

High Performance Seminar

2009 World Half Marathon Championships

This paper has been edited together from a series of blog posts I wrote in 2009 about the eve of championships seminar. It remains one of the most interesting endurance training discussions that I have attended so I have decided to produce a downloadable paper for easier use.



The expert panel comprised (left to right in photo) Wilson Kipketer (800m World Record holder), Alberto Salazar (Head Coach of the Oregon Project), George Gandy (Head Coach at Loughborough University), Lisa Dobriskey (World Silver 1500m) and on the other side of the room out of camera shot were Liz McColgan (1991 World 10,000m Champion), Glenn Latimer and Ian Stewart (now Head of Endurance at UK Athletics).

The first big topic was about how to revive distance running in the UK (and Europe) so Alberto gave us some insights into the American experience. After the high point of the 1980s US standards dropped alarmingly in the 1990s. One of the measures he used was the number of high school runners clocking sub 9 minutes for 2 Miles. For many years there would typically be 30 or so but by the low point it was down to just a handful each season. And given that producing successful endurance athletes is a numbers game then having a small pool of talent coming into the college system was going to have an impact further up the pyramid. This was a theme that both George and Wilson agreed with. You had to have a large number of young athletes coming through to give you a chance to produce the Dathan Rizenheins and Galen Rupps. Encouragingly the number of sub 9s is now back to close to an all time high - although we didn't get to hear what had made running sexy again for American school kids.

The Oregon Project was kicked off a decade ago as one initiative to try and revive fortunes. Alberto's first experience at raising standards turned out to be a chastening one. His plan was take a bunch of mid-13 minute 5k runners, speed them up a bit and then move them up to the marathon. By recruiting guys who had competed well and had good track speed he reckoned his chances of success were high. As it turned out he only managed to get one guy into the 2.10-2.11 range and the insights were revealing. Alberto's assumptions were based on the fact that during the 1980s he trained with a bunch of guys in Boston at the GBTC who were running sub 2.09-2.12 marathons with far less speed than the guys he was planning on moving up in Oregon. Where the plan fell apart was that the 2000's generation had been running far less volume than their eighties counterparts and while this wasn't a problem at 5k when they moved up it caught them out big time. When pushed for some numbers he reckoned that the GBTC guys were probably doing 120mpw or more while the

Oregon guys came from a background of 90mpw plus or minus. That's a big difference over several years training and the cumulative effect on aerobic development is huge.

He developed this idea further with a story about how Kenyan kids at age 18 have 15,000 more miles in the bank than the average American high school athlete. While the numbers might have been rough and ready the point certainly hit home. We need to run more and sooner. And expect that our athletes will peak at a later age than their east African counterparts because they will be behind in their development.

George had an interesting take on why athletes weren't running enough. Back in the 1970s and 80s there were fewer major international events. So although athletes raced a lot in low key events they really only had to peak once a year so spent the whole winter and spring just running and racing tired. These days you have the Euro Cross, Indoors, World Cross and then a summer track season where you need to make some money and try and perform in a major championship against fierce competition. So athletes are spending a lot more time preparing for races instead of just getting aerobically fit. This is a reality of a fully professional sport which we don't seem to have come to terms with.

The big lessons for Alberto from that first experience could be summarised as: if we have fewer runners available we need to train them smarter (and the Oregon/Nike version of that will be developed in a subsequent post); identify the talent at a younger age and start to build its aerobic capacity with progressive volume (more on this later as well with some examples).

The other panelists were in agreement on one big theme which was the need to train in groups. Lisa talked about doing some of her runs with up to 60 athletes at Loughborough under George's guidance and how that helped her to improve. Ian Stewart revealed that UK Athletics was setting up two altitude bases, one in Font Romeu and one in Kenya as well as using Loughborough as the permanent centre for endurance in the UK. A change from the previous regime was that he was keen to encourage non-funded athletes to also use these venues to start to re-create the large group concept of yesteryear.

And its not just the US and UK thinking along these lines. Outside the conference I bumped into Michel Boeting who used to work with Jos Hermans at Global Sports Communications and gave me my marathon debut opportunity in Amsterdam in 2003. One of Michel's recent projects has been to set up a privately organised group in the Netherlands with Dutch and a few Belgian runners. At present they have about 30 athletes including the likes of Michel Butters and results seem to be picking up already though funding is still proving hard work - this seems to be a difference between Europe and the more entrepreneurially minded US where a number of groups have sprung up outside 'the system'.

Part 2 Progression

This discussion came off the back of the first part when most of the panel were talking about developing a big aerobic base through plenty of miles and targeted faster running and how the culture of the 1990s had got us away from building this big base in search of quick fixes. Alberto talked quite a lot about Galen Rupp's progression during the 7 years or so that they have worked together. Most of us know that Rupp has now run a mid 27min 10k and took the NCAAs by storm this year in his last year of college eligibility. According to Alberto, this year he will have been running 95 miles a week (what we didn't find out was if this was his 52 week average or what sort of variation there was from week to week - and more on Rupp's workouts later). What he did say was that he has been increasing his volume by 5 miles a week or so over a number of years and clearly as a guy in his early twenties there are many more years of increase to come.

Kara Goucher was a similar picture with a progression year on year as she built her aerobic fitness. And interestingly Dathan Ritzenhein was the opposite! So Alberto pointed out that as a marathoner Dathan had been up at around 120mpw in recent years under Brad Hudson's training but this season he backed down to more like 100 and focused on doing more faster running with an eye on the track again. The results are there for everyone to see with his sub 13 5000m in Zurich backed up with a fantastic bronze at the World Half this weekend. And just in case the 'low mileage' guys start to get too excited Alberto pointed out that when Dathan goes back to the marathon then they will build up his volume again.

So back to progression and an interesting view from Liz McColgan - indeed one of the few areas that the panelists disagreed on. Liz reckons we should be identifying at a much younger age where an athlete's strengths are and therefore their likely best event. The British mindset is to start with the shortest track race and keep moving up throughout our careers until eventually we get to the marathon. Of course Liz did race a pretty handy 1500m in her day but she was a 10,000m [Championship runner as early as 1988](#). Ian Stewart shared that he was always a 5000m runner, as a junior and senior. That was where his talent lay and he stuck to it. (The day after I asked Richard Nerurkar about when he knew he was a marathon runner. He made his marathon debut in 1993 and age 29 but revealed that during 1988/89 he had been training in Boston with Pete Pfitzinger and other marathoners and had handled the long runs very well and knew even then where his future lay. Of course he stuck with the 10,000m for a few years to take 5th in Tokyo '91 and then run the final in Barcelona '92. He is also one of those athletes like Dathan who ran faster over the 10k after moving up to the marathon but that's a topic for another day).

Alberto took a differing opinion. His approach is very much to maximise his athlete's potential at shorter distances before moving them up (as their aerobic base develops) as he explained through his examples of Rupp, Ritzenhein and Kara Goucher. I suspect there was some nuance lost in the big panel discussion and if you actually dug deeper both sides of the argument probably had the end goal event in mind and just a slightly different approach to getting there.

So for a completely different take on progression we had George Gandy. Talking about Lisa Dobriskey's ability to pull championship medals out of a compromised season (she won Commonwealth Gold and World silver in injury affected years) George talked about how he looks for progression every week in training. Not year to year, mesocycle to mesocycle but week to week. This certainly caused a few furrowed brows from the other panelists and as he explained because Lisa was used to that sort of progression they could handle a 6 week block knowing just how far they could develop her fitness. In fact, he said that you are only 6 weeks from a PB, a comment met with a few sagely nods from Salazar. (What he didn't say is 'if you are in very good aerobic shape already' - which has to be implied from the earlier discussion on volume. Lisa had mentioned that during the winter she is running about 70 miles a week and has built up to this over a number of years - so clearly her aerobic base is pretty good now).

There was some interesting detail behind this - and George is good at detail! He explained how athletes often progress very quickly in the first couple of months after their end of season break (I'm sure many of us have been there - I was on fire from Dec 98 to Feb 99 without really doing a lot other than having recovered from the previous season). So one of the things he does is look to hold people back in that period by adding more miles, more reps or less recovery. Basically by keeping them tired during the winter he can control the evidence of the progression so that when he starts to reduce the load as the competition season approaches there continues to be a visible improvement. He used the metaphor of running with a sack on your back and adding or removing weight from it to control the speed.

George also talked briefly about how after 10 weeks or so with a particular stimulus performance can start to plateau and how that is a sign for him to change the direction of the training in some way. And if you are in to seriously long term evolution of training ideas based on evidence then his recollections of the Loughborough circuit sessions were fascinating if a bit long winded. The abridged version is 'from 13 stations in the 1970s when Coe was there the programme has evolved to 16 stations today - and he is less convinced of the need for conventional sit ups...'

The final word in this section goes to Salazar who said that endurance performance is a 'culmination of years' of training. Something we all know but often lose sight of in search of a short cut.

Part 3 Altitude Training

Ian Stewart mentioned at the start that he believed altitude was a critical ingredient in endurance success and to that end would be setting up altitude camps in east Africa and Europe for attendance by British athletes. Ian's belief was in part based on his personal experience. He trained at St Moritz during the 1970's and told the audience about the pre-Munich camp when he was training with Brendan Foster and Ron Hill. Ron had a bad time in Munich and in part this was blamed on altitude by the press and Ron himself. Ian was clear that Ron was running badly when he got to altitude and continued running badly at sea level. The point being that altitude is no magic bullet to get out of shape athletes fit.

Alberto agreed with this and went further saying that you needed to be in very good shape before going to altitude to get the most out of it. He talked about the effect that altitude has on the body and focused on two main changes that impact running performance. The first was the increase in red blood cells (presumably size as well as quantity) and also the improvement in lactate buffering capability. Then it started to get interesting.

Prompted to comment by 'MC' Geoff Wightman whether there was any truth about Alberto training himself wearing a facemask and respirator device to reduce the flow of oxygen to his lungs he revealed that indeed he had. And that it didn't work though at the time he didn't understand why. (This was one of several examples Alberto gave where his experience as an athlete has led him to do something quite different as a coach). The bottom line was that it takes the body about 90 minutes to start responding to hypoxia by producing extra EPO from the kidneys. So the length of time he wearing the mask for wasn't long enough to produce a response - but was long enough to tire him out.

So what was the best altitude for training? Again Salazar dominated the conversation here with a point of view (probably backed up by a load of research from Nike at a guess) that you need to be at 7000 feet to get the benefit of increased blood volume and red cell count while lower levels were sufficient to get some of the lactate buffering benefits. And it was living at altitude more than training there that brings the benefit. Pushed for an ideal scenario Alberto would live at 7000-8000 feet and train at 4000ft. His group were able to do something similar to this in Utah where they stayed high then came down to Salt Lake City to train.

I asked him about racing after coming down from altitude because I had observed Kara Goucher leave St Moritz 4 days before the Worlds which confused the hell out of me. His response surprised me to say the least. She continued to use an altitude tent until 48 hours before the race! And Dathan would be doing the same in Birmingham before the World Half (clearly it worked). That left me curious as to whether they were using an altitude tent even in St Moritz to sleep higher than they were training (at 6000ft). My guess is that they were. So does altitude work for everyone? Certainly not for Liz McColgan. While Liz was able to train OK at altitude she said that she had real trouble racing afterwards and couldn't seem to find any form. She hit on an alternative, hot weather. And she meant hot. Florida was a

favourite destination for her and she found that training in hot, humid conditions provided a similar boost (there has been quite a bit of research from the Australian Institute of Sport into heat training which backs up the benefits experienced by McColligan). Glenn Latimer chipped in by recalling how a supposedly washed up Steve Jones spent the summer of '88 training in a hot and steamy Illinois before going on to win the New York Marathon that autumn in 2:08.20. The consensus seemed to be that altitude works for the vast majority and you need to be in good shape already to get the most out of it.

When it comes to measuring the effects of altitude Salazar was pretty blunt. Measuring Hematocrit and Hemoglobin are really just measures of hydration and therefore useless for measuring whether you actually got more red cells (Note: both measures are a ratio of solid matter to the liquid part of the blood so clearly any increase/decrease in plasma volume will have an impact on the ratio). He measures the total red cell mass though didn't explain how or how frequently.

The altitude discussion wrapped up with George Gandy explaining how after a spell of training in Boulder, Colorado Jon Brown struggled to adjust to sea level race pace and had a disappointing London Marathon. And then he promptly turned to Alberto to ask if he had any insights into what might have gone wrong! Top coach, always wanting to learn more. And the willingness to share experiences and lessons learned was a feature of the whole evening.

The topic of altitude came up again on Saturday at the England Athletics seminar on 'Transition from 10k to Marathon' which was the warm up act for the launch of the National Coach Development Programme. Both Charlie Spedding and Richard Nerurkar trained in Kenya and America during their careers and felt that altitude was a key part of an endurance runner's development though Charlie's advisor, Lindsay Dunn, had a different take on how to use altitude focusing on faster pace training with plenty of recovery as opposed to the bigger volume blocks that many athletes go to altitude for.

Part 4 Peaking and Conditioning

George Gandy was one of the pioneers of strength work for middle distance runners. His Loughborough circuits in the 1970s were legendary and Seb Coe gives much credit to George for the impact of his strength programme on his performances. Interestingly George said that Seb did the strength programme until the end of the 1981 season and then basically stopped, and never ran faster over 800m again!

One of the key exercises for George's athletes is the full squat and the goal is to build up to 2 sets of 6 reps with 1.5 times body weight. He used to have the women working with less relative weight and is now convinced that they can handle the same as the men. Concerns about them looking like east European discus throwers could be banished - slim middle distances runners stayed slim middle distance runners!

Alberto's athletes spend 90 minutes a day on supplementary exercises to build core strength and other capabilities. He also talked about passive stretching vs dynamic exercises. During his running career Alberto spent quite a lot of time stretching and still when it came to running fast he had a terrible style and looked incredibly tight. He referenced the dynamic exercises that east Africans do and Wilson also talked about these and how they help make the body move effortlessly at speed. When I asked Richard Nerurkar the next day what he would have done differently when making the transition from 10k to the marathon he said spending more time on conditioning so that he could better handle the stress of the extra marathon training was probably all he would change. You can't get away from a strong platform if you are going to run a lot. George used the analogy of putting a Formula 1 Car engine into a Formula 2 Car - the extra power would cause it to fall apart because the gearbox, suspension etc. couldn't handle the power.

When it came to being in top shape when it matters the panel had plenty of thoughts. Wilson Kipketer said that to get the best from yourself you need to focus on the main goal race for the season. He said that you need to know at the start of the year what this target is and prepare for it. (It sounds so simple and obvious and yet for many people the main goal gets lost amongst all the other races). Performances in the other races were not so important and you need to arrive at the start of the last 4 weeks in good shape. Then it is just a question of sharpening up and resting so that you are fresh for the big race. In the first part I wrote about how George Gandy likes to see progress every week and reckons you are never more than 6 weeks from a PB. He told us about how Lisa Dobriskey, 10 days before a major championship (I don't remember whether it was Melbourne or Beijing) ran a 1500m race in a pretty mediocre time. For a while he was debating whether to give her some more hard workouts or just rest up. They went for the 2nd option and a week later when Lisa was running the race that really mattered she was able to perform.

I asked Alberto about the workouts Kara Goucher had been doing in the last 2 weeks before the Berlin World Champs marathon (I had watched a few of them in St Moritz and they seemed pretty fast to me). Alberto commented that the most important thing was how hard they felt, the effort needed to be controlled and as the athlete was backing off she could run fast with less stress than when in hard training.

There was also a good question about the improvement in Galen Rupp's finishing speed. Alberto had watched Bernard Lagat running and realised that he was so efficient at speed that 5000m race pace for him was easy.

So he took this idea and applied it to Rupp. The goal was to be able to run 9x300m in 39secs before races. As part of preparation for this he had Galen doing the 30/40 workout where he runs 200m in 30secs then cruises the next 200m in 40secs. And they also spent some time racing 800m and 1500m this year. He felt that paying this attention to speed had helped Galen improve his ability to close races (and of course the endurance that came from lots of miles at a good pace provided the foundation so that he could be in position to use his new found speed).

A couple of other perspectives on peaking were provided at a marathon workshop the following day by Charlie Spedding and Richard Nerurkar, England's two fastest marathoners. They had quite different approaches to the final 2 weeks. Richard was happy to run a fairly hard workout 10 days before the marathon. In his case 5x2km at marathon pace with a steady km to recover. Charlie on the other hand felt the need to keep in touch with his speed and would run something like 5x400m in about 62secs with a few days to go. One of the things that seemed to make a big difference to Charlie was the realisation that he took a long time to rebuild his speed and lactate tolerance and that by keeping that faster work going all year he was able to have a better control over his peak.

Liz McColgan talked about race tactics and how important it was to understand your strengths and race to them rather than just sitting and waiting for a sprint finish like so many athletes seem to do. (Two of my hazy memories of Liz are of her being outkicked by Bondarenko at the end of the Seoul 10k and then crushing the field 3 years later in Tokyo with a relentless display of front running - definitely her strength!).

Alberto talked candidly about how he had over trained during his career, in particular when trying to get himself into top shape for the marathon and a theme from most of the speakers was the importance of being rested for the major competition of the season and the need for athlete and coach to trust in the work that they had done. At that stage it was definitely a question of less is more.

About the author

Adrian Marriott works with business teams and their leaders to drive sustainable performance at all levels in their organisations. He coaches runners at all levels from novice to international as well as educating and mentoring coaches.

A Great Britain international with a 2hr 18 marathon best Adrian lived for a year in east Africa in 2002-03 and trained with the some of the best in the world in search of new insights into high performance. He has taught Organisational Behaviour on the University of Bath MBA and lives in Zürich, Switzerland.

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