

**HOW  
TO  
SUPPORT  
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*THE ART OF APPLYING SCIENCE TO THE ELITE ATHLETE*

**STEVE  
INGHAM**

# **HOW TO SUPPORT A CHAMPION**

The art of applying science  
to the elite athlete

**By**  
**STEVE INGHAM**

**SIMPLY SAID**

HOW TO SUPPORT A CHAMPION: THE ART OF APPLYING SCIENCE  
TO THE ELITE ATHLETE

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# **DEDICATION**

To my perfect girls: Rachel, Rosie and Lily.

*"You must learn from the mistakes of others. You can't possibly live long enough to make them all yourself."*

**Sam Levenson**

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## PREFACE

*"He who works with his hands is a labourer.  
He who works with his hands and his head is a craftsman.  
He who works with his hands and his head and his heart is  
an artist."*

**Francis of Assisi**

I often hear myself and others saying: "There aren't any books telling you how to work with elite athletes."

Well, this book is a contribution to invalidating that statement and sentiment. However, it isn't a point-by-point guide of what you need to *do* to be an effective practitioner. Applied practice is too complicated for a simple checklist manual.

Instead, this book will share with you the intensity, the challenges, the complexities, the strains, the insecurities, the regrets, the mistakes and the lucky scrapes, as well as the fierce ambitions, the hopes, the breakthroughs, the sense of purpose, the joys, the fun, the wonder and the grandeur of being an applied practitioner.

I have written this book as a part of my 'call to arms' for us all to do more to develop and celebrate the art of applying knowledge.

Whether you are a sport scientist, botanist, web developer or air traffic controller, you are a practitioner: 'a person engaged in the practice of a profession'. Therefore, I'll take it as a given that you have a good knowledge base. I assume that you will have done the relevant reading and research, and that you have the certificate to prove it.

Throughout my career, I have been struck by the level of curiosity around the subject of why some people are effective while others are not. Why is it that some practitioners are brilliant, while others are mediocre and some are downright awful? Why is it that when you meet some practitioners they drain all your happiness away, while others brighten up your life? Why is it that, when given an interesting project to work on, some practitioners just go off and do their own thing, while others pull together to provide a collective effort?

Why is it that, when presented with a problem or a question, some practitioners become innovative, sparky and creative, while others just try to hit different problems with the same hammer? When presented with an outcome, why do some practitioners point the finger of blame, while others reflect and accept responsibility? Why do some practitioners just mess with people's business, while others help to make life easier? The difference might be explained by the practitioner's personality, but I think the major difference is whether that person has learned and adapted from their own experiences.

If you fail to learn from your experiences, you won't progress in your understanding. If you fail to adapt from your learning, your skills will remain static. If you fail to learn or adapt, your ability to effect change, and your influence on the world around you, will be limited.

All too commonly, the educational system is stuck in teach-recite or research-write up; two-dimensional methods of training. So how will practitioners of the future ever be suitably trained to work if there is so little *do* in their courses from which they can learn and adapt? Even out there in the big, bad world, practitioners are often afraid to confront the brutal facts of their own performance by self-reflecting, or by giving and receiving feedback, so how will existing practitioners ever learn and adapt higher-level abilities?

I have made thousands of mistakes throughout my career, but I consider myself lucky. I work in the unforgiving, unrelenting and performance-focused world of elite, high-performance sport. In that world, if you don't learn and adapt from every instance, encounter, experience, mistake or failure, there is every chance you will be spat out quickly. Pursuing an ambitious goal, such as a World or Olympic medal, is an environment that is completely intolerant of poor practitioner skills.

On the other hand, if you take the opportunity and make the room to self-reflect, develop, hone, iterate, polish, cultivate, rehearse, nurture and refine your skills, words and behaviours, you will be on the road to becoming an artisanal practitioner.

This book shares the pivotal practitioner lessons I have learned throughout my career working with some of the world's greatest athletes. The first six chapters describe moments when I was required to quickly learn and adapt my professional skills to survive, let alone thrive. I have had the sheer and utter privilege of working with more than a thousand athletes and more than a hundred coaches. The first six chapters focus on six different cases, followed by a further two chapters that address two important concepts.

The first chapter describes my work with the legendary rower Sir Steve Redgrave in the close of his career as he headed towards his tumultuous fifth and final Olympic gold medal at the Sydney Olympic Games in 2000. Steve is one of the most intensely focused sportspeople of all time; completely intolerant of second place and second best. Chapter one describes how I had the challenge of making a connection with him and what he taught me along the way.

Chapter two recounts the seemingly impossible challenge Coach Martin McElroy threw down to me to help transform a group of rowers unable to make it to a final, through to becoming Olympic Men's 8+ champions in 2000. The collective spirit of working toward a team goal, where everyone is pulling in the same direction, both literally and metaphorically, was a compelling objective, but it ultimately questioned what drove me.

Chapter three documents my work with Coach Mark Rowland and middle-distance runners Hayley Tullett and Mike East, who were both dissatisfied by the plateau they had hit. They laid down their expectations of the type of support they needed and how I needed to step up to establish an evidence base they could use. Their torrent of critical thinking would forever change the way I worked.

Chapter four details the support I gave to the dynamic duo of Coach Toni Minichiello and heptathlete Dame Jessica Ennis-Hill as she rose from fledgling junior to 2012 Olympic champion, and on to the present day. The complexities of the heptathlon demanded the most versatile, flexible and imaginative applied practice for me to be able to make any practical recommendations. Some of the avenues of possibility we explored and pursued were completely unexpected, but if we hadn't followed our flow of reasoning and decision-making, we would have been stuck at square one.

Chapter five describes my support work with a rival heptathlete, Kelly Sotherton. Normal scientific support involves the outcome of advising others, but what if the athlete thinks you can do more than that? What if he or she wants you to author their training? In this chapter, I detail what can happen when you cross the Rubicon into coaching.

Chapter six describes my work with monumental rowers Sir Matthew Pinsent and James Cracknell in supporting their goal of winning two World titles in as many hours. I tell the story of how an observation turned into a thought, which turned into a conversation that precipitated more than I could have imagined.

Chapters seven and eight are slightly different. Drawing on an array of case studies, I highlight and explain two crucial concepts that need to be understood and grasped in order to succeed in high-performance. In chapter seven, I untangle the balancing act of progressing an athlete, along with the uplifting highs and deflating lows that come with pursuing a challenging goal. In chapter eight, I highlight the foundational philosophy of supporting others, with altruistic behaviours. I address the dichotomous pull of satisfying your own ambitions while serving those of others and draw on the origins of human technology to illustrate that a variety of applied practice approaches are necessary to progress.

I have chosen to use a mix of storytelling, which I have devotedly reproduced from my extensive note-keeping, and reflective observation throughout the book. The hope is that this blend will amplify, illuminate and punctuate the circumstances encountered and lessons learned throughout my career as a practitioner and leader.

The accounts contain a smattering of technical science, but owing to the dearth of material addressing this area, I make no apologies for focusing on the craft skills of

supporting, working and developing others. I hope you can soak up the accounts and reflect on how you would have worked in these situations, visualising yourself developing in a similar way.

In chapter nine, I wrap up all the themes – three for each chapter – into one neat summary, providing you with my top tips and suggested further reading or viewing for you to pursue.

The book closes with some final thoughts from myself, the coaches and athletes, accentuating the need for us to cherish, care for and craft the application of knowledge.

I hope you enjoy the book. If, having read this section, you decide not to read any further, please just get out there, learn, adapt and bring your knowledge to life.

## ACKNOWLEDGEMENTS

Huge thanks must go Dr Emma Ross, Dr Kevin Currell, Dr Jamie Pringle, Andy Allford, Rosie Mayes, Professor Edward Winter, and Colin and Ann Clegg, who generously reviewed and provided feedback on the book. Your input is truly appreciated and cherished.

A special thanks to my wife, Rachel, who reviewed the book several times. Thank you for spotting some ridiculous spelling mistakes (Fanny *Blinkers*-Koen!), giving your highest praise ("This is actually quite interesting, quelle surprise!") and putting up with, supporting and championing me through my obsession with getting this book produced.

Thank you to all the main protagonists – the athletes and coaches featured in the book – who have kindly given me their permission to share the events, situations and discussions from which I have learned so much. Thank you to Steve Redgrave, Martin McElroy, Mark Rowland, Hayley Tullett, Mike East, Toni Minichiello, Jessica Ennis-Hill, Kelly Sotherton, Matt Pinsent, James Cracknell and Laura Finucane. You have all been an inspiration to work with.

## CHAPTER 1: PERFORMANCE IMMERSION

*"I know you won't believe me, but the highest form of human excellence is to question oneself and others."*

**Socrates**

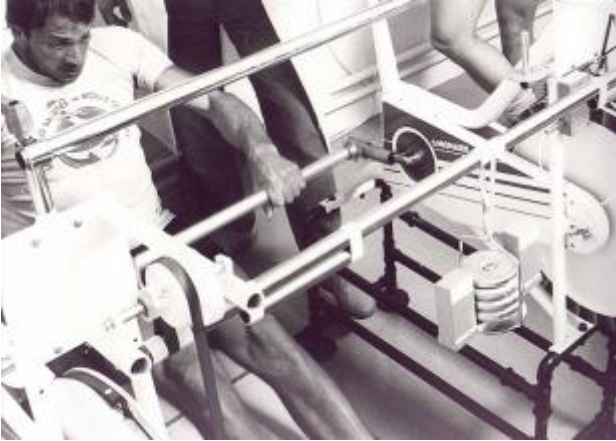
### **HENLEY-ON-THAMES**

It was July 1998. It was probably Tuesday 7<sup>th</sup> July, but I can't be sure. I know roughly when it was as I had started my new job on 22<sup>nd</sup> June. I'd missed the first opportunity to meet Steve Redgrave the week before as he had cancelled his appointment for physiological testing with us up at Northwick Park Hospital, Harrow, owing to a minor injury niggle.

On that day, I had the pleasure of meeting his 'other half', Matt Pinsent. I was twenty-four years old at the time and in utter awe of these totemic legends of British and Olympic sport. It wouldn't be an understatement to say that I had rehearsed the encounter at least a thousand



times in my head, over and over, day and night, several times per hour. I did a lot of pacing up and down over the summer of 1998 to stave off the stomach-churning nerves.



*Figure 1. Steve Redgrave performing the 'arm cranking' test before the advent of the rowing ergometer. Unfortunately, the validity of the test was poor. Not only was it limited to testing the arms, even though the arms only contribute around 10% to rowing work, but the cranks were set up in the wrong direction, leading to the rowers dubbing it the 'backing-up test'.*

The introduction with Matt went okay. The double doors to the laboratory crashed open, not because of an overly aggressive door opening attack on Matt's part, but because the hinges were called into rapid and unrelenting action under the pressure of the sheer mass of human entering the room. Matt has more than 'enter-the-room presence' he has 'enter-the-room magnitude' and this was enough to give any half-alert human a jolt.

However, just as rehearsed, I strode over, held out my hand for a shake and rolled out my pre-prepared line, "Hi

Matt. I'm Steve, your new physiologist." (Don't knock it. It took me ages to come up with that.)

I received the cordially curt response of, "Nice to meet you, Steve. Shall we do this, then?" The intro abruptly over, and with no notable tongue-tangles or brain farts, I jumped into the routine, step-by-step process of taking him through the full rigours of the athlete's regular MOT: the physiological test<sup>i</sup>.

My recollection of meeting Matt is stored clearly as a 'flashbulb' memory. It was significant, pronounced and important enough for my brain connections to be super-charged into retaining the images, events and feelings in my version of high-definition.

Fast forward nine days to Henley-on-Thames. I had arrived an hour and a half early, just in case I needed to divert via Wales, and had parked my Citroen Saxo up in the car park at the back of the Leander Club; one of the oldest rowing clubs in the world. With my special Olympic-themed apparel suitably adorned, just so anyone going about their daily business would know that I was 'with the Olympics', I made my way to the boathouse front to meet up with the team again.

The rowers tended to arrive en masse at 7.59am, in plenty of time for the 8.00am session! Sure enough, the giants soon arrived. After several re-greetings of rowers from the week before, I spotted a moment to make my big introduction.

Steve had broken away from the chit-chat, presumably to make his way over to the boat, and this seemed like the ideal moment to make my move. First, I did the walk over ('Excellent, no trips'), then I put my hand out ('All going well, I had managed to lift my hand out in front of me.

<sup>i</sup> The slave ship rowing scene from the film Ben Hur should give you the general idea ([youtube.com/watch?v=ax7wcShvrus](https://www.youtube.com/watch?v=ax7wcShvrus)).

Superb stuff!') and then came my tried and trusted introductory line (which I hadn't managed to refine further from the Matt Pinsent intro): "Hi Steve ('This is going really well. We have the same name, we're going to get along just fine.'). I'm Steve, your new physiologist." ('And relax, this is basically over. All the words were said in the right order. Pat on the back time!')

If meeting Matt had been a flashbulb moment, this was a simultaneously synchronised, paparazzi-style cacophony of strobe lighting, police helicopter spotlights, heaven's calling, aliens are landing, New Year fireworks climax, bright-lighting extravaganza, all while the sun was being fully eclipsed by Steve's massive deltoid frame!

His response was plain and simple, and should have been anticipated, but it wasn't.

"Hi. Are you going to make me go faster?" he fired back.

In a singular instance, Steve sent an Exocet missile to my brain from point-blank range, taking everything I had ever 'learned' in science and either knocking it out or turning it upside down.

The flurry of thoughts going through my mind in that millisecond of neuroprocessing was at storm level of confusion.

'Where should I start?' I asked myself. 'Maybe I should mention my interest in breathing mechanics. No, this chap doesn't look like he lacks for lungs! How about my interest in muscle soreness and growth? No, this man-mountain doesn't look like he lacks hypertrophy skills. And while I stand at a moderate 174cm, I probably shouldn't mention growth to this man towering over me at 22cm in excess of my crown. What about my thesis on overtraining? Yes, that could be a good place to start, but it would be a bit negative and I don't know if he has ever overtrained. Well,

it's a better option than any of the others, so I could start there...

'Oh, hang on a minute. Who was one of the most referenced experts in the area? Dr Richard Budgett! Redgrave won his first gold medal with him in 1984<sup>ii</sup>. All right. If not this, that or the other, where do I start?

'Hang on a minute. What had I actually learned during my course? What had I learned that could be useful now in this moment, under this spotlight, while the helicopters are still hovering overhead? What fact or nugget have I been taught that would enable me to kick-start this relationship?'

I couldn't remember a class on prioritisation! In fact, I couldn't remember a class on recalling information while the adrenaline was bathing my heart and driving me to flee!

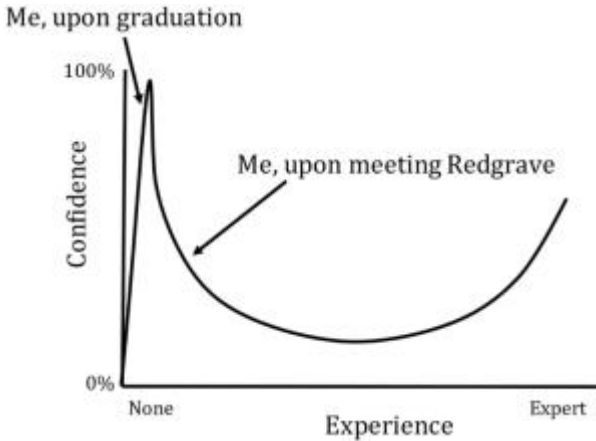
My knee-jerk reaction, albeit privately in my head, was to start with knowledge, frantically searching for something useful I could state. My mistake was to think that facts and knowledge can be traded for recognition and status, and can act as a pass into the world of these great athletes. Somehow, I had left my undergraduate studies in a state of 'knowing'. All I could think in the summer of 1996 was, 'I know stuff.' I also knew that I knew stuff, which most certainly exuded as narcissism.

'Look at me, people in the street. Look at me with my degree. Would you like to know some facts? Perhaps you'd like to know my degree grades? I did especially well in my third-year Environmental Physiology module, you know.'

I was almost certainly suffering from the Dunning-Kruger effect, where someone fails to assess their

<sup>ii</sup> Budgett was the one in floods of tears. He heads up medicine for the International Olympic Committee and is one of the nicest men on Planet Earth.

competence appropriately<sup>1</sup>. In the early years of experience, confidence is disproportionately high, the devilish irony being that it is one's very incompetence that steals away the capability to make a fair and reasoned judgment of one's realistic competence!



*Figure 2. The mismatch between confidence and experience from, 'Unskilled and Unaware of It: How Difficulties in Recognizing One's Own Incompetence Lead to Inflated Self-Assessment'<sup>1</sup>.*

For scientists, the Dunning-Kruger effect is demonstrated by the tendency to turn to published work. To many, this is sacrosanct. To some, it is everything; if it's not published, it doesn't exist. In the clear majority of cases, scientists quote articles as a symbol of their competence, handing them out like greeting cards at Christmas or like food to the needy. I have worked with more than a thousand athletes and I can think of only one who actively wanted to see the literature. Therefore, it wouldn't be unreasonable for me to say that in 99.99% of cases, this

doesn't work with athletes; not elite athletes, club-level athletes, or anyone in the middle.

Standing there with Steve on that day in July 1998, I was certainly in the left-hand area of the Dunning-Kruger model. Fortunately, I wasn't ascending the confidence line. I was descending steeply into the pit of appreciating that I might have absolutely nothing to offer.

### **PRE-HENLEY-ON-THAMES**

There were several factors that positioned me on the downward slope of the Dunning-Kruger model. First, while I hadn't taken a 'How to answer Redgrave' class, I was lucky enough to have been taught by some true legends of sports science: Peter Keen, Professor Jo Doust and Dr Steve Bull. They were all fantastic scientists, all compelling communicators, and had had been weathered out in the field, applying their science and able to share their lessons. Without this grounding, I would almost certainly not have been able to visualise a similar career path for myself.

Second, I had clocked up my own experience of working with recreational and regional-level athletes. Some were quite good, which added to the experience perspective. I had done so under my own steam while I was studying, and at a regional sport science unit in Worcester.

At the heart of my experience, I had looked into the whites of the eyes of many athletes. I had seen their reactions to my way of working and heard the sighs of discontent when my manner wasn't quite right. I had seen the jaws jut in, the eyes flicker from side to side and the body language close up when I had suggested something alien to them. As blunt feedback goes, the silence of not

hearing back from an athlete when it's in their best interest to get scientific support is the loudest shout of rejection. The silence tells you they would rather go without than work with you.

Third, I had reflected a lot on my experiences. This I owe to Ailsa Niven (née Anderson), who was studying reflective practice while I was at Worcester. She asked me (actually she insisted, in a cheekily polite way) to undertake a formal reflective process (see example overleaf<sup>2</sup>) each time I interacted with athletes and coaches.

At times, it felt like I was reflecting on everything: 'How did the session go with that triathlete today?', 'How did that gas analyser calibration go?' However, without it I know I wouldn't have been in a position to take the Redgrave Exocet. In each instance, the loop of asking sound, reflective questions meant that when I had hit the sweet spot of reflection in 'analysis' (see inset below), I simply couldn't avoid confronting the big issues of how it had gone. So, when it came to my own performance, my 'scientific skills' were in competition for my attention with 'my rapport with the athlete'.

Critically, my previous experience positioned my respect at the door of athlete and coach experience and understanding. What are the athletes and coaches actually doing (because I need to know)? How does the athlete and coach think they are getting on (because I need to know)? As scientists, we are trained to know, albeit based on statistical probabilities, cross-study perspectives and reviews, and when it comes to communicating with other people, this process cultivates you to recite facts, definitions and findings.

As an applied scientist, you should be motivated to influence the world around you. Simply reciting information is negligent of the context, the environment

and the individual circumstance. Therefore, an applied scientist aiming to improve performance should be motivated to ask questions and glean knowledge.

**Steps of reflective practice:**

- **Description:** 'What happened?' (judgement-free)
- **Feelings:** 'What were your reactions and feelings?'
- **Evaluation:** 'What was good or bad about the experience?'
- **Analysis:** 'What sense can you make of the situation?', 'Bring in ideas from outside the experience to help you', 'What was really going on?', 'Were other people's experiences similar or different in important ways?'
- **Conclusions (general):** 'What can be concluded, in a general sense, from these experiences and the analyses you have undertaken?'
- **Conclusions (specific):** 'What can be concluded about your own specific and unique personal situation or way of working?'
- **Personal action plans:** 'What are you going to do differently in this type of situation next time?'

**BOMC**

Back to the hinterland between Redgrave's response and mine. Although I wasn't prepared, I was primed. By



chance and/or by good grounding, I had done some homework. I had been given the responsibility of working on the regional rowing programme up in Worcester and, in a moment of frustrated incompetence, I had contacted the National Programme down at the British Olympic Medical Centre (BOMC: the forebear of the British sports institute systems) and asked to visit. I wanted to get the lowdown on how these tests worked and how they were used, all to enable me to look like I knew what I was doing with the West Midlands rowing team. Therefore, I had a relationship with the physiologists in situ.

When the advert came out for a physiologist at the British Olympic Medical Centre and I got the call for an interview, I phoned one of the staff and was surprised and confused by the advice I received. My initial question was, “What’s it like working with these legends?”

My colleague responded thus: “Well, first what will happen is you’ll start working with these guys, be surprised by what they are doing, try to influence it and then get frustrated after eighteen months and want to leave. I’m going off to do a PhD, to do some real science. That’s what everyone else has done.”

Cue a bemused frown from me.

With some light questioning around what was creating this frustration, I was further told in an exasperated tone, “They’re doing all this mileage, all these low-intensity miles. Hours and hours of plodding back and forth, with virtually no intensity and no threshold/tempo work<sup>iii</sup>. The event is only six minutes long and the training they’re doing is irrelevant, but they just won’t listen. I’ve tried to tell them they should be doing some threshold work;

<sup>iii</sup> *The exercise intensity where you are clipping along at an intensity at which you can only just hold a conversation. It’s called your ‘threshold pace’, as it marks the level beyond which you are leaning on your anaerobic energy systems much more, so if you push any harder you won’t be able to keep it up for long.*

some high-intensity intervals to develop race-specific fitness. I've shown them the papers and explained it to them, but they just won't listen."

I was getting the impression that this was going to be a tough gig, so I asked why they were doing what they were doing. "Well Jürgen [Gröbler, coach of the GB rowing team] is stuck in the 1970s. They had considerable success using this low-intensity approach then, when no one else was using a structured training approach. We know so much more now. As for his willingness to take on new ideas, well, forget it."

'Blimey, he doesn't think much of the most successful coach in Olympic history,' I thought! I asked how the athletes felt.

"They just go along with it. They do what they're told because they want to get into the top boat."

I later found out that if you dig much deeper, Jürgen's approach, the athlete's interpretation and the rationale for this type of training is entirely sound and not only produces great training gains, but builds stable, predictable performance abilities. What more do you need for developing high performance in rowing?

But during this telephone call to my colleague, I was stunned. Not a bone in my body wanted to go down there and tell them what they needed to be doing, as he suggested. My professional standing as a sports physiologist, a support scientist, let alone with sports specific expertise in rowing, was flimsy<sup>iv</sup>.

What was I going to say? "Have you heard about my work with the West Midlands rowing team? Last year they were sixth at nationals and this year they got a bronze. How d'you fancy a piece of that pie?" How on earth would

<sup>iv</sup> Some would say little has changed over the years.

that go down with Redgrave and his (then) four gold medals?



*Figure 3. Steve Redgrave undertaking a physiological test at the British Olympic Medical Centre, circa 1998.*

In a perfect world, I would have loved Steve to have met my, “I’m Steve, your new physiologist” with a, “That’s great. Nice name, by the way. Great to have you on board. I’m really looking forward to hearing all about what you know and to perhaps have a read of your undergraduate dissertation abstract. Hey, why don’t you come and have a look at my boat? It’s really shiny. I’ll tell you what, why don’t you wear some of my medals and we can skip there together?!”

This was never going to happen. All that I had heard from the outgoing physiologist was bewildering because there appeared to be no credence given to why he was doing what he was doing. There must have been a reason for the athletes’ choices. They were actively choosing to use a low-intensity training approach, but also actively

deselecting other methods; in this case the threshold/high-intensity training.

## SHOOT ME

From everything I could see, these were not reluctant champions. You only have to delve a little into Steve Redgrave's media quotes to learn of the intense all-or-nothing nature he lived by:

"If anyone sees me going anywhere near a boat again they have my permission to shoot me."

This statement was growled in the humid heat of Lake Lanier at the 1996 Atlanta Olympic Games, shortly after having secured his fourth gold medal, Matt Pinsent's second gold, and Team GB's only gold medal of the Games. Steve had ploughed everything into winning in 1996, then suddenly became very focused on never rowing again.

*Gold Fever*, the BBC documentary about the coxless four's preparation for the Sydney Games further shows that this is not a man who messes around. In the documentary, Steve is shown to push himself into unconsciousness, almost certainly due to a hypoglycaemic (low-glucose) state brought on by his diabetes, but also as a result of the 2,000m all-out ergo test that pushed him over the edge. Steve would have known that he was in trouble all the way through the test, but his refusal to stop perfectly highlights his willingness to drive his body beyond its limits to make it ready for competition.

I just could not visualise a scenario in which any attempt to flex my authority, knowledge or standing would cut it. I wasn't totally convinced that the ever-so-wise approach of asking questions would be the best one either.

“Hi. Are you going to make me go faster?”

“Well, perhaps you could tell me what you’re currently doing?”

No, no, no! That would sound like I had a clipboard with a fifty-point needs analysis to administer. Could Redgrave’s question have been rhetorical? More than likely not. So, if this is not a request for information and if it’s not rhetorical, it might be a search for an understanding of my capabilities.

No, I don’t think so. It hinted at a need for some sort of assurance. Given what I had heard on the phone about what it was like working with these elite athletes, I already knew that a line of previous physiologists had tried to change their training. They had tried and failed to tell them what to do, then got frustrated and left.

So that’s what Steve had experienced: numerous scientists rocking up and telling him what to do. I didn’t want this to be me. I didn’t want to hit the same brick wall. I wanted to build meaningful relationships with these people. I couldn’t conceive of my career starting and then ending just as quickly.

The unsettled sleep, the preparation of my opening line, the pacing, the nerves, the flurry of thought and the intimidation I felt were all in proportion to the reverence I felt for these colossal athletes; these monumental legends; these gargantuan gods of British sport. I am, at the heart of it, a sports fan. I would find myself sitting at home as a six-year-old watching the highlights of the Moscow Olympics, then even more of the Sarajevo Games aged ten, more again of Los Angeles aged fourteen, then all of Calgary, Seoul, and each one since as the years flashed by.

The Barcelona Games in 1992 was a tipping point. Having watched it all, and primed by my studies of human

biology, I was inspired to wonder, ‘How do they do what they do? Why can they run so fast, jump so high and be so strong when I clearly can’t?’

So I had watched all of Steve’s victories, all his golden moments. I had seen all his interviews and collected the collectable magazines, so I knew as much as the lay media would allow me to know. I knew he was busting his way to his wins, that he was relentless, and that he was intense and intolerant of failure. I knew that working with him and the team around him would not be a walk in the park, but I was massively ambitious to do so and wanted to succeed.

Narrowing it down, my perception was that his response was probably a way of questioning me and my intent.

“Are you going to make me go faster?” could have been interpreted as, “Are you going to get in my way?” This certainly put me on the back foot. In fact, it put me dangerously close to losing control over my bodily functions. Fortunately, the development and training I had received up to that point in my career came to the rescue.

This is how I responded:

“I don’t know whether I’m going to make you go faster, but I’m really keen to find out what makes you so successful, and if I find anything else out along the way, I’ll let you know.”

Then followed the shallow breathing, heightened eyebrows and eyes focusing on every bit of facial and body language going, ready to hear whether I had messed up or not.

“Hhmm.” Pause. “We’ll see,” he said with an unimpressed flick of the head.

My latest interpretation could now be rephrased as, “Are you going to be annoying as I try to summit this fifth and tumultuously final mountain? Because if you are, it’s going to weigh me down and I won’t let that happen. You’ll be chewed up and spat out! So decide now if you’re going to annoy me and hinder my climb, and if there’s a chance you’ll be a burden to me, stand back in the shadows and just do your job.”

The lack of a pause, flinch or concession in Steve’s step from “Hi” to “Are you going to make me go faster?” indicated this intensity, this intolerance, this lack of patience with those who had tried to work with him without journeying with him.

## **JOURNEYING**

Working with another person in a simply transactional format might as well take place from the other end of a telephone:

“Should I drink ‘A’ or ‘B’?”

“I recommend you drink ‘A’ because it gets into your body faster.”

“Thanks. Bye.”

On the other hand, journeying with an athlete is about making the travel easier at every turn. It’s about being a good partner and a good support. We have all been on physical journeys that take an age, perhaps in a hot, sweaty rail carriage, on a bus with an annoyingly hyper group of school kids, or in a car when we’re simply longing to get home.

Equally, we have all been on journeys that should feel long, but somehow the time flies by. Perhaps we’re

distracted by the stunning landscape of the Highlands or the Rockies, or maybe we're enjoying charming company.

The same is true when it comes to supporting an athlete. Are you going to make this experience easier, helping to propel them at a faster rate and increasing the probability of them reaching their summit? Or are you going to burden them, slow them down and hinder their ascent?

Working with talent requires you to be a journey partner; to walk in the footsteps of the athlete and coach; to be willing to put the hours in and happy to carry the bags; to wait patiently to be asked to contribute. Then, and only then, do you get to continue that journey. It's important not to forget that nurturing someone else's talent every day, in a situation where you and they are testing the possibilities, solving problems, seeing progress and achieving (or at least trying to achieve) their goals, is very cool!

The first level of acceptance is, "Do I like you as a person?" Or perhaps, "I might dislike you, but are you going to be a negative influence or a distraction from my performance?"

Second base, maybe, just maybe, seemed to be, "I might ask your opinion," but that was a long stretch from my introductory experience down by the river. I perceived that my answer had at least avoided giving annoyance, and I was chuffed to bits to know that.

The subsequent months required me to get my head down and do the basics of my job faultlessly, with no fireworks and no surprises. I was to be on time, take bodily fluid samples rapidly and efficiently, care for my machines and have backup plans that might take days to create without always being needed. Often, they were there just in case.



I was expecting to begin travelling with the team and, given the time of year, that was likely to start soon. Within a matter of weeks of meeting Redgrave and this team of giants, I was invited to Austria for an altitude training camp. The team flew out while I drove a white Renault Trafic van, complete with all the testing kit and with a top speed of 50mph, to the Tirol region, where I would encounter thirty-four hairpin bends on the route to the Silvretta training camp.

In preparation for the trip, I had asked one of my new colleagues what it was like up there. Again, the response was baffling: “Silvretta is the arse end of nowhere. It’s a miserable place, with mainly mist and cows for company. Bring something to do because it’s the most boring place on earth.”

The truth was light years along the other end of the spectrum. Yes, there is mist (cloud actually), and yes there are cows (fine-looking ones), but Silvretta is a beautifully inspiring, majestic location, set in the Austrian Alps and cradling a glacial lake formed by an impressive dam. In the shadow of these breathtaking mountains sit two wooden scout huts, where we were to reside.

## **HOT BUNS**

Acceptance was a slow burn. Steve and the others would test me here and there, quizzing me on the previous day’s results just to see if I remembered.

In sports physiology, a common measure is to test for the concentration of the metabolite lactate. Anyone familiar with this term<sup>v</sup> knows that it has become, mainly through the continued campaign of sports physiologists,

<sup>v</sup> *Not to be confused with the lactation of breast milk post-partum!*

synonymous with that dull sensitisation of nerve endings telling you that it burns in the muscle when you push your muscles a little beyond the level they are happy with.

Some sports use blood lactate concentrations as a routine measure of whether an athlete is training at the level prescribed by the coach, though in today's sophisticated support systems the use of this measure is dwarfed by the individualised support, which places lactate and all other measures as tools to answer questions rather than as an end in themselves. It requires a small (20-30 microlitre) capillary sample of blood taken from a pinprick lance to the earlobe<sup>vi</sup>.

This should take about thirty seconds to obtain, but it requires some skill to take it and can be tricky if it's cold or the intensity is high, both of which cause blood to be diverted from the periphery. But it is possible to get it no matter what, given plenty of practice.

Some skills look deceptively easy but can be a bugger to master, and capillary sampling is one. Speedy blood sampling is a basic skill that instantly makes you look incompetent if you don't have it. If you are taking ten to fifteen seconds to get your sample you'll be fine, but if it takes forty to sixty, and you're squeezing away at an earlobe waiting for some blood to arrive, you're likely to be met with some agitation and possibly even some infuriation from the owner.

This would be equivalent to a strength and conditioning coach being slow in assisting a lift when 'spotting', a biomechanist forgetting to align the speed gun, a psychologist not listening or a physiotherapist working on the wrong limb. These skills are the absolute basics from which applied brilliance can spring, but when they're absent, incompetence is presumed.

<sup>vi</sup> A line in body piercing is always available if things don't turn out well.

Athletes get tired a lot. Rowers flog their bodies twenty-four hours each week, cyclists thirty-five hours each week, and runners a little less at about fifteen to twenty, as they have impact to deal with. Each sport varies due to the specific demands of the movement. When tiredness, excessive fatigue and overtraining kick in – and they almost always will when you train this much – mood takes a nosedive and people get fractious at the smallest of things. Redgrave wasn't immune to this and, added to the heightened intensity, the fact that he was getting older and that he had diabetes, this led some people to question his place in the top boat. He would often recoil when the blood sampling took longer than usual.

"What are you doing back there? Get on with it," and the old faithful, "Is this going to make me go faster?" In response to this one cold, damp, misty morning in the Silvretta-Haus garage at altitude (glamorous, eh?), I bristled in a mildly hoity way, "Yes, I think it is!" Like a good boy, I reflected on how well that went and came to a swift and resounding conclusion: not at all well.

The necessity in my early career and never to be forgotten since has been the importance of doing the basics brilliantly. In the early stages of my work, this was like a swan gliding across water, where the work would go unseen, paddling away underwater to make the basics and the complex appear simple. Later on, as these skills become routine, doing the basics will, of course, become easier and possibly even mundane. But there are often few shortcuts to quality assurance, and when it's not there the whole stack of cards will come tumbling down.

Two events triggered a step change in my relationship with the rowing team, and particularly with Steve. Both occurred in the space of our first two weeks at Silvretta. The first was a bit of luck. Back in the days of pigeon post, I would write a letter or two each week to my future wife,

Rachel. I would pop up to the Silvretta shop, buy an Austrian stamp for England and pop it in the post to be collected at 3.30pm every other day.

Being a cheeky monkey, I would put a pair of brackets between her first and surname and include a saucy name. Something like 'Sweet Cheeks' to give you the gist! One evening I was running a little late for dinner, with a host of analyses to process in my little makeshift lab in the scout huts. I arrived for dinner; which was hosted in the hotel's main function room, ideal for hosting a dinosaur-sized, forty-person buffet. Just by the food table to the left of the room was a little space where letters to members of the GB rowing team would be left. As I entered the room, slightly flustered and hungry, I was greeted with a gathering roar of "Wahey, hot buns!", "Show us your buns" and "Smoking!"

One eyebrow went up as I looked behind me. Someone kindly pointed me in the direction of the sole letter on the table. In familiar handwriting, it read 'Steve (HOT BUNS) Ingham, Great Britain Rowing Team'. Now with both eyebrows raised, there was a rush of cringing embarrassment as I slowly fathomed that my brassy shenanigans had been fairly retributed by the missus.

As I took a steady intake of breath and smirked awkwardly, I turned to face the wave upon wave of banter. I was to be affectionately known as 'Hot Buns' or 'HB' by the rowing team for as long as I worked with them, and many still use the nickname to this day.

The 'HB' incident wasn't something I would have chosen to happen. Admittedly, though, it gave me a moniker, an identity. It showed I could take a bit of ribbing and, as such, integrated me into the team at a much faster rate. A purely accidental situation that could never have been manufactured gave me a thankful initiation into the team. It showed me that, in any given moment, in any

given interpersonal situation, you need to give of yourself. You need to get involved, share who you are and let down the façade so others can connect with you.

This is why team-building exercises so often start with finding out about yourself and then building to finding out about each other. Self-awareness is an observable cornerstone of high-performing people in the elite sports industry. Those who can seemingly influence others so effortlessly can only really do so if they have an acute sense of self.

## THE ROCK



*Figure 4. Steve Redgrave looking over the results of the morning's 'baseline' testing. The expression says it all: "Just because I'm looking, doesn't mean I'm all that interested!"*

The second moment that changed my relationship with Steve originated purely from spending time with him. Steve seemed to keep me, the physiological support

service and the testing results at arms-length. He gave off an air of the uninterested.

One thing I noticed in the first few weeks working at altitude, was that, once I had posted the results of the morning's waking measurements and early morning results on the corridor walls of the accommodation, the first person to creak out of his room to look over the results would usually be Steve. He would spend a good ten minutes combing over the results. That was more than enough time to soak up his own data, so I presumed it was also enough time to see how everyone else was getting on. Who was struggling? Who was finding it easy?

After a week or so of me buzzing to and fro between my room, the laboratory and the kitchen, nodding to the big man with the occasional, "Alright Steve," my head was full of questions about what he was thinking and interested in. I wondered whether he had any questions.

After several surges of 'I'm gonna ask him' followed by 'I don't think you should' or 'I don't think I will this time, maybe tomorrow,' I broke my cyclic suppressed inner voice and ventured, "Kettle's on. Do you want a cup of tea?" This is the only true way for a Brit to break the ice with another Brit!

To my self-satisfied surprise, he turned his head, looked at me and said, "Yeah, go on then."

'Blimey!' I thought.

And so followed one of the many conspicuous inner-monologue statements that summer: 'I'm making Steve Redgrave a cup of tea!', 'I'm testing Steve Redgrave's urine right now', 'I have Greg Searle's sweat all over my arm', 'Matt Pinsent just stood on my toe. How cool! That's Olympic-level pain!'

"How about outside?" I ventured.

“Yeah, okay.”

So we each sat on a rock outside the scout huts and, in the company of the dam wall and the Silvretta Alps, I learned more about what it takes to be an elite athlete, a champion and the relevance of science than I ever had done before or ever have since.

I asked him how he was getting on and how the training was going.

“Not so bad,” he replied. “I’m not quite where I’d like to be, but I’m strong enough. We should win at the [Cologne] World Championships.”

I interpreted this as him having taken a bit of a dip, and I could see this in some of the physiological testing scores and the training splits he was holding. He wasn’t at the top of the pack. What I didn’t know was how all those abilities hung together into a 2,000m performance on the start line in a boat against other men. I was captivated to hear Steve let down his guard in this way. He wasn’t, after all, invincible.

I then asked him what he thought about ‘all of this science business’.

To start with, he gave an insightful response: “The information can be useful. At times when I’m tired, the data might show that I’m okay, so it makes me wonder if I should just crack on. Then, when I’m feeling okay, the results might show that I’m struggling. It gives you a bit more information and allows you to weigh things up a bit.”

I took it a step further by asking what he thought about the way the science is delivered.

Steve moved through the gears. “Generally, it pisses me off,” he shot. “You lot tend to come in and tell me what I should be doing and how I should be doing it, but you don’t realise I’ve tried it all before. For 1984 [the Los

Angeles Games], our coach, Mike Spracklen, got us doing a lot of high-intensity interval training and we won. For 1988, he got us to do the same, but in added some weight training and we won. When Jürgen came in [in 1992], he changed it all around and we did a lot of low-intensity mileage with some weights, and we won. For 1996, we still did a lot of mileage but with more weights. We still won.

“Scientists come and tell us we should have this special system, but we know it’s based on some half-bent study on students. It probably doesn’t matter a great deal about how we train; we just need to do a lot of it and with plenty of variety.

“The thing that grates more than anything is that scientists seem to think they know best and have no respect for what we’ve learned over the years. In over ten years, you’re the first sports scientist to ask me what I think. In my experience, scientists think they know it all, when, compared to what we know about high performance, scientists know nothing.”

It was bombastic stuff from Steve as he vented deeply held feelings and cutting observations.

I was mightily relieved to have asked the question and was rapidly trying to think of another. The third revelation came from asking him how he felt about going for his fifth gold medal.

He told me, “I know it won’t feel like success for me. If I get bronze, I will have failed. If I get silver, I will have failed. If I win, it’s expected. So it’s just normal or failure. I just can’t win.”

Taken aback, I asked about the allure of the Olympics being in held Sydney.

He conceded a little: “Yes I expect it will be a great Games. That was part of the motive for me carrying on. But



for me it will only be repeating what I've done before and, given the level of expectation, especially as we were the only ones to win in Atlanta, it will only be relief for me.

"I'm not expecting jubilation. That's what comes when you're not expecting the win. You see it all the time: someone wasn't expecting it and they pop up and take the opportunity; it's a surprise. That won't happen to me, because I've got too much pressure to win and that rarely happens in rowing. It's a 'form' sport. You should get the result you deserve. If I win, that's what is expected."

My initial reaction was just how extraordinarily hard on himself he was. But this is Redgrave; incredibly intense, unrelenting, unforgiving and intolerant of anything other than achieving gold in Sydney, regardless of the emotion. For me to achieve acceptance with this sporting giant, for me to be allowed to journey with him and the team at this point in their climb, I needed to provide them with assurance.

Steve had called for it. "Are you going to make me go faster?" was now officially translated as, "I can accept you if you're not annoying."

The discussion on the rock was a three-hour tutorial on what it's like to not only be elite, but the elite of the elite. In so doing, he called for trust.

This now sounded very clear: "You can journey with us, but you must balance your messages so it complements what we're doing. Respect how hard our training is and how much we must push ourselves. Recognise what, how and why we do what we do. Try to learn from what we already know, because we know you won't have seen anything like this before. Understand we are under incredible pressure to perform under the brightest spotlight and that changes the game from being a nice sporting experience to an intense exposure of our souls."

This was the no-nonsense, brutal performance focus Redgrave shared with me. There is little I can say that will add to what has already been said about Steve Redgrave. In the joyous moment the coxless-four's boat crossed the finish line in Penrith, Britain finally woke up to the fact that it had a bona fide hero. His five gold medals at five successive Games placed him firmly among the Olympic all-time greats, and for good reason.

When you consider that he was only just making ends meet after his fourth successive gold medal, had battled through numerous injuries, struggled with colitis, developed diabetes and won his last gold at the age of thirty-eight, you will only just realise what an extraordinary person Redgrave is. His attitude, focus, intensity and drive is a high tidemark in recent sporting history. He is a reference point by which all others pursuing a goal can be measured.

Whenever I see a glimmer of the same attributes or attitudes, I call it the 'Redgrave factor'. It hints that somebody has some of the components of what it takes to achieve extraordinary things.

As we entered the Olympic season, Steve began to relax. Once he had got past trials and the World Cup races (with a minor hiccup, more on that in chapter six), which serve as the starter to the main course of the major championships, Steve remained focused when needed, but he warmed up considerably. He was fun, a good laugh and full of banter around the table-tennis competitions (I lost to him in the semis). His confidence became palpable and his performance was back to his best.

When we arrived at the Olympic Association's holding camp in the Gold Coast, pre-Games, the rowing team held a meeting to cover logistics along with team plans and expectations.

Steve gave a team talk. He spoke about his experiences at his first Olympic Games in Los Angeles, where he had been distracted by the Daley Thompson video games in the village and suffered thumb and forearm fatigue, which had affected his rowing. He gave insights from the 1996 Opening Ceremony and recalled the reverence and honour of watching a fragile Muhammad Ali carrying the torch into the stadium.



*Figure 5. Steve Redgrave and me at the Hinze Dam, Gold Coast, Australia, a few weeks before the Sydney Olympic Games. (Reproduced with permission from Professor Ron Maughan, copyrighted).*

But he also warned that the ceremony would undoubtedly be tiring, encouraging the team to prioritise their performances. He then finished with a rousing pitch for everyone to row to their true potential; to let their competitors be the ones to make the mistakes; and to take the once-in-a-lifetime opportunity that comes with being an Olympian.

I was seated next to Miriam Batten, a member of the Olympic silver medal winning quadruple sculls, who turned to me at the end of the talk and asked, “Are you cold? You’ve had goosebumps the whole time.”

“No,” I replied, a little embarrassed, “That was just so inspirational!”

Redgrave demanded trust that summer, and I somehow managed not to break it. Helped along by some experiences that primed my mindset to want to help, support, learn and not recite, quote and instruct, I was ready to handle the confrontational greeting that acted as a gatekeeper to acceptance from the team. I learned that:

- Focusing on doing the basics brilliantly kept unnecessary criticism at bay and showed I could be relied upon.
- Showing a bit of my character (‘Hot Buns’) creates a connection with others and develops rapport.
- Asking questions unveiled and illuminated a whole world of understanding about the elite athlete. It also showed I was interested in and respected the views of the talented people I was working with.



## CHAPTER 11: A FINAL WORD FROM THE ATHLETES AND COACHES

*“Champions are not the ones who always win races, champions are the ones who get out there and try. And try harder the next time. And even harder the next time. Champion is a state of mind. They are devoted. They compete to best themselves as much if not more than they compete to best others. Champions are not just athletes.”*

**Simon Sinek**

**SIR STEVE REDGRAVE, CBE, MBE**

“Five Olympic gold medals do not come easy. An athlete requires unremitting focus and the willingness to explore all possibilities for self-improvement. Support staff need to adopt the same approach in developing their own performance. *How to Support a Champion* is a good read for all those working in high performance.”

**MARTIN McELROY**

“The key to being a successful applied sports scientist is the ability to recognise the key areas where the coaches both want and need support. The old saying that ‘If the only tool you have is a hammer, then everything starts to look like a nail’ is particularly apt in sports science. The challenge is not to show how smart the scientist is. The challenge is to be a performance partner in the team.

“Coaches are applied practitioners. Sports scientists must be applied scientists, helping the coach identify and develop workable performance solutions. Working as a coach with Steve in the run-up to the 2000 Games in Sydney, I had a real performance partner who could identify with the challenges and come up with real working solutions.”

#### **HAYLEY TULLETT**

“My coach Mark and I were always searching for answers. Most of the scientists just turned out numbers and didn’t make them useful for us. When we first started working with Steve, we drove him hard to make the science more and more relevant to us. I’m curious and suspicious by nature, so he needed to prove why the theory should work in practice before I put it to the test.

“Being forward thinking, Steve was up for the challenge and regularly presented his new training, and recovery theories and insights. Importantly, over time, we could see how he was adapting and applying the knowledge and theories so it was tailored to our individual makeup. This personalised application was what I think triggered some of our biggest gains!”

#### **MARK ROWLAND**

“When I first got in contact with Steve in 2002, I knew he had a good background in middle-distance events and had worked with several good runners. But what I needed was someone I could trust and talk to; a scientist who wasn’t just reliant on studies or kneejerk advice, but one who was able to really question what I was doing, what my athletes were doing and be able to really individualise their advice to our needs. In a nutshell, I needed to challenge what I was applying and to know if Steve was talking bollocks!

“Working together with Steve, he was able to research new ideas, adapt and develop, but so was I. So together we were better able to support my athletes.

“To be able to really get the most out of coaching and science, both fields have got to work in unison for the benefit of the athlete.”

#### **DAME JESSICA ENNIS-HILL, CBE**

“When I am stood on the start line, I need to know I have prepared in a meticulous way. Using applied science gives me confidence to perform to my best. Guesswork and opinions alone leave too much to chance. Simply transplanting scientific studies into my day-to-day training would be madness.

“Throughout my career, Steve has provided me with a way of making science, objectivity, innovation and ideas useful for my preparation and performance. If science can be applied to the complex world of heptathlon, it can probably be applied to anything. This book shows you how.”

#### **TONI MINICHELLO**



“Scientists can use all the big words they like, but if they can’t actually make their knowledge and methods useful, then it’s no use to me. I don’t need people to come in and be all ‘flash Harry’, I need people to work with me, become part of the team and become part of the family working together to improve performance.

“Steve was given the challenge of working with the heptathlon and thinking imaginatively through the details and the philosophy; the science and the emotions of performance. Steve’s help continues to be invaluable to help Jess perform at the right moment to a level we couldn’t have imagined back in 2004.

“This book is invaluable for anyone working not only with talent, but for anyone working with other people towards a big goal.”

### **KELLY SOTHERTON**

“When you exhaust the conventional beliefs in your sport, the search for something different is hard. Taking a chance on working with a scientist who has no evidence base for your specialist area is a big step. Firstly, you have to believe and trust in your new journey. This was my big step in 2007 when I needed to move up another level.

“Even with other athletics coaches stating that this was wrong for me, we persisted. It paid off. A great example was in 2008 when I missed half the winter, had only six weeks of running and then produced 60m hurdles, 400m and 800m personal bests indoors.

“Doing what I had always done was not an option, but change is an unnerving path. Steve showed me how science can be applied in a creative way, experimenting to

find a new way of getting the best from me. I showed him how he could do so and be accountable for my results.

“I know he works differently as a scientist and a leader as a consequence, and now, in my coaching, applied science has left an indelible mark on how I work with athletes and in business.”

**SIR MATTHEW PINSENT, CBE, MBE**

“There are very few people that I would consider an insider to our efforts to win at successive Olympics, but Steve was one of them: utterly professional, but with a lightness of touch and a sense of humour that made him instantly likeable and one to trust. He was key to our challenge in 2001 to win two World Championship golds in two hours. We wouldn’t have achieved it without him.

*“How to Support a Champion* tells it like it is, and is a superb insight into what is required of anyone who supports other people, let alone elite athletes.”

**JAMES CRACKNELL, OBE**

“Throughout the early stages of my career, especially the 1996 Olympic Games, where I was forced to withdraw on the eve of the Opening Ceremony, I was frustrated with not only the inconsistency of my performances, but believed my optimum could and should be far higher. I am sure most athletes think this way.

“From 1996 onwards, I saw a real step up in my performances due to a professionalisation of my approach and a big part of that was the application of science to my training and competition preparation.

“It’s one thing knowing all of the things you need to do, but you also need a partner to help you prioritise and incorporate the ideas into your daily schedule. Steve helped me do this. I saw the benefits of his analytical but personal approach, brutally constructive honesty and his commitment to helping me go faster.”

## WORKS CITED IN CHAPTER 1

*A good book should leave you...slightly exhausted at the end.  
You live several lives while reading it."*

**William Styron**

1. Kruger, J. & Dunning, D. Unskilled and unaware of it: How difficulties in recognizing one's own incompetence lead to inflated self-assessments. *J. Pers. Soc. Psychol.* **77**, 1121–1134 (1999).
2. Gibbs, G. *Learning by Doing: A guide to teaching and learning methods*. Reflective Gibbs - Study Skills - Upgrade Study Advice Service - Oxford Brookes University (1988).

Thank you for reading.

If you're interested in reading the rest of the book  
[Amazon](#) or [Supporting Champions](#);

## **ABOUT THE AUTHOR**

Dr Steve Ingham is one of world's leading performance scientists. A physiologist by trade, he has a track record of providing scientific support to more than a thousand athletes, of which more than two hundred have gone on to achieve World or Olympic medal success. Steve has also coached athletics to World and Olympic medals.

Steve holds a BSc from the University of Brighton and a PhD from the University of Surrey. He is a fellow of the British Association of Sport and Exercise Sciences.

Steve was previously Sports Science Manager at the British Olympic Association, and the Head of Physiology, then Director of Science and Technical Development at the English Institute of Sport.

He now runs Supporting Champions dedicated to providing transformational personal development in sport and business around the world.

Steve is a popular motivational speaker on the topics of: how to be the best, how to support talent, how to get performance return on investment.

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