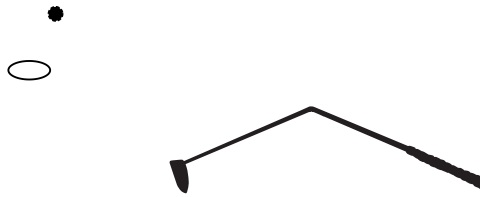


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Introduction



WE ALL DO IT, far too many times for it to be bad luck – we miss a putt, and we’ve no idea why. We judged speed and line, concentrated hard, swung like a pendulum, but missed. We’re left wondering how we can try so hard, to do something so apparently simple, yet fail. The aim of this book is to solve the mystery, and explain how any of us can become an expert putter.

The first book in the series – ‘The Golf Swing: it’s easier than you think’ – covered the science behind the full golf swing. It explained how to hit more balls into the fairway, and onto the green. This second book completes our golfing armoury: it explains the science of the next task – getting the ball into the hole.

And we’re lucky, because not only do we understand the science of expert putting, we can apply it to our putting strokes through simple practices. In other words, there’s nothing to stop any of us improving our putting. There’s no secret, no complicated movements, and no new theories. Just the simple science of how putting ‘works’.

Our main hurdle is to overcome the common belief that putting is a purely mechanical skill. Yes, mechanics are involved, but we move the putterhead only a matter of feet, or inches – it’s a desperately simple movement. But the simplicity is the problem. It tempts us to believe that if we could just find the perfect combination of grip, stance, swing, and putter, we’d rid ourselves of our putting woes. But most of us still have woes, so there’s clearly something missing.

Unfortunately, by focusing on mechanics, we ignore the real core of expert putting – *motor control*. Motor control simply means using the brain to control the body. The key point is that an expert putting stroke isn’t just a mechanical movement, it’s a complex skill that *combines* mechanics with the mental processes that control them.

We’ll see in this book that the putting skill consists of four key elements:

Vision - gathering information;
Imagery – ‘seeing’ the putt;
Attention – swing thoughts;
Mechanical control – putterhead movement.

If we want to become expert putters, we need to develop all four links in this biological chain. This book describes how to do just that, by explaining the science behind the complete putting skill. To start things off, we’ll clarify what *skill* is, and how we can get some.

Putting skill

In January 2011, Adrian Lewis won the Professional Darts Corporation World Championship, at Alexandra Palace in London. During the tournament, Adrian achieved a world record, by scoring 60 ‘maximums’. A maximum is a score of 180 with three darts, and to achieve it, a player must throw all three darts from a distance of just under eight feet into the treble 20. The treble 20 is a small, rectangular section of the dartboard, measuring just 0.35 inches high by 1.3 inches wide—that’s smaller than a triple-A battery, or a pen top. It’s so small that the thrower has to locate the first two darts in such a way that there’s enough room for the third dart to find its way in.

Putting is a similar precision aiming skill, but we don’t achieve the same skill levels as darts players. We have some limitations, in that we need to hit the ball with a putter, and we stand in the worst possible position from which to take aim, but even when tournament professionals putt from eight feet at their 4.25-inch wide target – three times the width of the treble 20 – they mostly miss. The point is, we underperform in the putting skill, and there’s huge scope for improvement.

As we’ve already said, putting is a motor control problem. To be more precise, it’s a *motor skill* problem. A motor skill is a package of muscle contractions, planned, delivered, and controlled by our brains. The quality of every putt we hit depends on how effectively our brains plan and control our movements.¹

Many top players use psychologists, motor skill experts, and vision coaches to develop their skills, but most of us don’t have such resources, so we tend to flounder in a morass of tips, opinions, and good ideas. But if we can understand the four elements of the putting skill, there’s no reason why any of us can’t develop them, and achieve expert status. And this is where science comes in, because science has the answers.

¹ To be even more precise, putting is a *perceptual* motor skill: perceptual = brain; motor = body.

Putting science

The good thing about science is that it works. When we want to know the truth about something, we get it from science. The bad thing about science is that it can be complicated—sometimes impenetrable. And the science of putting is particularly complicated, because it involves many disciplines, including maths, physics, geometry, psychology, biomechanics, and neuroscience. In this book, we'll use the good, and we'll avoid the bad. We'll get to the truth about putting, and we'll simplify everything.

And we're not short of information. Millions of pounds have been invested in research to discover the essential ingredients of expert putting, so we can call on a massive evidence base, generated by top scientists from some of the world's best research facilities. We can even take the sophisticated science behind the rehabilitation of stroke patients, and use it to improve our putting. We no longer need to rely on tips, opinions, or untested theories—we can use proven facts. Although this book runs to just over 100 pages, the underlying science exceeds 10,000 pages! Annex 4 contains a select bibliography of studies used to compile the book.

To aid readability, some simplifications and standardisations have been made in the text. First, when studying putting, researchers often compare extremes, such as professionals with amateurs, or low- and high-handicap players. In this book, we've adopted the terms 'experts' and 'non-experts' when describing this research. Second, science works in metric units (centimetres and metres), but because golf tradition favours imperial units (inches and feet), these have been used throughout the text. Finally, all scientific jargon has either been removed, translated into simpler language, or explained in footnotes. Footnotes are numbered consecutively, within chapters.

So now, we can get started. The book follows the three phases of the putt:

Part 1: *Weighing it up* – judging speed and line;

Part 2: *Preparing the stroke* – creating a mental plan;

Part 3: *The stroke* – mechanics and control.

We'll then conclude with a section on how we can make changes that will improve our putting:

Part 4: *Making it happen* – practice and mental approach.

First, *weighing it up*.

