the distance, the climatic conditions, whether training has been satisfactory, has the taper down been good, was the athlete in the right frame of mind, did the warm-up feel right etc. So basically it comes down to confidence and how to control negativity and that is what makes champions, they are extremely confident and are in charge of their own destinies.

This athlete needed to change his whole outlook on training and competition and needed to realise the whole ethos behind training which is to prepare the body and

mind for competitions and be able to give 100% regularly in those and not be noted for finishing first in training sessions.

To do this he needed to shift his focus from a narrow fixation in training to his pre-competition build-up which would lead him to the start-line ready to give of his best. This would involve a change in routine and reflection and also a means of achieving those through a better mind and body union.

Example 7

The final example I have chosen was sent to me recently and involved an athlete who was a young female 800m/1500m and cross country athlete. She had been with the same coach for three years and had been happy with him and had improved every year under his tutelage. There appeared to be no problems outwardly, but inwardly she had become very unhappy.

She was contented that her performances were improving and this put her very much in the 'can' category. However, problems were manifesting in the 'will' category. The athlete had a great desire for her sport and wanted to be the best that she could, even though she was not an outstanding athlete. Her coach would alienate her from her friends at races in particular and she wasn't allowed to mix with friends which in turn gave her friends the impression that she was arrogant and unfriendly. She became unpopular because of this and when the coach wanted her to do her sessions alone away from the main group (there wasn't anyone who could push her) she felt that she had been ostracized from them and began to dread coming to the track to train.

I am sure the coach had her best intentions at heart, but like many other coaches fails himself by not doing any evaluation or self reflection of his own actions. The athlete obviously wanted to keep improving and was willing to do anything her coach gave her, but the coach was guilty of taking the fun and enjoyment out of her athletics and because of this she became somewhat introverted and not the bubbly youngster she had been and her performances began to suffer.

As she was too young and naive to confront her coach, her parents stepped in and suggested some changes had to be made. The coach at first thought he was doing nothing wrong and couldn't see what the problem was? She went back into the group but was still not allowed to talk or

Rashid Ramzi

Training build up to Helsinki World Championships 2005

mix with anyone on a race day which upset her and although she was prepared to follow those instructions for the final 10 minutes leading up to the start, she was not prepared to lose her friends of many years because of the coach's indiscretion. Eventually, she moved on to another club, along with her friends and is now enjoying her athletics much more and now hopes that she 'will' achieve her targets.

Summary

To recapitulate on whether an athlete 'can' attain a goal or 'will' achieve that goal, there is at first no apparent difference. However as portrayed in this expose there are many athletes who 'can' possibly reach specific goals if many things are done correctly. There are nevertheless a much lesser amount who 'will' probably accomplish their ultimate targets through a structured development plan which involves hard work (overload), sufficient recovery (recuperation) and engages much forward thinking (preparation) that will help to nullify most of the possible indiscretions that may effect the desired outcome (ultimate goals).

The summation is that everyone 'can' attain a target, but goals are mere dreams and if you rest on your laurels or do nothing to get them, then you never 'will' achieve anything. To make sure desired goals are accomplished means doing things intelligently and perhaps giving just that little bit more than your competitors? Make sure you fit into the 'will' category, you owe it to yourself and your coach for all the hard work you have put in over the years, don't waste it!

All of the examples are true stories which I have had via e-mail or on a one-two-one basis asking for a personal view. Any depiction of any individual has been withheld and I have not intended to alienate anyone's preconceptions but rather offer an honest opinion with the option for the recipient to leave things as they were or to use some or all of the advice to help the athlete/coach hopefully move forward.

David Lowes
Chairman, BMC Academy

The following material is translated from the transcripts of the Spanish Royal Athletics Federation (RFEA) Coaching Symposium 2005. This took place 3 months after Ramzi had won both the 800m and 1500m in Helsinki. The presenter was Khalid Boulami, Ramzi's coach and himself a former World 5k medalist with PBs including 7.30 3k and 12.53 5k.

The translator is aware of the suspicions surrounding the leading Moroccan endurance athletes, and the numerous failed dope tests of Moroccan-born athletes.

Edited comments include:-

- I like them to **do their easy running alone** so they don't get competitive and run too fast. They wear a pulse-meter for these runs and work to a maximum of 130-140bpm.
- The pace of the easy runs, which clearly form a very large part of the total all year round, is 15kms per hour at the fastest (6'26 miling), and in the range of 13-14km (6'53 to 7'25 miling) per hour
- He often **trains in a group with 5k/10k guys** as well as 1500m types
- He is a special character, very tough and hard
- Weights sessions. They do 3 per week in the general build up phase one; 2 per week in the second phase of general prep; 1 weekly in the pre-competition phase and none in the competition period 'That's **one recommendation I'd make strongly to all coaches – don't do any weights in the competition season**. They never use maximum loads which aren't seen as relevant for a 58kg endurance runner who's training to be a distance runner not a weightlifter. He can half-squat 100kg/105kg but mainly the sessions are at 60 to 70% of 1 Rep Max, and in the range of 10-15-20 reps per exercise.
- This looks like very very hard work and it is. I make no apologies for it, it is the only way to succeed. It's what the Kenyans and Ethiopians do and I know what it takes from my own time as a high level athlete. But note that this training and these results are the culmination of 5 years working with me
- Ramzi has **3 or 4 massages weekly** all year round
- He does several **weeks between 180 and 200km (111 to 124 miles) in the December to March period** and numerous weights sessions – he has incredible powers of recovery
- 2003 he had a serious knee operation early in the year and after 4 months of inactivity was not at his best form in summer
- They work most of the year on a **cycle of 25 days at altitude (1600-2000m) followed by 15 days at sea level** ie: about 60% of the year is spent at altitude. Ramzi was born at or near sea level but has been part of this high performance systematic use of altitude since being 'talent spotted' for the national squad aged 16/17.
- The pre-Helsinki race programme was deliberately light knowing they were preparing for 6 races in Helsinki
- He had to explain to Ramzi that after the 1500 the 800, even the heats, would feel uncomfortable because he was going from a race pace of 56 per lap down to 50/51 laps; and that the combination of rest, massages and all the specific training would enable him to succeed at the 800 (and he refers to Ramzi's luck in Borzakovskiy losing ground when being knocked in the final, which he never was able to reclaim)
- **VO2 max of 80 after 1 month's general prep, 85 when closer to peak fitness**. Boulami is not concerned with this data in isolation – he sees results where they matter, on the track in races
- **Pre-competition phase is the first stage where they start finding race pace**. It's a short phase, 3 or 4 weeks which is enough for this purpose.
- They have established different timelines for different distances regarding the time between coming down from altitude to sea level and racing well. For 5k/10k he suggests Days 3 to 5 and then wait until Days 11-12. For 1500 runners he advises 11-12 days and for marathoners longer than 12 days.

All the faster running sessions below are preceded by 20 minutes of warm up running.

WINTER 1	Morning	Evening
M	1 hour easy + flexibility	Weights
T	1 hour easy + flexibility	2x 10 mins 2 x 5 mins
W	1 hour easy + flexibility	Weights
T	1 hour easy + flexibility	5 x (3-2-1 min) (recovery = ½ duration of each rep)
F	1 hour easy + flexibility	Weights
S	1 hour easy + flexibility	40 mins fairly hard
S	80 minutes easy	Rest
WINTER 2	Morning	Evening
M	1 hour easy	20 mins easy + 20 x 300m hill climbs
T	50 minutes easy	Track – 8 x 1000 2 min recovery
W	1 hour easy	Weights
T	50 minutes easy	Track 20 x 400m
F	1 hour easy	Weights
S	50 minutes easy	Fartlek – 2 x (5-4-3-2-1 minute) (recovery = ½ duration of each rep)
S	1 hour easy	Rest
PRE COMP	Morning	Evening
M	50 mins easy	20 mins steady + 20 x 200m hills
T	45 mins easy	Track (3 x 1000) + (3 x 600) + (4 x 300)
W	50 mins easy	Rest
T	45 mins easy	Track 10 x 500
F	50 mins easy	Weights
S	45 mins easy	Fartlek 4 x (3-2-1 minute) (recovery = ½ duration of each rep)
S	50 mins easy	Rest
COMP	Morning	Evening
M	45 mins easy	Track 2 x 600 + 4 x 400
T	45 mins easy	40 mins easy
W	45 mins easy	Track 3 x 500 + 4 x 300
T	45 mins easy	Rest
F	45 mins easy	Track 12 x 200
S	45 mins easy	40 mins easy
s	45 mins easy	Rest

World Indoors Report

The World Indoor Championships proved fascinating viewing in the endurance events. It threw up a new precocious talent in Abubaker Kaki from Sudan, saw Tariku Bekele (Ethiopia) emerge from his brother's shadow, the re-emergence as a World contender in Tasmyn Lewis (Australia) and Yelena Soboleva (Russia) setting a tremendous 1500 metre record of 3:57.71. However, the abiding memory for all endurance runners to take away from these Championships is that you require pace. Whether that be the ability to maintain pace (Soboleva), run at a sustained pace (Kaki) pick up the pace (Lewis) or change pace (Bekele) you still need pace.

UKA sent a total of 12 athletes to the Championships with only 2 (First 8) making Finals and no medalists. However, there were one or two promising performances as the report below shows.

MENS 800m

This event saw the emergence of the new 'wonder kid' from Sudan's the eighteen year old Abubaker Kaki. He continued his unbeaten indoor season by leading from the gun through 400m in 51.26 and coming home in 1:44.81 as he held off Mulaudzi (South Africa) who clocked a National record of 1:44.91 and Kamel (Bahrain) who clocked 1:45.26. Kaki's rise is quite meteoric having finished 6th in the World Junior Championships aged 16, and then going out in his heat in Osaka last year. What is just as remarkable as his age is the difficulties of training in the Sudan which has temperatures of 40 degrees for most of the year.

Richard Hill made the semi-finals after finishing third and qualifying as fastest loser in 1:49.06 in his heat. With only two to qualify from the semi-final it was imperative that he was in a good position throughout. However, whilst improving his time to 1:47.82 he could only finish in fourth position. I am sure that the experiences gained from these Championships will help his preparation for the important summer ahead. Similarly, Damien Moss was found wanting for speed in his heat and failed to qualify finishing fourth in 1:51.39. Damien I'm sure will also have learned much from his experience.

MENS 1500m

The 1500m saw a rare Ethiopian victory at this distance 'after a protest and counter protest' for Deresse Mekonnen. A slow



Richard Hill
– Valencia 2008

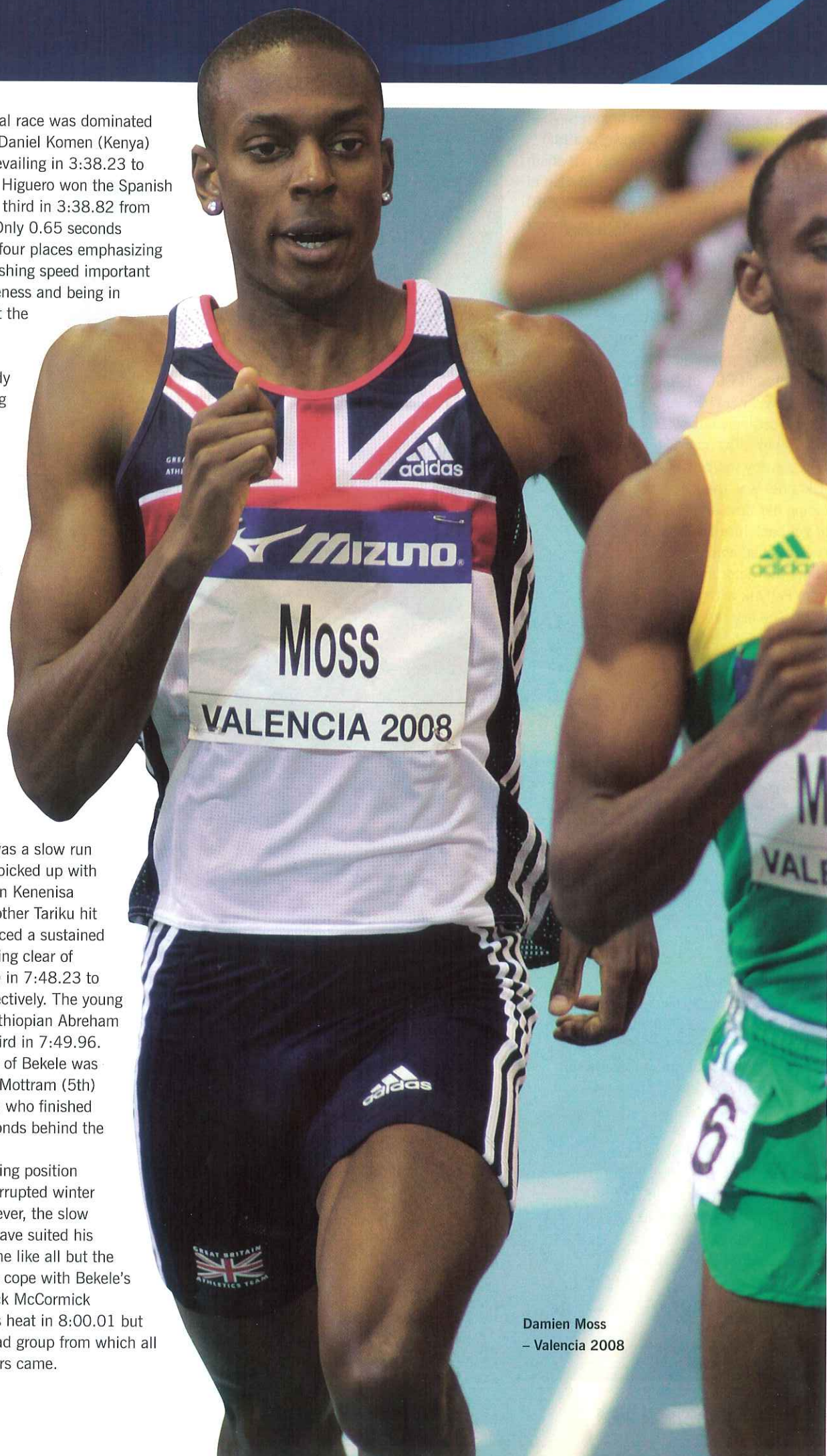
tactical and physical race was dominated by Mekonnen and Daniel Komen (Kenya) with Mekonnen prevailing in 3:38.23 to Komen's 3:38.54. Higuero won the Spanish domestic battle for third in 3:38.82 from Casado 3:38.88. Only 0.65 seconds separated the first four places emphasizing that not only is finishing speed important so is tactical awareness and being in the correct place at the correct time.

Michael East continued his steady come back finishing fourth in his heat in 3:41.68, a race won by Mekonnen from Commonwealth champion Nick Willis. Whilst James McIlroy was very disappointing in failing to finish his heat leaving the track with a lap and a half to go James subsequently announced his retirement which is a sad loss.

MENS 3K

The 3000m final was a slow run race until the race picked up with four laps to go when Kenenisa Bikila's younger brother Tariku hit the front. He produced a sustained run to the finish being clear of Paul Koech (Kenya) in 7:48.23 to 7:49.05 secs respectively. The young eighteen year old Ethiopian Abreham Cherkos finished third in 7:49.96. The sustained pace of Bekele was too much for Craig Mottram (5th) and Mo Farah (6th) who finished four and seven seconds behind the winner.

Mo Farah's finishing position considering his interrupted winter was pleasing. However, the slow early pace should have suited his 1500m speed but he like all but the medalists could not cope with Bekele's finishing power. Nick McCormick finished ninth in his heat in 8:00.01 but was never in the lead group from which all the four fastest losers came.



Damien Moss
– Valencia 2008

WOMENS 800m

After some swift running in the heats and semi-finals the final proved a tactical affair and saw the re-emergence after a number of years in the wilderness of Tasmyn Lewis (Australia) as a contender for Beijing.

Maria Mutola led through laps of 30.24 and 32.87 to reach the halfway stage in a slow 63.11. With such a slow pace everyone was in contention as the next lap passed in 31.03. to pass through 600 metres in 94.14. With Lewis who had burst through a gap surprisingly left by Mutola on the inside with 300 metres to go in the lead. But by the bell Tetiana Petlyuk (Ukraine) was the leader with Lewis bidding her time and Mutola trying to get back into contention. Lewis rallied again to ease home the victor in 2:02.57 from Petlyuk with Mutola third. The last lap only took 28.43. proving by far the quickest lap of the race.

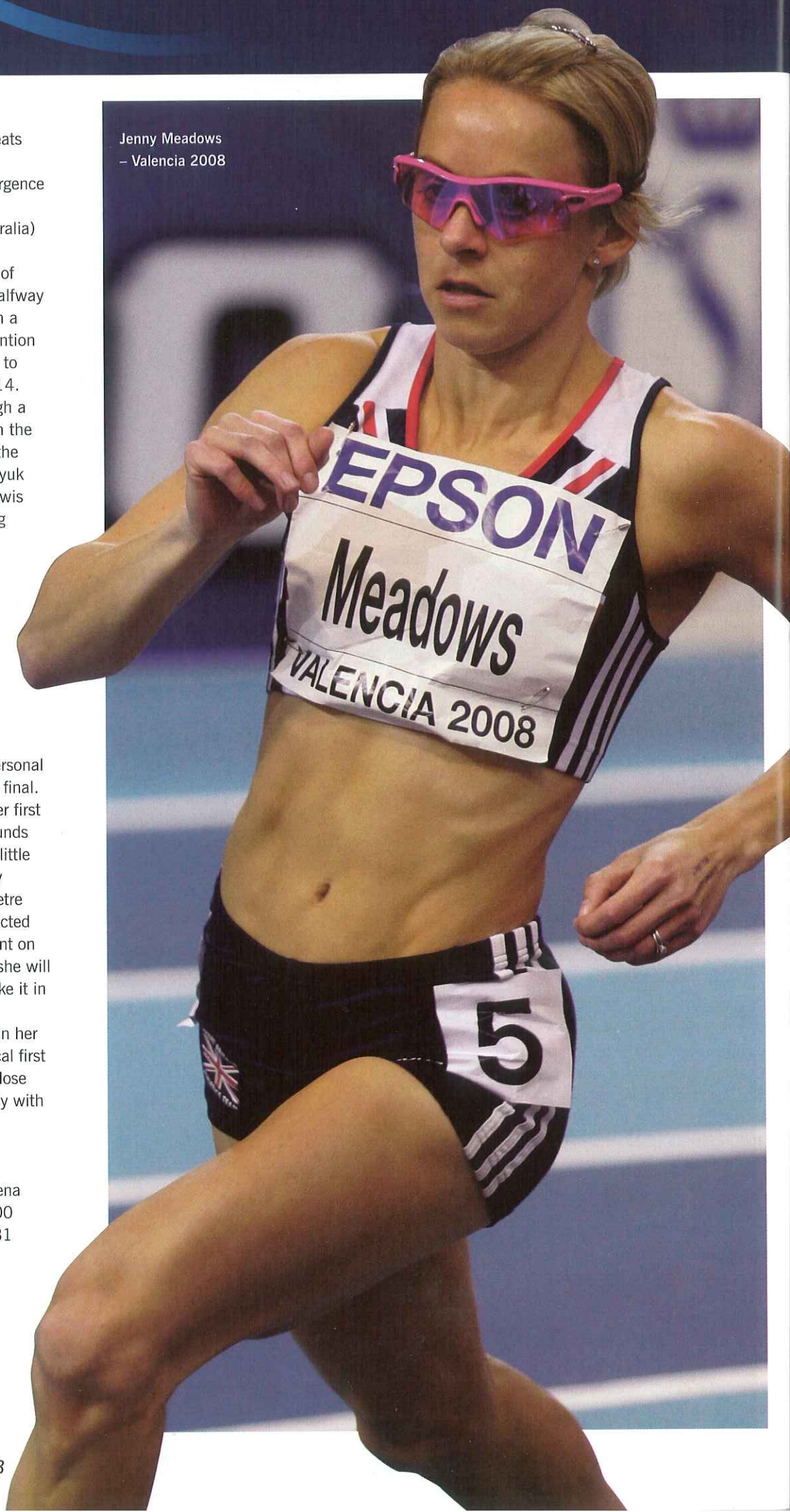
Jenny Meadows had a fine Championships looking composed in the first round (2:00:60) and running a great personal best of 1:59.73 to qualify for the final. Whether it was the pressure of her first major final or fatigue after the rounds whatever the reason Jenny ran a little naively in the Final. With the way the race was run and her 400 metre background you would have expected her to have been closer to the front on the last two laps. I am sure that she will learn from this experience and take it in the summer races.

Marilyn Okoro was eliminated in her heat in one of the two slow tactical first round heats. Marilyn finished a close third in 2:05.09 but unfortunately with only two to qualify.

WOMENS 1500m

This was a high quality race. Yelena Soboleva (Russia) led through 600 metres with laps of (30.95, 32.31 and 32.40) to tear the field apart from team mate Yuliya Fomenko. Fomenko took up the running at 600 metres as the field was stretched out behind the two Russians. Fomenko led for the next three laps (32.23, 32.01,

Jenny Meadows
– Valencia 2008



31.63) till the 1200 metre point. Here Soboleva took off again running her last 300 metres in 46.18 to break her recent world record and add to her national 800 metre and mile records. Behind her Fomenko was a clear second (3:59.41) in a personal best and Gelete Burka (3:59.75) just holding off Maryam Jamal (3:59.79) for bronze. Both setting African and Asian records and personal best's respectively.

Britons Sue Scott 4th in her heat (4:10.39) and Jemma Simpson 6th in her heat (4:11.17) found the quality and standard of the event too much and failed to make the Final.

WOMENS 3K

Meseret Defar (Ethiopia) romped to her third consecutive title (equalling Gabriela Szabo's total). The pace was strong throughout with Jessica Augusto (Portugal) leading through the first kilometre in 2:59.33 and Alaoui Selsouli (Morocco) through two

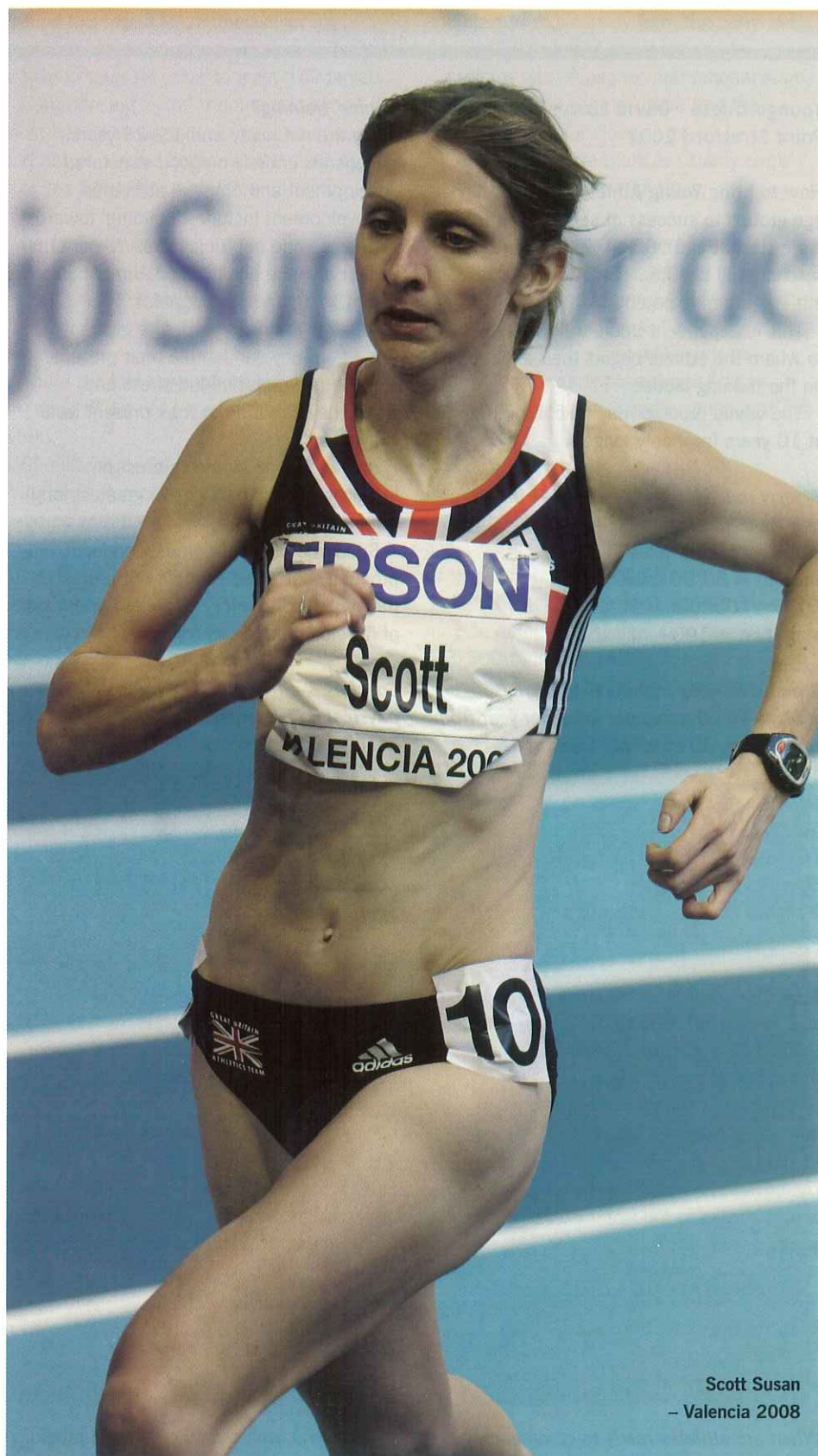
kilometres in 5:55.50. (2:56.17) Defar cut loose on the last lap (28.70) to come home in 8:38.79 seconds (2:43.79), well ahead of her team mate Meselech Melkamu 8:41.40 with Selsouli (Morocco) third in 8:41.66. Sylvia Kibet in 4th set a

Kenyan record of 8:41.82.

Further down the field although neither made the top eight there were solid runs in both heat and final from Helen Clitheroe (8:52.77) in 9th position just edging Lisa Dobriskey 10th (8:52.92)



Jemma Simpson
- Valencia 2008



Scott Susan
- Valencia 2008

The annual BMC Education day was held at Stratford upon Avon on Sunday February 24th and attended by over seventy coaches. There were three workshops the coaches could choose from. These were:-

"The Young Athlete" led by David

Lowes (Chairman of the BMC Academy), "Senior Middle-Distance Running" led by Phil Banning (Former National Coach of Wales) and "Long Distance Running" led by Dave Sunderland (Former UK National Coach). In addition there was a common lecture on Nutrition from Professor Ron

Maughan of Loughborough University. A synopsis of the three Workshops follows. The talk by Ron was based on the IAAF booklet of which he is co-author along with Professor Louise Burke (Australia). The whole of this informative booklet can now be found on the BMC web-site.

Young Athlete - David Lowes - Power Point Stratford 2008

How to bring Young Athletes through the age groups to success at senior level ...

If we start at age 16 and work towards reaching full potential sometime as a senior athlete (ultimate potential).

This is dependent upon 'training age' as to where the athlete begins their athletic life on the training ladder.

The whole process may take a minimum of 10 years (probably longer).

Weekly mileages for senior elite athletes may be in the region of:

800m = 70-80 miles
1500m = 80-90 miles
5000m/10000m = 90-100 miles
Marathon = 100+ miles

It would be easy therefore, to increase mileage @ 10 miles per week per year from age 16: i.e. 30 miles per week at 16

40 miles at 17
50 miles at 18
60 miles at 19
70 miles at 20
80 miles at 21
90 miles at 22
>100 miles at 23+

A 10 mile per year increase is less than 1 mile per month extra to the weekly mileage.

So there should be no problem in ensuring this happens safely.

However ... things don't necessarily follow this pattern.

The obvious routes to implement change and increases to the workload are via quantity and also quality.

- Increasing distance
- Increasing amount of sessions
- Increasing repetitions
- Increasing speed
- Decreasing recoveries

When are athletes ready to commence

'senior' training?

Many are not ready until 22-23 years.

Depends entirely on good structured development and physical attributes.

Development includes 'building' towards excellence and not 'quick fixes' to perform well at a young age to the detriment of poor conditioning and development.

Athletes are ready to progress at any age when they can handle their present workloads without undue stress and when they can train at their present level continuously.

Any additional elements must be integrated subtly to have the greatest long-term effect.

Sudden and over-onerous workloads may produce short-lived success but ultimately they will lead to injury, staleness and a lack of development.

Coaches & athletes tend to focus only on physical development.

There are of course many more pieces to the jigsaw that need to be found before the final picture (outcome) starts to show its end result.

Coaches have a big say in an athletes development.

Working on all psychological aspects including mental toughness can be the difference between success and failure.

Developing and changing an athlete and getting them used to being 'outside of the box' is a good place to start (difficult).

Lifestyle changes can be problematic to implement.

Family and friends may have instilled unknowingly all the wrong mind-sets over many years (modern lifestyle).

An athlete that reaches the highest level will have made life-changing decisions to ensure those performances happen (sacrifices/choices).

Progression

Mileage will evolve via increases in medium

and longer runs plus greater volume in sessions. Eventually the addition of more work can be integrated with increases in number of sessions i.e. 3 times per week → 4 times per week → 5 times per week → 6 times per week → 7 times per week.

Once an athlete can handle 6-7 sessions per week comfortably then the subtle inclusion of twice a day sessions can begin.

Young athletes will be doing 'exercise' at school and this may impact on 'training' performance.

With diminishing generic fitness levels this should perhaps be considered a bonus and not a negative.

In modern society, people do not exercise much outside of specific fitness related work (poor base levels).

Twice a day sessions will have a major effect on performance if the athlete can handle the extra stresses that they bring ... reduced recovery.

It will take many years before an athlete can withstand twice a day training and not all athletes will do the same amounts of volume due to ability, physiology, event etc.

Not all training will be running ... core stability, plyometric, flexibility, strength, weights etc.

Reaching the ultimate performance (fulfilling potential)

History tells us that for 800m/1500m this will happen at around 26 years old. For 5000m/10000m = 28 years. Marathon = 30+ years.

However, Kelly Holmes won double Olympic gold at 800m/1500m when 34 years old. John Treacy won the World X-Co when still 20.

So ... expect to reach full potential ... whenever! (patience)

Session construction

Any training plan has to be tailor-made for the individual and obviously what suits one may not suit another.

Hard work with suitable recovery is the

only way to success, without these two ingredients success will be sporadic at best and probably non-existent in reality.

When to increase and 'experiment'?

New increases and changes in volume and quality for the track athlete should be carried out during the course of the winter months to see 'if it works'?

If it moves the athlete forward ... great! If it doesn't ... then there is time to evaluate and put things right in time for the major goals of the year (track).

Interruptions & Setbacks

Unfortunately, very few will have a completely untroubled pathway to reaching their ultimate performance.

Injuries, illnesses, over & under-training ... plus the dreaded growth spurts!

Change of body size and shape (male & female) can ruin an athletes inherent ability forever and at best delay progress for lengthy periods.

Problems

Just as injuries and illnesses can disrupt the overall plan and stall the development of the athlete, so can lifestyle distractions such as alcohol, girlfriends/boyfriends, education, work and lack of motivation to name but a few ...

... these cannot be used as excuses

for inferior performances ... all will be experienced ... those that control them will be those who succeed... those who don't ... ?

We have to remember that if the athlete has progressed every year, this development will want to be maintained.

Around this age, it is not unusual for big improvements to happen or conversely, for the athlete to stagnate or fail to meet their targets.

Commencing 'extra' training sessions must have a strong physiological purpose and not be started because others are doing it or 'it's what senior athletes must do'.

Time to Evaluate

The athlete and coach should have a good idea at this stage where the athlete's abilities are: (strengths, weaknesses and event).

There are four days where two sessions are done in a day (2 x running and 2 x gym work).

Should more 'double' sessions be added? Will they aid improvement? Can they be handled with ease? Has the present plan worked?

Overview

We've covered 7 years and the progression has been via:

- ☺ increased sessions per week
- ☺ increased mileage

- ☺ greater number of reps
- ☺ less recoveries
- ☺ double day sessions
- ☺ faster speeds.

Over time, racing will become more selective and specific to the athletes needs and start to move away from the early period of club based competitions.

Athletes who aspire to international status must do what's right for them and they come first, not the club.

World-class performances usually come against world-class competitors.

So where do we go from here?

Progression in training will follow a similar pathway. The strength and speed, aerobic and anaerobic capabilities that have amassed over the years will continue to grow if the yearly plan allows this to happen through better and well thought-out strategies.

Understanding session content

If an athlete has reached 2-00 for 800m at age 17 years and one of their sessions is: 4(3x300m) in 44" with 60" rec.

then the same athlete at age 20 years may be doing almost the same session: 4(3x300m) in 40" with 45" rec....

However, that athlete now has a pb of 1-48.

	16 years	17 years	18 years	19 years	20 years	21 years	22 years
Sunday	60' run	70' run	75'-80' run	80'-85' run	80'-85' run (Core/Weights)	85'-90' run (Core/Weights)	85'-90' run (Core/Weights)
Monday	Rest	40' run + 10' tempo	45' run + 15' tempo	55' run + 25' tempo	60' run + 20' tempo	[am] 60' run + 20' tempo [pm] 30' run	[am] 60' run + 20' tempo [pm] 30' run
Tuesday	Hillwork 2(6x30")	Hillwork 2(8x30")	Hillwork 2(8x40")	Hillwork 3(6x40")	Hillwork 3(6x60")	Hillwork 3(8x60")	Hillwork 4(7x60")
Wednesday	40' run	45' run	50' run	60' run + (Core/Weights)	[am] 60' run [pm] 30' run	[am] 60' run [pm] 30' run	[am] 60' run [pm] 30' run
Thursday	8x2' (1' rec)	6x3' (1' rec)	8x3' (1' rec)	14x400m @ 1500m pace (1' rec)	16x300m @ 1500m pace (45" rec)	2(8x400m) @ 1500m pace (1' rec)	[am] 3(8x300m) @ 1500m pace (45" rec) [pm] 30' run
Friday	Rest	Rest	Rest (Circuits)	Rest or 30' run + (Circuits)	Rest or 30' run + (Circuits)	Rest or 30' run + (Circuits)	Rest or 30' run + (Circuits)
Saturday	50' Fartlek (max 3', min 20")	60' Fartlek (max 3', min 20")	60' Fartlek (max 5', min 20")	[am] 60' Fartlek (max 5', min 20") [pm] 30' run	[am] 16x1' @ 3k pace (45" rec) [pm] 30' run	[am] 2(10x200m) @ 1500m pace (30" rec) [pm] 30' run	[am] 2(8x400m) @1500m pace 50" rec [pm] 30' run

Progression 16-22 years at a glance (winter)

Progression 16-22 years at a glance (summer)

	16 years	17 years	18 years	19 years	20 years	21 years	22 years
Sunday	60' run	70' run	70' run	70' run	75' run (Core/Weights)	75' run (Core/Weights)	75' run (Core/Weights)
Monday	Rest	40' run + 10' tempo	40' run + 10' tempo	55' run + 25' tempo	55' run + 25' tempo	[am] 60' run + 20' tempo [pm] 30' run	[am] 60' run + 20' tempo [pm] 30' run
Tuesday	4x300m @ 100% (3' rec)	2(3x300m) @ 100% (6' rec) 10' sets	2(3x300m) @ 100% (6' rec) 10' sets	3(5x200m) @ >800m pace (25' rec) 5' sets	3(3x500m) @ 1500m pace (1' rec) 5' sets	[am] 30' run [pm] 4(3x500m) @ 1500m pace (1' rec) 5' sets	[am] 30' run [pm] 4(3x500m) @ 1500m pace (50" rec) 5' sets
Wednesday	40' run	45' run	45' run	45' run + (Core/Weights)	[am] 50' run [pm] 50' run	[am] 60' run [pm] 30' run	[am] 60' run [pm] 30' run
Thursday	3(6x200m) (30" rec) @ 1500m pace 3' sets	3(6x200m) (30" rec) @ 1500m pace 6' sets	12x400m @ 1500m pace (80" rec)	2(2x300m) @ 800m pace (5' rec) 10' sets	600m, 600m, 400m @ >800m pace (5' rec) 600m @100%	4(4x300m) @ 800m pace (30" rec) 6' sets	[am] 4(4x300m) @ 800m pace (25" rec) 6' sets [pm] 30' run
Friday	Rest	Rest	Rest (Circuits)	Rest or 50' run + (Circuits)	Rest or 50' run + (Circuits)	Rest or 30' run + (Circuits)	Rest or 30' run + (Circuits)
Saturday	3(2x400m) @ 800m pace (1' rec) 10' sets	4(2x400m) @ 800m pace (1' rec) 10' sets	2x600m @ 800m pace (10' rec) 2x200m @ 400m pace (3' rec)	[am] 4x300m @ 100% (5' rec) [pm] 50' run	[am] 2(4x200m) @ 100% (4' rec) 10' sets [pm] 50' run	[am] 4x400m @ 800m pace (3' rec) 10' jog + 4x200m @ 800m pace (1' rec) [pm] 30' run	[am] 4x200m @ 100% (4' rec) 10' jog 2(4x200m) @ 800m pace (30" rec) 5' sets [pm] 30' run

Conclusion

The development of an athlete requires an element of good fortune, but the coach can ensure that the athlete's capabilities are given an excellent chance to reach their full

potential.

This is achieved through year upon year of improvements and tweaking of the training and competition plan until it becomes almost perfection for that athlete

(almost impossible task).

Hopefully, this presentation has helped you understand the intricacies and problems of helping a 16 year naive athlete to one of international status.

Middle Distance - Phil Banning - Power Point BMC 2008

What was Covered by Phil Banning:

- My Philosophy and I
- Before we start
- Understanding the events and their physiology
- Understanding competition and major champs
- Putting the programme together

My Philosophy and I

Athletes are individuals.
You are never too young to learn.
Privilege is a two way thing.
History should not be ignored.
Fellow coaches should be respected.
Endurance is the Key.
Only a lucky few will make the top.

Understanding the events and their physiology

Time to exhaustion	Aerobic	Anaerobic
0-45secs	41%	59%
0-60secs	48%	52%
0-90secs	57%	43%
0-120secs	64%	36%
0-180secs	73%	27%
0-240secs	80%	20%

Training Effects

- The following 4 Graphs show the following:-
- The Anaerobic and Aerobic Split
- Training Effects of 10 x 1000m 45s-60s Recovery
- Training Effects of 6 x Mile with 75 – 90 seconds Recovery

Hicham El Guerrouj's Strength Training

First Preparation Phase 3 months
Strength

Half Squat	4x 16reps @30kg	Full Squat	4x 16reps @20kg
Hamstring Curl	4x 16reps	Abductors	4x 16reps
Adductors	4x 16reps	Quadriceps	4x 16reps
Abdominals	300-400 reps	Back raises	300-400reps
Lunges	4x 20reps @25kg each leg		

Every four days

Running Economy

It simply means using less oxygen as you run.

This means you're running at a smaller percentage of your VO2max, your maximal rate of oxygen utilization

How do we improve this?

- Strength Training - Circuits
- Strength Training - weights
- Strength Training - Core
- Drills
- Hill running & Sand Dunes

Conditioning

STRENGTH TRAINING – CIRCUITS
STRENGTH TRAINING - WEIGHTS

- Know what you are doing or use someone who does
- Technique first. Weights second.
- Gradually add Weight and Lifts
- Must be applicable to Endurance Running

STRENGTH TRAINING - DRILLS

- Walking Drills
- Jogging Drills
- Running Drills

STRENGTH TRAINING – CORE
STRENGTH AND STABILISATION –

- Hill Running
- Cross-Country Running
- Sand Dune Running

Understanding Competition

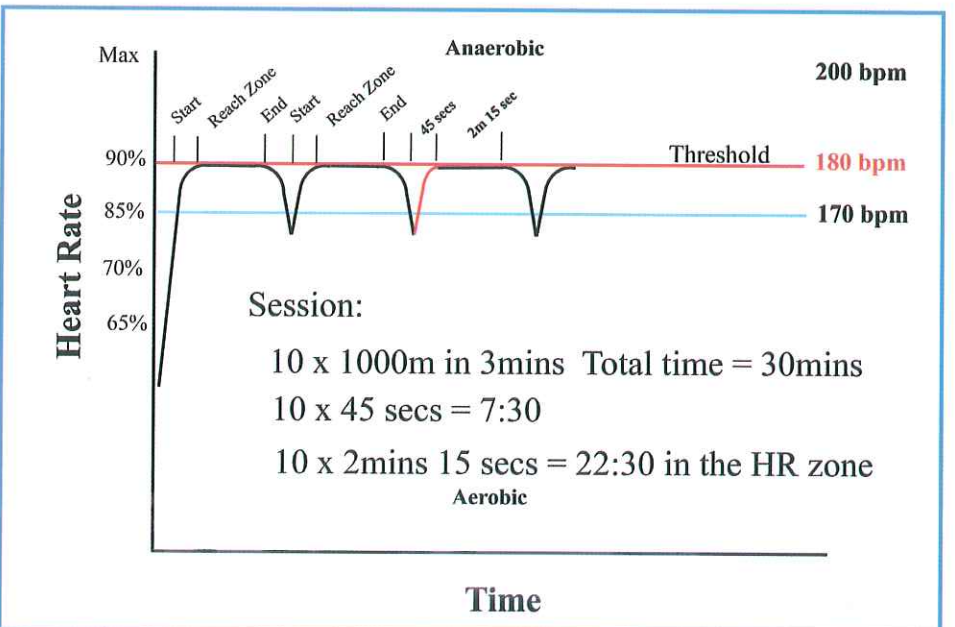
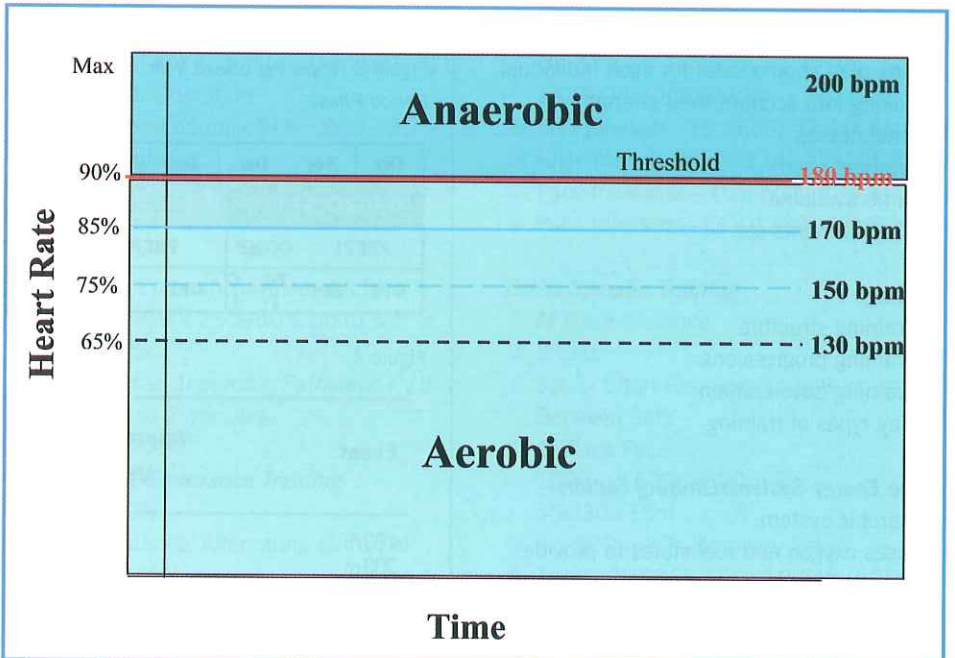
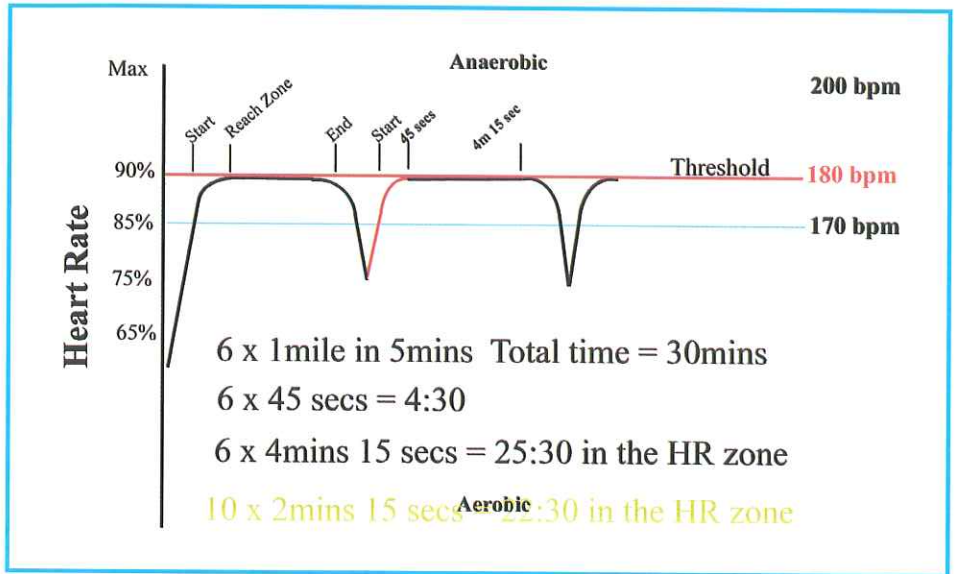
- Number of Rounds
- Number of Heats
- What pace to expect on first lap in each round
- What time to expect to have to qualify through each round

Planning

- Training Programme
- Competition Programme
- Training Environment

Competition Phase

- Maintain all elements of training
- Races “bring you on” – you’ll get training effect
- Rest is a vital part of the training programme
- Ensure ample races before the “big one”
- If athlete has 3-4 races in a row plan a training break before next race
- Practice race scenarios in training
- Intuition plays a big part at this point



Long Distance - David Sunderland - Power Point Training for 3k-10k

Training for 3 – 10K

Review

Step 1:

- Review of previous season
- Were the goals met?
- Strengths/weaknesses?
- Vis-à-vis event?
- Support systems?
- Plan forthcoming season?

Step 2: Decide the structure of the Annual Plan

Single Periodised Year – See figure 1.

Double Periodised Year – See figure 2.

Triple Periodised Year – See figure 3.

Individual Plan

- Any plan should cater for each individual
- Taking into account their strengths/weaknesses
- Training needs
- Time available
- Commitments etc.

Training

- Training structure
- Training progressions
- Training development
- Key types of training

Three Energy Systems Limiting Factors

- Aerobic system:
Uses oxygen and fuel stores to provide energy
⊗ Limited by fuel and oxygen supplies
- Anaerobic lactic system:
Capable of operating with no oxygen but produces lactic acid
⊗ Limited by build up of H⁺ ions (acidosis)
- ATP-CP system:
Stored, start up system. Capable of operating with no oxygen, no lactic acid produced
⊗ Limited by availability of creatine phosphate (CP)

Contributions of Energy Systems over time

– See figure 4 & 5

Endurance Components

SPEED		
SPEED	Mobility & Technique	STRENGTH AT SPEED
ENDURANCE	STRENGTH ENDURANCE	STRENGTH

Figure 1: Single Periodised Year

Period Phase:

Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept
MACROCYCLE											
PREPARATION						COMPETITION				TRANSITION	
General			Specific			Pre-Competition		Competition			

Figure 2: Double Periodised Year

Period Phase:

Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept
MACROCYCLE 1					MACROCYCLE 2						
PREPARATION1			COMP.1		PREPARATION2			COMPETITION2			TRANS.
GP1		SP1	PC1	C1	GP2		SP2	PC2	C2		

Figure 3: Triple Periodised Year

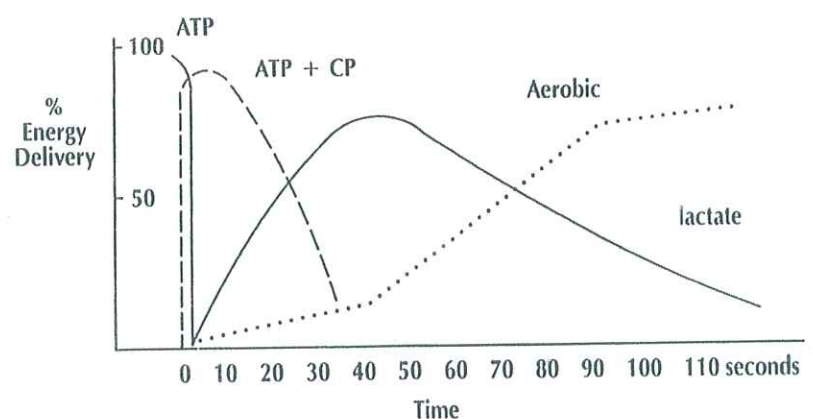
Period Phase:

Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	
MACROCYCLE 1			MACROCYCLE 2				MACROCYCLE 3					
PREP1		COMP	PREP2		COMP2		PREP3		COMP3			TRANS.
GP1	SP1	PC1	C1	GP2	SP2	PC2	C2	GP3	SP3	PC3	C3	

Figure 4:

Event	Approximate % VO ₂ max	% Energy Contribution		
		ATP-CP	Lactate	Aerobic
100m	-	70	22	8
200m	-	40	46	14
400m	-	10	60	30
800m	135	5	38	57
1500m	112	2	22	76
3000m	102	<1	12	88
5000m	97	<1	7	93
10000m	92	<1	3	97
Marathon	82	<1	<1	99

Figure 5: Contributions of Energy Systems over time



EVENT REQUIREMENTS

REQUIREMENTS FOR EACH OF THE ENDURANCE EVENTS						
EVENT	800m	1500m	5/10k	S/C	Mar	Walks
Mobility	*	*	*	*	*	*
Endurance (O2)	*	*	*	*	*	*
Speed (Alactate)	*	*	*	*		
Speed Endurance (LA02)	*	*	*	*		
Strength	*	*	*			
Strength Endurance	*	*	*	*	*	*
Power	*	(*)	(*)			
Technique	*	*	*	*	*	*
Tactics	*	*	*	*	*	*

Shares of energy supply mechanisms during different track events. (According to Mader)

DISTANCE	ATP/CP	ANAEROBIC LACTATE	AEROBIC
	%	%	%
3000m	5	15	80
5000m	4	10	86
10000m	3-2	12-8	85-90
Marathon	0	5-2	95-98

Total Endurance

Total Endurance
Cardio Vascular
Efficient Heart
Efficient circulation system
Efficient breathing mechanism
Efficient exchange of gases
Efficient transportation of gases
Local
Strength of performing
Efficiency of blood supply in that muscle
Oxygen Dept
Toleration of muscle waste products
Removal and resynthesis of waste products
Acid/Alkaline Balance

Endurance Training

Certain types of exercise and training will INCREASE certain bodily functions whilst others decrease them. The following is a look at these various methods, and their effects.

CHARACTERISTICS OF ENDURANCE

- LONG TERM ENDURANCE – Involvement with Strength and Speed Endurance
- STRENGTH ENDURANCE – Increasing Muscular Tolerance to meet Fatigue
- MEDIUM TERM ENDURANCE – More involvement with Speed & Strength-Endurance
- SHORT TERM ENDURANCE – Great involvement with Speed & Strength Endurance

- SPEED ENDURANCE – Building up a tolerance to Lactate

BRIEF OVERVIEW

- Short Term Endurance (Aerobic) - 2 to 8 minutes duration
- Medium Term Endurance (Aerobic) - 8 to 30 minutes duration
- Long Term Endurance (Aerobic) - 30 minutes plus
- Speed Endurance (Anaerobic) – loadings at between 85%-100% maximum intensity
- Strength Endurance (Anaerobic) – loadings 4-6 x 25%-50% up to 3-5 x 50%-70%

Note the three Anaerobic Pathways – 15 seconds up to 2 minutes

Summary of Endurance Training

A. DURATION

- Continuous ● Alternating ● Fartlek
- Tempo Runs

B. REPETITION

- Short Duration Repetitions (15 secs – 2 minutes)
- Medium Duration Repetitions (2 mins – 8 minutes)
- Long Distance Repetitions (8 mins – 15 minutes)

Variations

- Intensity – varied, constant, percentage of Maximum, percentage of heart rate, percentage of Max VO2
- Recovery time – Distance, Time, Heart rate
- Type of recovery – Passive, Walk, Jog
- Number of repetitions/Sets – maximum, Until Quality fails
- Distance of Run – To suit the demand of the session
- Terrain – Track, Forest, Sand, Snow etc

Endurance Training Levels

Percentage of Effort

- Extensive Interval Method – 100% > (180+)
- Tempo Runs (Fast Aerobic Runs) – 95-7% (30 – 60 Minutes) (165-180)
- Long Distance Runs – 90% (60 Minutes +) (150 – 165)
- Steady State Runs – 85% (30 – 60 Minutes) (130 – 150)
- Recovery/Regeneration Runs – 70% (30 Minutes) (110-130)

Test should be on a flat course for 30 Minutes, 45 Minutes or 60 Minutes at 100% Effort. (Longer the test the more accurate the VCR)

Speed Endurance Sessions

- Flat Out Repetitions – 3 x 1K with CR
- Pyramids – 400/600/800/1k/800/600/400
- Quality Intervals – 5 x (5 x 200m) 30s/6m
- Up & Down Theclock – 1K/800/500/400/200
- Split Intervals – (5 x 600) 47/44s 3/4m RC
- High Intensity Reps – 3 x (300/200) 20s/8m
- Pace Increases – (5 x 600) 33s/31s/29s
- Pace Injectors – (3 x 1200) 63s/60s/63s

Event Specific Training

- At Race Distance
- 2 Sets
- Set 1: Short Recovery/Long Recovery Between Sets
- At Race Pace
- 1000m/1500m/500m Rec: 45s/30s/15m
- 6 x 500m 30s Recovery Set 2
- TIRED SURGES – 3 x 1000m (600m Race pace, stride 100m, 300m race pace/8m Rec.)

Conditioning

- Weights
- Multi-Gyms
- Circuits
- Stage Training
- Oregon Circuit
- Plyometrics
- Resistance Training
- Running Endurance

Conclusion

- A good Long Distance Runner is years in the making
- Progression is the Key – Be Patient
- Need a great Aerobic Base
- Good Running Economy
- All the other requirements to a greater or less degree
- Mental Toughness and Commitment



BRITISH MILERS' CLUB



BMC NIKE ELITE & GRAND PRIX SERIES 2008

See www.britishmilersclub.com for Entries, Timetables, Seedings, Information and Results

Entry Fee for BMC Members free, Non Members £10 (Development Races £5). Stadium entry £3 - payable by all athletes and spectators.

Entry Fee for BMC Members free, Non Members £10 (Development Races £5). Stadium entry £3 - payable by all athletes and spectators.				
		ELITE MEETING		
SAT. 14 JUNE	Watford	M 800m & 1500m	Rupert Waters	07790 767433
		W 800m & 1500m	Andrew Osment	07879 678917
		Women 3000m + Mens 3000s/c	Tim Brennan	01628 415748
		Mens 10k UK Championship & Olympic Trial	Ian Hodge	By UKA Invitation
		GRAND PRIX		
SAT. 17 MAY	Watford	M 800m, 1500m and 3000m	Rupert Waters	07790 767433
		W 800m, 1500m and 3000m	Andrew Osment	07879 678917
SAT. 31 MAY	Sports City,	Men 800m & 1500m	Mike Deegan	01457 765416
	Manchester	Women 800m & 1500m	John Davies	0161 611 9065
		M & W 5000m	Jon Wild	07947 157785
SAT. 28 JUNE	Solihull	M & W 800m, 1500m and 5000m + Men 3000s/c	Steve Mosley	029 2030 6733
SAT. 19 JULY	Trafford	M & W 800m, 1500m and 3000m	Neil Canham	0161 225 5156
SAT. 9 AUGUST	Watford	M 800m, 1500m	Rupert Waters	07790 767433
	(GP Final)	W 800m, 1500m	Andrew Osment	07879 678917
		M & W 5000m and 3000s/c	Tim Brennan	01628 415748

ELITE MEETING

An Elite Meeting with a focus on World Junior and Olympic Qualifying times identified by the BMC and UKA is being on a key weekend in the calendar. The Elite meeting will have stricter entry standards of 1:51 (800) / 3:48 (1500) for Men and 2:09 (800) / 4:25 (1500) / 9:40 (3K) for Women.

GRAND PRIX

The 2007 series produced:-

British Records:-	1
World Championships:-	2 'A'-standard & 4 'B'-standard qualifying times.
Junior Championships:-	12 European U20 & 15 European U23 qualifying times.
Personal Bests:-	382

Entry to Grand Prix races will be guaranteed for paid up BMC members entering at least 14 days in advance of the meeting provided they have achieved the following qualifying times.

	800m	1500m	3000m	5000m	3K Chase
Men :	1:56.0	3:56.0	8:30	14:50	9:20
Women :	2:18.0	4:45.0	10:00	16:45	11:00

Development races will be paced to allow athletes that have not done so, to achieve these qualifying standards.

PRIZES

For 2008 there is a £40,000 prize fund available, with a top prize of £1,000 available at the Elite and Grand Prix fixtures in over 800m, 1500m, 3000m, 5000m, 10,000m and 3000m Steeplechase. The prize money is determined by finishing position and time. See website for full information.

BMC NIKE GRAND PRIX FINAL

Men and Women 800m - Winners of the "A"-races in the first 4 Grand Prix are guaranteed an "A"-race.

Men and Women 1500m - Winners and runners up guaranteed an "A"-race.

PACEMAKERS

The BMC is looking for pacemakers for it's 2008 race series. The BMC is able to pay small fees for pacemakers.

Those interested should contact Tim Brennan on 01628 415748 or via the BMC website.

OVERSEAS ATHLETES

The BMC welcomes overseas entries in it's Grand Prix races particularly those of an international standard.

Contact Tim Brennan on 01628 415748 or enter via the website.

TELEVISION RECORDING

It is planned that our major meetings are to be filmed and recorded by sportuk.tv a dedicated internet sports channel. Your entry will confirm your acceptance to be filmed at those meetings.



THE BEST OF BRITISH FROM THE BMC
www.britishmilersclub.com



BRITISH MILERS' CLUB

PB CLASSICS, GOLD STANDARD, ACADEMY AND REGIONAL FIXTURES 2008



All entries should be made on our website www.britishmilersclub.com



BMC ACADEMY YOUNG ATHLETES PB CLASSICS Entry Fee for BMC Members £3, Non Members £5.

Mon. 5 May	Millfield	M800, 1500, 3000 mixed	Mike Down	0117 9733 407
Mon. 5 May	Millfield	W800, 1500, 3000 mixed	Steve Mosley	029 2030 6733
Sat. 17 May	Watford	M & W800, 1500, 3000 & U20M 2000s/c	Jim Bennett	07960 619849
Sat. 7 June	Trafford	M & W800, 1500, 3000, U20M2000s/c, U17M1500s/c	Neil Canham	0161 225 5156
Sat. 2 Aug	Coventry	M & W800, 1500, 3000, U20M2000s/c, U17W1500s/c	Paul Hayes	02476 464010

Fastest of U15 & U17 PB Classic 800m and 1500m in May & June to be invited to Frank Horwill & Peter Coe Mile races in Solihull Grand Prix.
New for 2008 - BMC Junior Virtual League. £100 for top club. See website for full details.
ACADEMY RACES FOR YOUNG ATHLETES ARE INCLUDED IN REGIONAL RACES



OTHER BMC RACES

DATE	VENUE	EVENTS	CONTACT	TELEPHONE	STANDARD		
April	Wed. 23	Mary Peters Track	M&W 800	John Glover	02890 287246	Regional	
	Tue. 29	Exeter	M&W 800	8.15pm John Knowles	01872 263541	Regional	
MAY	Mon. 5	Birmingham Univ	M&W 800, 1500 Seniors Only	8pm Paul Hayes	02476 464010	Regional	
	Tue. 6	Trafford	M&W 800, M1500	Neil Canham	0161 225 5156	Gold Standard Only	
	Wed. 7	Watford	M&W 800	7.45pm Rupert Waters	07790 767433	Gold Standard Only	
			M&W 1500	Phil O'Dell	01234 852038	Gold Standard Only	
	Sat. 10	Birmingham Univ	M&W 5000 & 10000	6.30pm Dave Norman	07868 783818	Regional	
	Wed. 14	Leeds	M&W 800, 1500, W5000 & M10000	6.30pm Aaron Thomas	01234 852038	Regional	
	Mon. 19	Jarrow	M&W 1200	David Lowes	07930 318651	Regional	
	Tue. 20	Trafford	M&W 800, M1500	8pm Neil Canham	0161 225 5156	Gold Standard Only	
	Wed. 21	Crawley	M&W 800 & 1500	7.30pm Neville Taylor	01403 790800	Regional	
	Tue. 27	Exeter	M&W 1500	8.15pm John Knowles	01872 263541	Regional	
	Wed. 28	Coventry	M&W 800, 1500, & 3000	Paul Hayes	02476 464010	Regional	
	Wed. 28	Eltham	M&W 800, 1500	8pm David Reader	07929 860389	Regional	
	Wed. 28	Gateshead	M&W 800	David Lowes	07930 318651	Regional	
	JUNE	Mon. 2	Jarrow	M&W 800	8pm David Lowes	07930 318651	Regional
		Tue. 3	Trafford	M&W 800, M1500, M3000	Neil Canham	0161 225 5156	Gold Standard Only
Wed. 4		Birmingham Univ	M&W 800, 1500	Paul Hayes	02476 464010	Regional	
Wed. 11		St Ives, Cambs	M&W 800, 1500	8pm Noel Moss	01223 833470	Regional	
Tue. 17		Trafford	M&W 800, M1500, W3000	8pm Neil Canham	0161 225 5156	Gold Standard Only	
Wed. 18		Watford	M&W 800	7.45pm Rupert Waters	07790 767433	Gold Standard Only	
			M&W 1500	Phil O'Dell	01234 852038	Gold Standard Only	
Tue. 24		Exeter	M&W 800	8.15pm John Knowles	01872 263541	Regional	
Wed. 25		Birmingham Univ	M&W 800, 1500	Paul Hayes	02476 464010	Regional	
Wed. 25		Eltham	M&W 800, 1500	8pm David Reader	07929 860389	Regional	
Wed. 25		N.Ireland tbc.	M&W 1500	John Glover	02890 287246	Regional	
Wed. 25		Aberdare	M&W 800	Steve Mosley	02920 306733	Regional	
JULY	Tue. 1	Trafford	M&W 800, M1500, M3000s/c	8pm Neil Canham	0161 225 5156	Gold Standard Only	
	Wed. 2	Watford	M&W 800	7.45pm Rupert Waters	07790 767433	Gold Standard Only	
			M&W 1500	Phil O'Dell	01234 852038	Gold Standard Only	
	Sat. 12	Birmingham Univ	M&W 5000	7.00pm Dave Norman	07868 783818	Regional	
	Tue. 15	Trafford	M&W 800, M1500	8pm Neil Canham	0161 225 5156	Gold Standard Only	
	Wed. 16	Birmingham Univ	M&W 800, 1500	Paul Hayes	02476 464010	Regional	
	Mon. 21	Jarrow	M&W 1500	David Lowes	07930 318651	Regional	
	Wed. 23	Eltham	M&W 800, 1500	8pm David Reader	07929 860389	Regional	
	Sat. 26	Nottingham	M&W Miles, 5000 inc Tim Weathall Mile (Prizes)	Trevor Muxlow	0115 9284127	Regional	
	Tue. 29	Trafford	M&W 800, M1500, W2000s/c	8pm Neil Canham	0161 225 5156	Gold Standard Only	
	Tue. 29	Exeter	M&W 1500	8.15pm John Knowles	01872 263541	Regional	
	Wed. 30	Watford	M&W 800	7.45pm Rupert Waters	07790 767433	Gold Standard Only	
			M&W 1500	Phil O'Dell	01234 852038	Gold Standard Only	
	Wed. 30	N.Ireland tbc.	M&W 800	John Glover	02890 287246	Regional	
	AUGUST	Mon. 4	Jarrow	M&W 800	David Lowes	07930 318651	Regional
Tue. 12		Trafford	M&W 800, M1500	8pm Neil Canham	0161 225 5156	Gold Standard Only	
Wed. 13		Coventry	M&W 800, 1 Miles	Paul Hayes	02476 464010	Regional	
Wed. 20		Eltham	M&W 800, 1500 inc Sydney Wooderson Memorial 800m	8pm David Reader	07929 860389	Regional	
Wed. 20		Mary Peters Track	M&W 1 Miles	John Glover	02890 287246	Regional	
Tue. 26		Trafford	M&W 800, 1500, M&WU20 2000s/c	8pm Neil Canham	0161 225 5156	Gold Standard Only	
Tue. 26		Exeter	M&W 800	8.15pm John Knowles	01872 263541	Regional	
Wed. 27		Watford	M&W 800	7.45pm Rupert Waters	07790 767433	Gold Standard Only	
			M&W 1500	Phil O'Dell	01234 852038	Gold Standard Only	
SEPT		Tue. 12	Trafford	M&W 800, M1500	8pm Neil Canham	0161 225 5156	Gold Standard Only

Additional races may be arranged at other venues. Check website for details or contact your Regional Representative
Please enter by Friday before meeting to avoid disappointment.

Should athletes representing GB in major international meetings face some sort of enquiry or even penalties for blatant disregard to their obligation to perform to their best? In one World Series an athlete retired from a race early on and gave as an excuse, 'I just didn't have it today'. Note that this runner did not say that an injury flared up during the competition or that he felt ill beforehand. We have to remember that sending an athlete overseas is not a cheap excursion: there are air fares, rail and taxi charges, hotel accommodation and the issue of new uniform.

It is quite extraordinary that some athletes take the least line of resistance to enhance their strength by popping a few banned steroids down and hoping that masking agents will enable them to get away with it. If they only new that progressive

strength training coupled with nutritional manipulation will get the same results.

There are four main considerations to maximise the anabolic drive:

1. Increase the release of growth hormone
2. Maintain insulin drive and insulin-like growth factor
3. Ensure correct levels of thyroid hormone
4. Stimulate testosterone production

The first requires adequate daily intake of leucine, vitamin C, phosphatidyl choline, pantothenic acid and potassium.

The second is met by eating every four hours with special attention to post-exercise carbohydrate intake which includes fructose. Also, the consumption of top quality protein is required to provide nitrogen.

The third requires iodine in the diet.

The fourth is met by adequate boron, zinc, vitamin C and branched-chain amino acids.

Boron is found in fruit and nuts. Zinc content is high in oysters and turkey. Some cereals contain 4mg per packet. Vitamin C is high in orange juice which also contains potassium.

Leucine can be obtained as a supplement, 3 grams is adequate for most runners. Choline and pantothenic acid are both found in eggs and lentils. Iodine foods include oysters, cod and haddock.

For a full discussion on branched-chain amino acids read 'Keep on running' by Eric Newsholme, a highly qualified lecturer at Oxford University, also note constant hydration is equally as important.

The statement by the Russian female winner of the World Indoor 1500 metres in a world record of 3:57.7 is somewhat chilling for our runners, 'I will have difficulty in qualifying for the Olympics; we have so much talent lately'.

The old Soviet coaches possessed a lot of knowledge and they did a lot of research. Many of those coaches are still around and reading some of their past literature is a fascinating pastime. One session for the 1500 metres seems to dominate their thinking: 1 x 400 plus 1 x 800 plus 1 x 300. They describe this as a perfect rehearsal for the event: fast start, steady pace, fast finish. The repetitions are done at least twice and one outing has adequate rest and the next very little rest. Here is an example:

Adequate rest

90seconds recovery after the 400m, 3minutes recovery after 800m and 5mins recovery after the 300m before repeating.

Restricted rest

45seconds recovery after the 400m, 90seconds recovery after the 800m and 5minutes after the 300m. They say that the average of the two predicts performance.

If the total repetitions in the first set average 3mins 55secs and the total repetitions in the second set average 4minutes, the expected performance will be 3:57.5. It is puzzling that Russian women seem more successful than their men. Peter Coe asked a Soviet coach these question years ago; he replied 'Our men don't do as they are told, our women do'

If a UK female cannot do a time trial of 3:12/1200metre once a week before the 2008 Olympics they might consider not going.



Doubling up events is quite a common feature in athletics, and at major games. We have seen several successful exponents of doubling such as Merlene Ottey (100m/200m), Michael Johnson (200m/400m), Steve Ovett (800m/1500m), Hicham El Guerrouj (1500m/5000m) and Haile Gebrselassie (5,000/10,000), to name but a few. In most cases the athletes were stronger in one of their events, and in others were using it as a stepping stone to the longer event.

However probably the hardest of all doubles and the one with the least success rate is the 400metre/800metre double. In the last thirty years probably the only successful duo have been Alberto Juantorena (Cuba) in the 1976 Olympic Games in Montreal, and Jarmila Kratochvilova (Czechoslovakia) in the 1983 inaugural World Championships in Helsinki.

There are many reasons for this but possibly the three most fundamental ones are that all the other doubles use primarily the same energy pathway and are run in a similar way. To highlight this I will take two of the previously mentioned doubles and explain. The sprint double (100m/200m) is mainly using the Adenosine Triphosphate or Alactate System and is run in lanes. The longer endurance (5k/10K) double uses the Oxygen or Aerobic system and both have a tactical and physical input that can have an effect on the races outcome as the race is not run in lanes. On the other hand the 400metre/800metre double not only mixes the aerobic and anaerobic systems, but in the 400m the race is run in lanes with no physical contact and a great emphasis on pace judgement. Whereas the 800metre event however, is not run primarily in lanes, and involves a great tactical awareness and can involve a large amount of physical contact. The 800metre event could be likened to physical chess; such is the need to be in the correct place at the correct time with the least physical contact possible. The third and final reason is that the mental approach required for each event is totally different.

Therefore when training for this double the coach and athlete must realise that a large proportion of the training will be different and that a new approach to how to run the race will be required both physically and mentally.

If we look at the two events in more detail we can see that the competition demands of each event have different percentage

Table 1.

PERCENTAGE BREAKDOWNS BETWEEN THE ENERGY PATHWAYS			
400metres:	45% (Aerobic)	43% (Anaerobic)	12% (Alactate)
800metres:	60% (Aerobic)	30% (Anaerobic)	10% (Alactate)

Table 2.

THE COMPONENTS REQUIRED IN BOTH EVENTS ARE AS FOLLOWS:		
	400 METRES	800 METRES
Mobility	Very Important	Very Important
Technique	Very Important	Very Important
Speed	Very Important	Very Important
Strength	Very Important	Important
Endurance	Limited Importance	Important
Power	Very Important	Important
Strength-Endurance	Very Important	Very Important
Speed-Endurance	Very Important	Very Important
Event Specific	Very Important	Very Important
Tactics	Limited Importance	Very Important
Effort Distribution	Very Important	Important.

breakdowns between the energy pathways. See *Table 1*.

Therefore a training plan will have to be constructed with both events in mind.

If we look at the components required to race each of these events we will find a great deal of similarity. It is in the percentages of these components when the training plan is constructed that the problems will arise.

See *Table 2*.

One could argue slightly with the importance given to each of the event requirements. However, it serves to illustrate that there is a great deal of similarity within the requirements of each of the two events. It is when you break these specific requirements down that you find how difficult it is to train for each of them at the same time. The percentages are calculated on the total oxygen cost and are also useful in showing the inter-relationship between aerobic and anaerobic work for the two events. These are not prescriptive in that the proportions have to be automatically followed in preparing for each event.

See *Table 3*.

Therefore all the training should be tailored to meet these demands. It should

Table 3.

The 400metre/800metre runner will require the following:-
An efficient heart (good cardiac output).
Efficient circulation (good oxygen uptake).
Efficient exchange and transportation of gases.
An efficient blood supply to the muscles.
Strength particularly in the legs, lower back and abdominal areas.
A high tolerance to oxygen debt and waste products.
Explosive speed and strength.
The ability to remove and reuse waste products.

also take into account the athletes strengths and weaknesses and their athletic maturity. Different athletes will be approaching it from different standpoints. The 400 metre type runner from a speed and speed-endurance base, whereas the predominantly 800 metre type runner will be approaching it from a more endurance and speed-endurance perspective.

I intend to work from the premise that



it is the 400metre moving to include the 800metre as their second event and not the 800metre runner moving down to include the 400metre as the former tends to be the norm. With this as the base we can look at the types of training required for each event and how each will benefit the other.

Mobility:

This is crucial to both these explosive events. The athlete should employ a full range of movement, but in particular should work on the pelvic region, lower back, hip flexors and legs. It is also important that the athlete does a mobility session daily in addition to any done during the warm up and cooling down phase of the training session. This will not only assist the athlete's range of movement but also act as a preventive to injury and aid any recovery if an injury should occur. Core stability should also be included into the training programme.

Technique:

Once again this is crucial to both these events particularly during the athlete's formative years when the technical model should be worked upon and put into place. As the young athlete develops it should be a separate session, which will then progress to being included into the training units. Drills, hills and sprint work are just some ways in which the technique can be developed. Along side the basic technical model the coach and athlete should be working on relaxation, particularly when under pressure. These two events rely on an efficient relaxed technical model when under pressure to ensure there is no wastage of effort.

Speed:

The 400metre runner will probably require more speed in their event than the 800m runner. This could include drills, short sprints of 60 – 80metres, up and down the

clock sessions, pyramids and acceleration runs. In most cases the range of running will be from 40m – 150metres. Both will use this type of training but there will be more of it from the 400metre runner. It should be pointed out that these sessions should be used through out the year and not just in the Pre-Competition and Competition phases.

Strength:

Again this will be utilised by both the events whether with free weights or multi-gyms. But once again it will be used more by the 400metre runner. The emphasis will be on the lower back, the abdominal region and the legs. The type of activities involved will be the bench press, clean, half squats, leg raises and sit ups with weights to name a few which will benefit the specific areas mentioned. The main emphasis for the strength input will come during the Preparatory and Pre-Competition Phase but should be continued in a synthesised way in the Competition phase. It is essential that all safety precautions are taken particularly with free standing weights.

Endurance:

There will be a far greater endurance emphasis from the 800metre runner. The 400metre runner will not have placed as much emphasis on endurance training, will run fewer kilometres or miles, fewer endurance sessions and has less need for this aerobic requirement. It will, mean that the 800metre runner could run up to 60 miles or 75 kilometres a week in training. This could constitute steady state runs, long distance runs, alternating pace runs, tempo runs or Fartleks. This is to ensure the 800metre runner has a good endurance base to meet the 60% aerobic requirement of the event. Therefore an athlete doubling up will either have to increase their endurance output – at the expense of other sessions – or compromise by having a half way house which will satisfy the endurance requirements of both the 400 metre and 800 meter events.

Power:

Power or strength at speed is important to both events. They are both explosive events, the 400metres more than the 800metres. The sort of activities involved in improving Power would be plyometric (hopping) exercises progressing to bounding. It would also include hill work up a short

60 metre incline with the emphasis on cadence, high knees, driving arms, relaxation and general technique. The hill session repetitions will be few in number 6-8, with longish recoveries. The mature athlete may progress to depth jumping but this should only be used with adequate mats, well sprung floors and be well supervised.

Strength-Endurance:

Strength Endurance or Conditioning work is fundamental to both events and can be achieved by a variety of methods. It can be achieved through running session such as Pyramids, Up and Down the Clock but will be achieved mainly through over distance work with short recoveries.

- Eg: 400metre runner – 2 x (2 x 500m) 40seconds and 8 minutes Recovery.
- 800metre runner – 2 x (2 x 1000m) 1 minute and 8 minutes Recovery.

Other running sessions may include Hill Work with a larger number of repetitions and much shorter recoveries than employed in the Power training element. The Hills too can vary in both length and the severity of the incline.

The Oregon Circuit - a circuit predominantly involving leg exercises and running between the activities – is over a 1000 metre circuit and is also very beneficial to both events. Resistance work using the elements – wind, surf, snow – and weighted belts and suits are also very useful ways of conditioning the athlete. Other conditioning activities include harness work, towing, circuit training and stage training. Stage training uses the same principle as circuit training but instead of moving after each activity you stay at the same one for all three of the circuits. In this way you build up local muscular fatigue in the area you are working on whether it is in the arms, the abdominal area or legs, instead of just working the body generally.

Speed Endurance:

This is a key element for both the events but how it is used is totally different.

In the 400metres the emphasis is on shorter than race distance repetitions with long recoveries. (4 x 300 metres at 100% effort with 12-20 minutes recovery).

However, the 800 metre runner will also do repetitions of less than race distance but more of them and with a mixture of recoveries. Eg: (3 x (2 x 300m) with 30

seconds and 10 minutes between sets). Both events can have variations such as 4 x 200 metres with complete recovery for the 400 metre runner or (2x 600 meters) and (2x 400metres) metres with a short recovery between repetitions and a complete recovery between sets for the 800 metre runner. The use of pyramids, up and down the clock and differential runs are also well tried types of speed endurance training sessions.

With regard to the Event Specific training in the Competition phase both events are looking for sessions that will as near as possible simulate the race requirements and situation. The 400 metre runner would use 2 x 300 metres with a complete jogged recovery between repetitions, to get rid of the lactic acid and waste products build up. Similarly the 800 metre runner would run 2 x 600 metres with a complete jogged recovery between repetitions.

As we can see there is a great deal of commonality in the training for the two events. However it is in the specifics of each event that the differences begin to show themselves. The coach and athlete hoping to do the 400 metre and 800 metre double when planning the seasons training must sit down and decide where the commonality of the two events ends and where there

needs to be a compromise on the specifics of each event. This will be determined by the athlete's strengths and weaknesses. The sorts of question the coach and athlete have to ask themselves are how much extra endurance training do they need to take on board? How much more power orientated work do they need? What sort of speed-endurance/event specific work do they need to employ? Is the balance of conditioning and strength work correct? Once all these questions have been answered and related to the athlete's strengths and weaknesses and their athletic maturity the Coach and athlete can begin to draw up a training programme. This programme will use as its spine the common ingredients and physiological requirements of the two events outlined in the Tables 1 - 3 on page 24.

The 400 metre/800 metre challenge is a daunting one for both athlete and coach. If moving from the 400 metres to the 800 metres the athlete has to learn tactical awareness and get used to the physical contact involved. Both races too have a different psychological challenge as well as the physiological ones out lined above. But it is a challenge not to be afraid of and met with a desire and a belief that you can succeed where others have failed.



Obituaries

Ann Hill

Ann Hill from South Wales died in December 2007. Ann was a Senior AAA coach which became the new Level 4 Coach. She had been successfully coaching middle-distance for 40 years and trained some 30 Welsh internationals and half a dozen GB internationals of note. In their formative years Kirsty Wade, former UK record holder for 800m, 1000m and 1500m, Angela and twin sister Susan Tooby and Micky Morris silver medalist in the European Junior Steeplechase who had a 2K steeplechase best of 5:35 secs., were all guided by Ann.

Ann was appointed BMC Welsh Regional Secretary in 1976 a position she filled admirably for four years. She also served on numerous BMC young athletes' courses from 1974 – 1988 and gave some thoughtful lectures. Ann was made a BMC Vice-President in recognition for her work as a Coach in 1985.

During the whole of her coaching life Ann was dogged by ill health and under went a staggering total of eighty-seven operations. A lesser soul would not have continued but she battled on. In addition to her chronic illness, she faced acute economic hardship and was constantly seeking sponsorship for her athletes. Whilst she was not utilized by the authorities her work throughout Wales and the BMC was well known.

A tribute to her reputation in Wales was that the funeral service was held in a packed church with many famous faces in attendance. The BMC was represented at the funeral by Frank Horwill.

F.J.H.

Mike Vogel CAMBRIDGE & COLERIDGE A.C.

It is with deep regret that I have to report the death of a good friend and coach. Mike was taken ill suddenly with a brain tumour. Following surgery his condition deteriorated when he was put on a life support machine, which was removed early on Saturday, April 5th.

I first met Mike on my return from South Africa ,although I had read of the group he trained before that. I wished to develop a squad of middle distance runners and coaches, who could help to restore our pride in these prestigious events. Thus, I agreed to mentor about twenty coaches, scattered throughout the U.K. of which Mike became one and easily the most enthusiastic. Mike was an excellent middle distance coach, working main with our younger generation of athletes and achieving great success at the English School's Level. Mike regularly brought up to Leeds his squads of young athletes, to train with my group. I quickly realised that Mike had a wonderful rapport with his athletes who gave of their utmost during the most rigorous training sessions. I will miss his regular Monday morning telephone calls as he reported of their week-end racing results, or to highlight a particular training session at the University track which had to take place at a week-end. I will miss more the E mail pictures of his dog. Our sympathy is extended to Hilary, his wife and family.

Wilf Paish

BMC INFORMATION

Firstly to say that every BMC News back to Jan 1964 (Issue 1) has now been scanned and is available to view on the BMC website. That is 76 copies in total now available – we will hold the last couple of years back, which would make 80 copies in total.

Thanks has to go to Brian Boulton who loaned me all the back copies that I did not have.

Secondly – the Grand Prix series and Elite Meeting.

New for 2008 sees the addition of an Elite Meeting at Watford on 14 June. The meeting has been put on at the request of UKA and has been identified as being on a key weekend to enable Olympic and World Junior qualifying times. The meeting will have stricter entry standards of 1:51 and 3:48 for Men and 2:09 and 4:25 for Women that worked so well in 1997 at Battersea

and will also include the Olympic Trial 10,000m for Men.

2007 was a great year for the BMC GP series. Only two fixtures were before the various Championships qualification closing dates but athletes produced 6 World Championships qualifying marks (2 A-standard and 4 B-Standard) as well as 15 European U23 qualifying marks

and 12 European U20 marks. There was also a British Record in the Women's Steeplechase as well as over 300 PB's from the five meetings.

2008 will see the excellent venues from last year used again. The first fixture at Watford will be combined with a Young Athletes PB Classic in the afternoon with the senior races in the evening.

The BMC can now extend its prize fund to cover all events within the series

MEN	1st	2nd	3rd	800m	1500m	3000m	5000m	10K	Chase
	£1,000	£600	£400	01:45.5	03:35.0	07:40.0	13:20.0	28:00.0	08:24.0
	£600	£400	£200	01:46.0	03:36.0	07:45.0	13:30.0	28:20.0	08:27.0
	£400	£250	£150	01:47.0	03:38.0	07:50.0	13:40.0	28:40.0	08:30.0
	£250	£150	£100	01:47.5	03:40.0	07:55.0	13:50.0	29:00.0	08:35.0

WOMEN	1st	2nd	3rd	800m	1500m	3000m	5000m	10K	Chase
	£1,000	£600	£400	02:00.0	04:05.0	08:30.0	15:05.0	31:40.0	09:30.0
	£600	£400	£200	02:01.0	04:08.0	08:40.0	15:15.0	31:50.0	09:35.0
	£400	£250	£150	02:02.0	04:11.0	08:50.0	15:30.0	32:10.0	09:40.0
	£250	£150	£100	02:03.0	04:14.0	09:00.0	15:40.0	32:30.0	09:50.0

World All Time Rankings Of UK Athletes

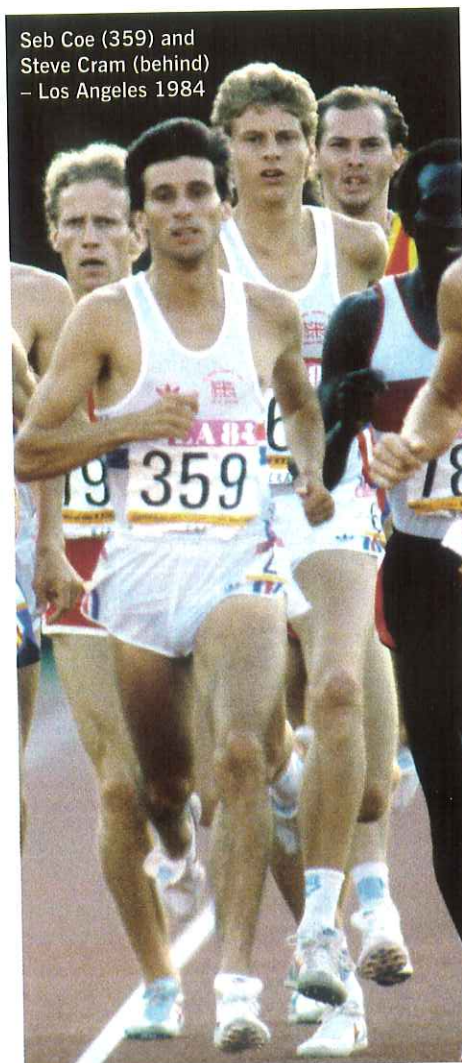
The following lists were compiled by Luis Leite with the assistance of Les Crouch.

A review of the world all-time top 500 at 800m, as at the 31st December 2007, shows the UK's position in a good light in some respects with many high ranking performances. However, the majority of these high ranking UK performers are long retired and those currently active are to be found in the lower echelons of the list.

Of course these ranking do not stand still, every year, except perhaps for the top dozen or so (under 1:43) new marks push almost every body down but of course at the lower end an improvement of one second can see a lift of several hundred places. GB has a number of athletes that we hope will get into the top 500, if not even better, this year and by 2012.

Notes: All the female names are their names at the time of their performances.

Lists do not include mixed races or estimated times.



Seb Coe (359) and Steve Cram (behind) - Los Angeles 1984

Mens 800 metres All time rankings of UK Athletes

Coe	2
Cram	16
Elliott	19
Steele	65
McKean	70
Sharpe	88
Ovett	97
Cook	141
Morell	147
Billy	154
Heard	155
McIlroy	156
Robb	200
Yates	226
Hill	237
Carter	243
McGeorge	250
Gladwin	250
Rimmer	269
Harrison	292
McKay	300
Horsfield	325
Whittle	335
Williamson	362
Herbert	367
Forbes	370
Ellis	373
Sesay	376
Crabb	379
Winrow	380
Soos	389
Clement	405
Lancashire	407
Strang	430
Whiteman	432
Speaight	433
Lobo	435

Most of the younger members, I suspect, will not recognise many of these names but with the 500th performance registered at 1:46.02 it will be appreciated how good they all were. Note that the 600th best performer notched 1:46.26. the 700th best 1:46.45, the 800th was 1:46.83 the 900th was 1:46.8h, and the 1000th was 1:46.95.

Women's 800 metres. All time Rankings of UK Athletes.

Holmes	35
McDermott	88
Lyne	137
Modahl	182
Okoro	191
Bailey	207
Scott	214
Boxer	216
Meadows	248
Fenn	287
Baker	314
Pritchard	323
Moore	324
Fryer	327
Griffiths	336
Simpson	366
Stirling	393
Clarkson	402
Hanson	420
Nicholson	430
Tullett	449
Harewood	462
KJ. Colebrook	471

NB Budd omitted

With regard to these rankings the 500th mark (E and OE) was 2:00.75, the 600th was 2:01.20 and 700th was 2:01.56. The UK does not figure, despite it being probably our "strongest" event at the moment, as highly as the men. However, there is a better mixture of old and new athletes in the UK lists compared to the men. Russia lead from the USA, GDR, and Romania and then the UK It is interesting that a 1:59.59 performance (because of less improvements in the last decade around the world) will lift an athlete into the top 300 whilst a 1:58.87 enters the top 200 all time list. A great incentive to make a big improvement.

Men's 1500 metres All time Rankings of UK Athletes.

Cram	13
Coe	15
Ovett	30
Mayock	61
Whiteman	79
East	82
Elliott	88
Crabb	112
Moorcroft	138
Robson	141
Yates	153
Williamson	155
Morrell	161
Passey	183
Rowland	186
McKay	189
Baddeley	199
Lough	201
Horsfield	224
Gladwin	238
Buckner	243
Graffin .An.	260
Clement	273
McCormick	282
Harrison	283
Larkins	313
Strang	392
Kearns	422
Thie	458
Mulvaney	495

Women's 1500 metres All time rankings of UK Athletes.

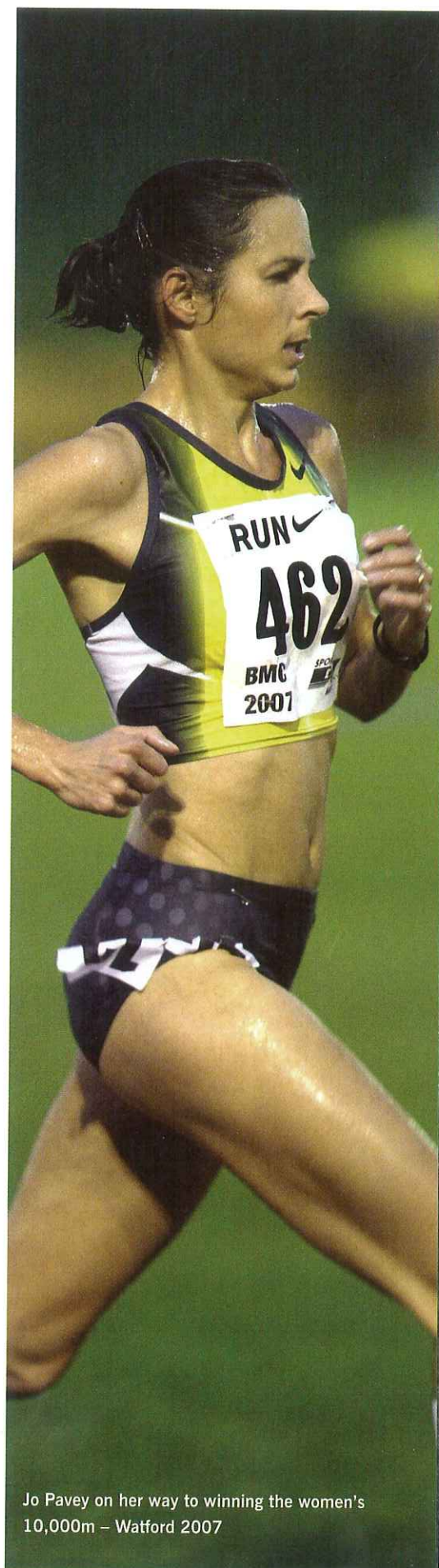
Holmes	41!!!
Tullett	86
Boxer	107
McDermott	112
Pattinson	117
Murray	118
McColgan	125
Benning	132
Pavey	138
Bailey	155
Wyeth	184
Sly	222
Carey	257
Radcliffe	286
Nicholson	298
Lynn Gibson	319
McIntyre	321
Stewart	330
Dobriskey	351
Whittingham	354
Twell	387
Lyne	401
Marlow	422
Williams	451
T. Colebrook	458
Green	477
Wootton	499

The 500th mark was 3:37.4, the 600th was 3:37.95, the 700th was 3:38.28, the 800th was 3:38.60 the 900th was 3:38.91 and the 1000th was 3:39.2h. Again it can be seen that a small improvement in a Personal Best can lift the athlete a long way up the list.

Whilst Kenya and the USA dominate the overall list the UK are third ahead of Spain and France. But again few current active UK men making an impression.

The 500th mark was 4:08.11, the 600th, the 4:09.18, and the 700th 4:10.1. Old and new Russia (combined) are way ahead of the USA, Romania and the UK.

Note Kelly Holmes, despite her success ranks, on time, only 41st. Therefore, statistics can sometimes mask competitive ability. However, it is interesting that many highly ranked UK ladies have gone on to major success at longer distances. These include Liz.McColgan, Yvonne Murray, Jo Pavey and of course Paula Radcliffe.



Jo Pavey on her way to winning the women's 10,000m – Watford 2007

World Cross-Country Championships

David Forrester – Edinburgh 2008



Any endurance coach or athlete worth their salt would have been in Edinburgh for the World Cross-Country Championships to observe first hand the elite endurance runners of the world. Just to witness the speed of the start and their ability to maintain this and then increase it was truly remarkable.

The other important point to take note of from the Championships was the leg power of each of the four Ethiopian winners who all ensured their victories on Haggis Hill.

The event was well organized by UKA and attracted crowds of upwards of 20,000.

The crowd could easily follow the races at close quarters as the runners snaked

around the bottom of Holyrood Park either at ground level or on Haggis Hill which each race had to climb and proved a defining part of each of the races. However, the course was a little narrow in places with some very sharp turns which proved difficult in the early stages of the races. The fields were dominated in all the four races by a phalanx of African athletes at the front who treated the crowd to some awesome competition.

A large proportion of the four United Kingdom teams were made up of BMC members.

The Junior Ladies saw the emergence of another Dibaba sister as Genzebe Dibaba (Ethiopia) cruised to victory over the heavy underfoot conditions by 5 seconds from the Kenyan Irine Cheptai and her compatriot Emebt Etea who was a further 2 seconds back. Ethiopia were the winners of the team title with 16 points from Kenya (20 points) and Japan (57 points). The UK finished a pleasing 4th (95 points) with excellent performances from Charlotte Purdue progressing each lap from 35th to 22nd to eventually finish 16th one position ahead of the promising Laura Park. Both these young ladies are eligible for next years Championships. They were ably supported by Emma Pallant (27th)

and Jo Harvey (35th) to complete the team. Emily Pidgeon (41st) who must have been disappointed with her run particularly after her pre-selection and Lillian Partridge (43rd) were the teams non-scorers.. What was disappointing about this race was the low number of finishers 65, for a World Championships and even more so the small number of teams that finished with only 4 to score was a meager 8!!

The Junior Men's race followed a similar pattern to the junior Ladies after 1 lap only 1 second covered the first 30 competitors with the Africans again in the van guard. Kipligit from Uganda leading the race before the pace really picked up. Ibrahim Jeilan (Ethiopia) the World Junior 10k champion used his track speed to prevail by 2 seconds from his team mate Ayele Abshero with Lucas Rotich the long time leader from Kenya taking Bronze a further 2 seconds back. The three of them had been in a line abreast as they descended the hill at break neck speed to the finish. Kenya reversed the team positions winning with 21 points from Ethiopia's 28 points with Uganda finishing a good third with 37 points. The UK team finished 9th (202 points) of the 15 finishing teams and were led home in 24th position by David Forrester a first rate run in such a strong field. Mitch Goose (55th), Ross Murray (56th) and Dewi Griffiths (67th) all had pleasing runs to complete the team scoring. Simon Horsfield (81st) and Phillip Berntsen

Tom Humphries – Edinburgh 2008



Edinburgh March 30th

(93rd) were the other team members in the 108 finishers.

The Senior Women's race saw a consummate performance from Tirunesh Dibaba (Ethiopia) winning her third title and making it a family double. Trailing the leader Burka by seven seconds and out of the medals well into the last lap she slowly but surely worked her way back to them. As they attacked Haggis Hill she simply blew them away running away from the field both up the hill and off it to win by the biggest winning margin of the day 5 seconds from fellow Ethiopian Mestawet Tufa with Kenyan Linet Masai a further 3 seconds back in third with Burka fading to 6th. Ethiopia won the team race (18 points) from Kenya (22 points) and there was a surprising but pleasing team bronze medal for Australia (84 points) who with 4 in 27 were led home by former Champion Benita Johnson (11th) just holding off the USA (87 points) who had their 4 runners in the first 24!! The UK finished 6th (116 points) led home by a Liz Yelling who had a tremendous run in 15th position and had the courage to lead the field for a third of the race. She was well supported with a fine run from sister in law Hayley Yelling (21st position). The team was completed with good runs from Laura Kenney (38th) and Rachel Townsend (42nd) with Faye Fullerton (45th) and Jo Wilkinson (53rd) the non-scorers. Only twelve teams and ninety athletes completed the race. With the addition of Paula Radcliffe, Jo Pavey, Mara Yamauchi and Kate Reed to the two Yelling's it is entirely possible that Great Britain could have been bronze medalists.

The climax of the four races was the Senior men's race with nine to run and six to score. This proved to be the highlight of a fantastic afternoon of distance running. As each of the six laps ticked by, only one second covered the leading group led by Ebuya (Kenya). However, the leaders slowly decreased. 26 in the lead group after lap 1, thirteen in the lead group after lap 2, twelve after lap 3 and only four leaders after laps four and five with defending champion Zersenay Tadese pushing the pace.

The drama had unfurled during lap two when Kenenisa Bekele (Ethiopia) lost his shoe and went from the leading group back into the forties whilst he replaced it losing upwards of ten seconds. However, unfortunate as this was for him with it



Charlotte Purdue leads from Laura Park and Emma Pallant during the junior women's race – Edinburgh 2008

World Cross-Country Championships

happening early in the race it allowed him time to work back to the leading group which he had succeeded in doing by the end of the lap. Biding his time once he was back in contention Bekele made his decisive move on the last lap moving away to win by 3 seconds from Kenya's impressive Leonard Komon with defending champion Zersenay Tadese (Eritrea) a further 2 seconds back in third place. Kenya with 39 points were easy winners of the team race from Ethiopia (105 points) and Qatar with their African imports third (144 points) UK lacking Mo Farah who

did not want to run on home soil were a disappointing 11th (444 points) of the 15 teams that closed in finishing behind the USA, Spain and Australia. The team was led home by Tom Humphries (63rd) who faded a little after a promising start. The ever dependable Mike Skinner (66th), a returning to form Frank Tickner (73rd), the home grown Andrew Lemoncello (79th), and solid runs from Andi Jones (80th) and Phil Wickes (83rd) completed the team. The other UK non-scorers were Andy Vernon (115th), James Walsh (121st) and James Beattie (137th) of the 166

finishers.

The most successful non-African country was the USA with the home country showing up well in the two Ladies races. However, there was a disappointing and worryingly small turn out from the European nations. This is a worrying development as cross-country has always been the bed rock upon which previous generations of European endurance athletes has been based in the past. The team races titles were split evenly between Ethiopia and Kenya with two each. However, Ethiopia won all four individual



Leaders in the senior women's race with Liz Yelling – Edinburgh 2008

Edinburgh March 30th

titles and only Tadese (Eritrea) broke the Ethiopian and Kenyan monopoly of the individual medals. The stand out stars were Tirunesh Dibaba (Ethiopia) with her third title equaling her cousin's Derata Tulu's record, but above all Kenenisa Bekele (Ethiopia) achieving a record number of individual World Cross-Country titles with six surpassing the record of five held by the Kenyan's John Ngugi and Paul Tergat. Add these to his five short course titles – no longer contested – it adds up to an incredible eleven world titles a truly amazing athlete.



Hayley Yelling – Edinburgh 2008

Haile Gebrselassie

When Haile Gebrselassie set his World marathon record marathon time of 2 hours 4 minutes 26 seconds in Berlin (30/09/2007) this worked out at an astonishing 4 minutes 45 seconds per mile. This equates to an interval work out of a 105.5 x 400m in 70.8 seconds with no recovery!! His improvement on his personal best (2 hours 5 minutes 56 seconds) was 1.2 percent or almost a second per each of the 400 metres!!!

Haile is 35 years old this month. He stand 5'5" tall and weighs 123 pounds. He has set world records both indoors and out from 3K to the marathon. His personal bests at the four Championship distances are shown in table 1.

These times reminded me of the BMC founder Frank Horwill. He focused on training for the event with things that

Race Distance	PB	Pace per 400 metres
5000m	12:39.36	60.7 secs.
10,000m	26:22.75	63.3 secs.
Half-Marathon*	58:55	67.0 secs
Marathon*	2:04.26	70.8 secs.
* Current World Records		

Table 1.

PERFORMANCE PREDICTOR

Race Distance	PB	Pace per 400 metres
5K	20:00	96 seconds
10K	41:40	100 seconds
Half-Marathon	91.26	104 seconds
Marathon	3:09.54	108 seconds

Table 2.



Photo: Organisers

worked. Through this approach and study he developed "Horwill's Principles" This stated that running slows by four seconds per 400 metres each time the race distance doubles. For example if you can run a 5k at 80 seconds per lap (16:40) your 10k performance should average 84 seconds per lap as it is double the distance. (35:00). Therefore your marathon pace would be 92 seconds per 400 metres.

I have found 'Horwill's Principles' to be an excellent predictor of performance. Using this as a basis you can not only predict performance but also use the required pace per 400 metres in your training sessions. For some females the rule applies however, others may require a 5 second differential per 400 metres.

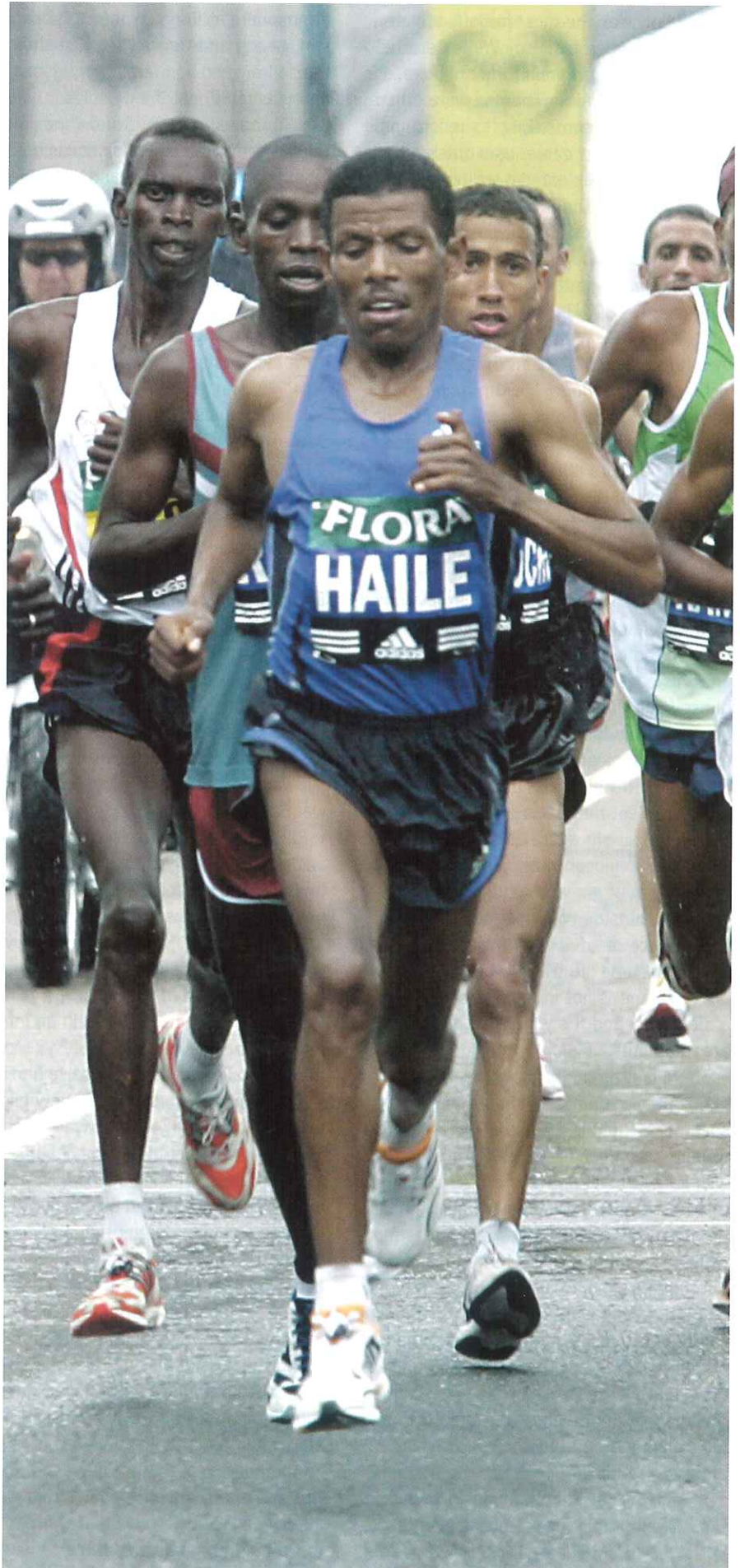
Gebraelassie meets the principles on the jump from half-marathon to marathon and nearly on the jump from 10K to half-marathon (3.7 second differential). However between 5k and 10k he only slows by 2.7 seconds for each of his 400 metres. This could be due to running on the track instead of the road. But probably proves that over shorter distances the really elite athletes slow down less than the rest of us for who the 4 second differential holds true.

A prospective marathon runner can test themselves on the 6 minute MaxVO₂ run. Using the distance covered in the six minutes – for example say it was 1600 metres - they can work out their pace per 400 metres and interpolate this for a five kilometer pace. This will then allow the athlete to use the principles as table 2. shows.

In simple terms running 1600 metres in 6 minutes predicts a marathon tempo of 108 seconds per 400 metres to equate to an overall time of 3 hours 9 minutes 54 seconds. This is 7 minute 15 seconds per mile and this should be the goal pace in training. If your marathon is several weeks away obviously your fitness levels should improve. Therefore retake the 6 minute test every 4-6 weeks and adjust the training pace accordingly if your training levels have improved. It is also wise to run your long marathon training runs at the correct pace and not at a much slower pace. The reason for this is that you want the body to adapt to the pace required for the full distance and this will not be achieved if you are running your 20 mile long run a minute per mile slower than the required race pace. Training at the required race pace regularly in training helps the body adapt, helps running economy and builds up confidence.

The 'Horwill Principles' will not apply if you do not train at your goal pace whatever your chosen distance.

This article first appeared in *Running Fitness* magazine.



Herb Elliott was the most famous athlete that was coached by Percy Wells Cerutti, but he was far from being the only one. John Landy and Albie Thomas were others who set world records. Elliott's record in his relatively short career was outstanding.

He was never defeated over his favoured distances of 1500m and the mile. He won the 880 yards and 1 mile at the Commonwealth Games at Cardiff in 1958 as well as winning the Olympic 1500m in Rome in 1960. He took the lead in that race and ran away from the field to win by a huge margin of 20m. In his Olympic victory he set a world 1500m record of 3mins 35.6 secs, he also set a world mile record in Dublin of 3mins 54.5 secs in 1958. These are still times that would be world class in the 21st century.

Elliott was the fastest 18 year old in the world when he ran the mile in 4mins 4.3 secs and 1500m in 3 mins 47.8

Both Cerutti and Elliott are closely linked in any review of athletics of that time. Cerutti had a breakdown at the age of 43 and this encouraged him to reconstruct himself. He then after much reading, developed his ideas of natural diet and exercise. He clearly became an outrageous personality but his feats of strength and endurance set him apart. He developed a whole philosophy of life and attitudes. A clue to his philosophy comes in the quote "You only ever grow as a human being if you are outside your comfort zone". A useful piece of advice that might well stand the test of time "Run hard, be strong, think big". "Failure is not in my dictionary. I have a dictionary and the words fail and failure are ruled out".

There is little doubt that Cerutti was a charismatic, controversial and outspoken coach and there is also little doubt that his training was decades ahead of his time. He was for example, one of the first coaches to advocate the importance of strength training. So was his introduction of resistance training in the form of sand and hill running. The media view of Cerutti as a fanatic who would flog you up and down sand dunes was far from the assessment of Elliott "No, he would inspire you and often leave you to your own devices". "He put sport into a much larger context than just running around in circles faster than anyone else did".

It is clear that Elliott was inspired by Cerutti, who organized a training camp at Portsea, near Melbourne. Herb loved the

atmosphere at Portsea; the cliffs, reefs, surf, beach and tracks. "You just sniffed the salt air and you felt your chest expand and you could feel the muscles in your legs. It made you want to run" he said. Elliott attended it on many occasions. So what was the camp like and what went on there?

7am A typical day started at 7am with a five mile run followed by a swim in the sea.
8am 8am was time for breakfast which consisted of uncooked rolled oats, wheat germ, walnuts, sultanas and bananas
9am 9am until noon was a time for swimming, surfing and relaxing.
12pm Noon was the time for more training and a lecture.
2pm Lunch consisting of fresh fish and fruit.
3pm Siesta.
4pm Weight lifting
5pm 10 mile run on dirt roads
7pm Tea and discussion
11pm Lights out.

No alcohol, nicotine and women were allowed. No visits to the pub or cinema were allowed!

Elliott believed that he trained harder and more naturally than anyone else and this was the key to his success. Sometimes he trained on the sand dunes at Portsea 'until he dropped' On occasions Percy would say "Faster – it's only pain".

It is a measure of the regard that Elliott had for Cerutti when he said in an interview in 2003 that he was the greatest coach that Australia had produced. "He had the magnificent ability, which very few people have, to transform you with words and lift you twenty feet in the air... he had a wonderful, inspiring eloquence. He seemed to be more interested in using sport to develop you into a better human being".

Elliott was asked if he could have achieved what he did without Cerutti. "I have no doubt that I would not have, I think we were a genuine partnership. I found the sessions beautiful – they were painful but beautiful and I never found running around the track against the stopwatch had any beauty with it".

Another revealing comment from Elliott has some relevance to today's runners "Percy always believed in intensity in training, the pain was the way to

go forward and today science doesn't necessarily preach that, and I think science is wrong".

In the build up period he would run 60-70 miles a week Training in the pre race season period would be on the following lines at the age of 18:

Monday	6-10 440s or 880s followed by a 3 mile run
Tuesday	5 miles flat out
Wednesday	train with sprinters – a relaxation
Thursday	30 minutes of sprint jogs
Friday	rest
Saturday	3-6 miles flat out on the track
Sunday	10 miles hard.

The Melbourne winters were long, cold and wet and fitting in sessions became a bit of a drudgery. In this period Herb was working, studying and he had a family. He even gave up smoking! In is worth emphasizing that this was strictly an amateur time for athletes in Australia. How many world record holders would expect to have to pay to enter the ground to compete as Elliott did? All of his races were on grass or cinders – there were no all weather tracks in those days.

It does seem incredible that on his tour of Europe in 1958, after setting a world mile record in Dublin that he borrowed a van and stayed on campsites. How many of today's superstars would do that? As has been made clear Herb Elliott was no automaton. When he ran at the White City in 1958 he was tired at the end of a long season and went off night clubbing with Chris Basher straight after the race. He got to bed at 3.30. He woke up noon and read in the papers that had run the second fastest mile of all time the previous night!

After the Olympics Herb Elliott completed a degree course at Cambridge University. Even though he ran some races for the university he never really trained again. What was he like as a person.? Dick Copas later to be a teacher at Greshams School in Norfolk was a friend during the Cambridge days. He says that Elliott was an affable, unassuming, normal person who liked a drink and a cigarette. But he was very competitive

Cerutti wrote a number of letters pleading with Herb to come out of retirement, but to no avail. Both Percy Cerutti and Herb Elliott have won their place in athletics history.

Over the years an enormous amount has been written about training for running but relatively little has been written how to run properly. Contrast this with articles in Athletics Weekly in 2006 which showed a detailed photo analysis of the discus throwing of Alekna and the pole vaulting of Yelena Isinbayeva. The analysis is clearly aimed at the perfect or ideal throw or vault. So why does this not apply to running too? Remember that a throw or vault is completed once while the running action can be completed thousands of times in a 10km or cross country race.

Every runner is different, every runner has his (or her) idiosyncracies but it is worth bearing in mind the comments of Thomas Miller in "Programmed to Run" – "Just because your current running technique feels natural doesn't mean that it is efficient or mechanically sound".

It may seem a bit simplistic but suppose that the efficiency of the running action of a 10km runner can be improved by 1%. A 30minute 10km run can improve by eighteen seconds to 29minutes forty two seconds, Now that may well be worth looking at!

Indicators of fitness

There are three measures of running fitness that are generally considered to be useful indicators of running performance; these are Vo2 max, lactate threshold and economy. Of course the ultimate measure is race performance! Vo2 max according to Noakes is "the maximum rate of oxygen flow, and it is usually expressed as relative to bodyweight (that is, in millimetres of oxygen per kilogram of body weight per minute (ml O2/kg/min))" So far so good, the best runners are light and can use more oxygen. Athletes will spend years training to increase their VO2 max. Do the best runners have the highest Vo2 max? Well it isn't quite as simple as that. Runners of the same Vo2 max can display different running performances. The problem is that it is the athletes maximum rate of work rather than his or hers maximum oxygen uptake that predicts athletic performance. This leads on to the lactate threshold

Lactate threshold or turning point is the time at which lactate starts to accumulate in the blood and as such is a limiting factor in performance. There is a point at which when the intensity of running increases there is a rapid increase in the level of blood lactate; sometimes referred to as the onset of blood lactate accumulation (OBLA). At rest blood lactate levels are about 1 millimole

per litre (mmol/ltr) and can rise to 20mm+. at comfortable steady state running there are at about 2 mm. The implication here is that when blood oxygen becomes in short supply during intense exercise then the higher the blood lactate level that can be tolerated the better. The ease at which it can be cleared from the system is, of course, vitally important. The implications for middle distance training and racing are immense. It has been said that one of the reasons for the Kenyan runners being so good is that they spend more time training at a higher intensity.

What is running economy?

Running economy is probably not so well understood. Where then does it fit into the scheme of things? Is it the same as Vo2 max? Noakes says that "Running economy relates to the amount of oxygen used by the athlete at a constant (submaximal) running speed, whereas VO2 max refers to the rate of oxygen used by the athlete when running at the maximum speed that athlete can sustain for between 5 and 8 minutes". In other words you need to compare athletes running at the same speeds. The best athletes are usually the most economical. This is not too difficult to believe if you look at how smoothly Haile Gebrselassie runs when in full flow. The reason why running economy is such an important factor is because athletes with good running economy use less fuel/energy at any running speed than do less economical runners. As Peter Coe puts it "The better runners get the greatest amount of forward movement for the least energy cost"

I would add a further comment: any energy or part of the running action that is not directed towards bodily functions and forward motion is wasted. A runner with a significant amount of vertical oscillation, that is one who bounces along is not efficient.

Some coaches are loathe to interfere with a running action because it is natural; if you do interfere then you create problems. However, running is a skill and because it is natural doesn't make it right. Sebastian Coe's action was improved when he was younger and Gebrselassie has examined his action in front of a mirror so that he could make improvements

Factors affecting economy

A number of experts tell us that economy is improved naturally when runners train for greater distances and for a number of

years. What affects economy? Any number of things from biomechanics, technique, age, gender and clothing can have an effect. Some researchers have suggested that closer fitting clothing, lighter shoes and short hair can reduce the resistance to movement. Even covering up shoe laces can reduce resistance to movement; shoe manufacturers are working on this point.

Points to consider for coaches and athletes

Look for 'energy leaks'; that is energy spent on activities that don't help the running action. Look for a model of efficiency.

Some of the problems are outlined here;

- Feet landing flat and making a significant amount of noise. This is a common enough problem with some road runners.
- Leaning too far forward or leaning backwards are likely to shorten the optimum stride length.
- A nodding head wastes energy as will excessive tension in the neck muscles.
- Running with crossed arms will surely make sprinting very difficult. The same problem will arise with arms that are carried too straight or too low.
- Arms held too far from the body will also waste energy, this is sometimes described as 'chicken wings'.
- Feet splayed outwards will also not be as efficient as they could be.
- A common problem is excessive rotation of the trunk in the running action.
- Excessive up and down motion in the action (vertical oscillation) has already been referred to.

Ways of solving the problems

Danish research has shown that running economy can be increased considerably by improving the elastic return in the tendons and legs. This varies hugely between different runners and is surely an area to look for big improvements. To increase the 'stiffness' and energy return with each stride requires increased strength. Runners are often reluctant to get involved in strength training and maintain that time is best spent on running. To counter this point it can be said that injuries can occur from poor action. Strength training can also lead to superior 'fatigue resistance', which is being increasingly mentioned.

The strength work can take the form of hill runs where clearly moving against increased resistance will increase strength. Weight training and bounding, if done carefully, can

be a help. Strengthening the 'core' is an area that is often neglected. Considerable work can be done without the use of weights or a visit to the gym.

It is a good idea to video the running action from several different angles. A careful analysis of this can help identify the problem

There is no doubt that many runners have poor upper body strength, which makes some of the problems outlined in the previous section worse. Flexibility is another area in which road runners in particular are poor; good ankle and foot strength are essential.

Indeed work on technique including the use of drills can be effective. The Alexander Technique stresses running tall, looking ahead, aiming to run lightly on the feet. Arms should be held at an angle of 90 degrees so that you can pump your arms more effectively. Don't clench your fists nor allow them to flap about.

Conclusion

The main point of this article is to explain what running economy is and why it is important

It is not the aim to give detailed solutions to all of the problems that a runner can face with his or her technique, but rather to point out what the common problems are and the ways of finding the solutions. A final point from the coach Dave Sunderland "The ideal running technique is relaxed, economical and efficient" if you can achieve that then you really are moving towards the ultimate performance.

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Egg-Heads plan the first sub 3:30 mile!

Re-produced by Frank Horwill

As we approach the 60th anniversary of the first Sub 4-minute mile in 2014, scientists at George Washington University and the University of Rhode Island have come up with a formula for a sub 3:30 mile or a sub 3:10 1500 metres!

Here is their plan:

Day 1	Anaerobic power – Run a series of 400 metres at close to top speed with recovery jogs two and one-half times the duration of the actual interval. Start with 4 x 400 and progress to 8 x 400. This looks like 800 metres pace work.
Day 2	Run steady from 35mins to 70mins duration.
Day 3	Run 400s three seconds faster than current mile/1500 pace or 800s six seconds faster with eight minute slow walk recovery in either case. Start with 8 x 400 or 4 x 800 and progress to 12 x 400 or 6 x 800. This is to boost 'economy'
Day 4	Run steady from 35mins to 70mins.
Day 5	Sprint up a hill 75m long with a gradient of 1 in 5. Walk back recovery. Start with ten sprints and progress to twenty. If hills not available, use stadium steps or a stair-stepping machine. This will boost anaerobic capacity and economy.
Day 6	Run steady from 35mins to 70mins.
Day 7	REST
Day 8	Run up a gradual hill 200m long at mile pace x 8, walk back recovery. Run up the hill with high knee-lift x 8 and jog back. This also boosts anaerobic capacity and economy.
Day 9	As for days: 2, 4 and 6.
Day 10	Run 6 x 1200 metres six seconds per 400m slower than best mile/1500 pace, jog half the distance of the interval as recovery. This is to upgrade VO2max and is around 3k to 5k racing speed.
Day 11	Steady running
Day 12	Start with day 1 again.

The research concluded that the key factors involved in sensational mile/1500 times were anaerobic power, VO2 max and running economy, that is the amount of energy needed to run at a quality pace.

According to Messrs F Peronnet and G Thibault, Mathematical Analysis of World Running records, in the journal of Applied Physiology, 1989, the mile will be run in 3:29:8 around 2040 and the ultimate time will be 3:18.87

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