Introduction

Before the incision is made

The idea for this book came to me while I was running a course called 'Ergonomics for Surgeons' with my colleague from aviation, Phil Higton. The purpose of the course was to highlight the importance of non-technical skills in surgery. Having worked in surgery for over 15 years, I was conscious that we do not pay much attention to these 'soft skills'. Like every other surgeon, I was not mindful of them until I started working in psychological medicine. When I realised the value of these skills, I felt that if I had known about these skills while I was training in surgery or when I was practising as a surgeon, my performance would have significantly benefited. I wanted to share this knowledge with my surgical colleagues through the course. I was very pleased with the feedback I received from surgeons who attended the course. Later, some of them reported a positive impact on their performance as well. Their encouraging responses motivated me to take the decision of taking a step further.

I was curious about how surgeons would respond to the endeavour of writing a book on this unusual topic. I gave the manuscript to my surgical colleagues in order to get their feedback. I was delighted to hear that they had not come across a book on this topic before: "It is unique," they told me. Obviously, I was pleased with these comments. However, I thought "this was an interesting paradox." Although this book may be unique, the contents are common: common in the sense that they are about your day-to-day professional activity; common in the sense that they are applicable to all surgical specialties; and common in the sense that they are useful for anybody, irrespective of seniority. A senior surgeon wrote to me and said, "I don't know how I survived this far without knowing all this." The information provided here is so common or, to be more precise, so fundamental – that we take it for granted. We are expected to know all that is described here, but hardly anybody bothers to explain it to us. While preparing this book, I realised why we are not being told about these things: because they are difficult to explain. While reading this book, you may think, at times, "I know all of this." In that case, ask yourself, "Would I be able to explain it to somebody else?" I bet the answer would be: "Yes, but it is very difficult." I have attempted to simplify this complex subject into a simple and clinically relevant format.

During my career in surgery, I had the opportunity to observe and work with some exceptionally smart surgeons. I have been in the habit of analysing the reasons behind their extraordinary performance and trying to find out why others can't match them. Over the years, I gained some understanding of these questions from cognitive science. This book is my attempt to 'cherry pick' some of those facts that are important to every surgeon.

Chapter 1

Checkmate – the checklist phenomenon

In February 2006, I was invited to participate in a course to train surgeons in 'non-technical skills'. The other invitees, numbering about fifteen, were senior consultant surgeons from a range of specialties.

At the start of the course, we were asked to watch a video of eight basketball players – half dressed in black and half in white – passing the ball to each other. The facilitator asked us to watch the clip carefully and to count the number of passes that the team in white made. The video lasted for only 2-3 minutes.

When the video ended, the facilitator asked, "How many passes did you see the team in white make?"

"Thirteen," was our confident reply.

Without confirming whether this was the correct number of passes or not, the facilitator asked, "Did you see anything else in the video, apart from the players making the passes?"

None of us had.

"Are you sure that none of you noticed anything besides the players?"

Nobody responded to this question, as we didn't want to appear to be foolish, in case we had missed something important.

"Didn't you see a gorilla?" asked the facilitator.

"What? A gorilla?" We laughed, thinking that it must be some kind of joke.

"Yes," said the facilitator, "there was a gorilla in the video. Didn't you see it?"

We were a bit perplexed, and said, "No," with a hint of disbelief.

"Now watch the clip again, this time without counting the passes," said the facilitator.

When we watched the clip for the second time, everybody went quiet a few seconds after the clip had started. We saw a person wearing a gorilla suit enter from one corner. The gorilla walked to the centre, where players were making passes, stood there waving its hands, and then left the scene at the other corner, having been on screen for nearly ten seconds.

We were stunned when we saw the video again. We could not believe that we had missed such an obvious thing! One of the group said, "We surgeons consider ourselves good at picking up visual cues. This experiment shatters that belief!" It wasn't the case that the gorilla was small and camouflaged against the players – in fact, it was quite prominent and hard to ignore, even for a casual observer. Still, us 'careful observers' had missed it.

It may be difficult to appreciate the experience of watching the video and the feeling of disbelief of missing the gorilla just by reading this description. If you are interested in watching this video, it is available on YouTube. Transport for London has adapted the experiment to educate the public about traffic awareness; it is available on http://www.dothetest.co.uk/. We think that we notice far more of the world around us than we actually do. Car drivers who crash into motorcycles often state that they did not see them, or that the motorcycle came out of nowhere, because they're expecting and looking out for cars and not motorcycles.

The experiment on the surgical course was intended to make surgeons aware of the limitations of their powers of observation, however clever they may be. It was also intended to highlight the fact that, when we attend to a specific task, we overlook things that are out of range due to limited observation spans. The problem is that we are not aware that we are unable to see the whole picture. Until we come across situations like the 'gorilla' experiment, we assume that we see whatever is needed to be seen. We do not question surgeons' abilities in these kinds of basic tasks. Obviously, these experiences challenge your views.