But the Swiss kouros didn't come from ancient Greece. It came from Mr. Hedinger's workshop in Rome in the early 1980s. And what of the scientific analysis that said that the surface of the Getty kouros could only have aged over many hundreds or thousands of years? Well, it turns out things weren't that cut and dried. Upon further analysis, another geologist concluded that it might be possible to "age" the surface of a dolomite marble statue in a couple of months using potato mold. In the Getty's catalogue, there is a picture of the kouros, with the notation "About 530 BC, or modern forgery."

When Federico Zeri and Evelyn Harrison and Thomas Hoving and Georgios Dontas — and all the others looked at the kouros and felt an "intuitive repulsion," they were absolutely right. In the first few seconds of looking — in a single glance — they were able to understand more about the essence of the statue than the team at the Getty was able to understand after fourteen months.

Blink is a book about those first two seconds.

1. *Fast and Frugal*

Imagine that I were to ask you to play a very simple gambling game. In front of you are four decks of cards — two of them red and the other two blue. Each card in those four decks either wins you a sum of money or costs you some money, and your job is to turn over cards from any of the decks, one at a time, in such a way that maximizes your winnings. What you don't know at the beginning, however, is that the red decks are a minefield. The rewards are high, but when you lose on the red cards, you lose a lot. Actually, you can win only by taking cards from the blue decks, which offer a nice steady diet of $50 payouts and modest penalties. The question is how long will it take you to figure this out?

A group of scientists at the University of Iowa did this experiment a few years ago, and what they found is that after we've turned over about fifty cards, most of us start to develop a hunch about what's going on. We don't know why we prefer the blue decks, but we're pretty sure at that point that they are a better bet. After turning over about eighty cards, most of us have figured out the game and can explain exactly why the first two decks are such a bad idea. That much is straightforward. We have some experiences. We think them through. We develop a theory. And then finally we put two and two together. That's the way learning works.

But the Iowa scientists did something else, and this is where the strange part of the experiment begins. They hooked each gambler up to a machine that measured the activity of the sweat glands below the skin in the palms of their hands. Like most of our sweat glands, those in our palms respond to stress as well as temperature — which is why we get clammy hands when we are nervous. What the Iowa scientists found is that gamblers started generating stress responses to the red decks by the tenth card, *forty* cards before they were able to say that they had a hunch about what was wrong with those two decks. More important, right around the time their palms started sweating, their behavior began to change as well. They started favoring the blue cards and taking fewer and fewer cards from the red decks. In other words, the gamblers figured

the game out before they realized they had figured the game out: they began making the necessary adjustments long before they were consciously aware of what adjustments they were supposed to be making.

The Iowa experiment is just that, of course, a simple card game involving a handful of subjects and a stress detector. But it's a very powerful illustration of the way our minds work. Here is a situation where the stakes were high, where things were moving quickly, and where the participants had to make sense of a lot of new and confusing information in a very short time. What does the Iowa experiment tell us? That in those moments, our brain uses two very different strategies to make sense of the situation. The first is the one we're most familiar with. It's the conscious strategy. We think about what we've learned, and eventually we come up with an answer. This strategy is logical and definitive. But it takes us eighty cards to get there. It's slow, and it needs a lot of information. There's a second strategy, though. It operates a lot more quickly. It starts to kick in after ten cards, and it's really smart, because it picks up the problem with the red decks almost immediately. It has the drawback, however, that it operates — at least at first — entirely below the surface of consciousness. It sends its messages through weirdly indirect channels, such as the sweat glands in the palms of our hands. It's a system in which our brain reaches conclusions without immediately telling us that it's reaching conclusions.

The second strategy was the path taken by Evelyn [illegible] and Thomas Hoving and the Greek scholars. They didn't weigh every conceivable strand of evidence. They considered only what could be gathered in a

glance. Their thinking was what the cognitive psychologist Gerd Gigerenzer likes to call "fast and frugal." They simply took a look at that statue and some part of their brain did a series of instant calculations, and before any kind of conscious thought took place, they *felt* something, just like the sudden prickling of sweat on the palms of the gambler. For Thomas Hoving, it was the completely inappropriate word "fresh" that suddenly popped into his head. In the case of Angelos Delivorrias, it was a wave of "instinctive repulsion." For Georgios Dontas, it was the feeling that there was a glass between him and the work. Did they know why they knew? Not at all. But they *knew*.

2. *The Internal Computer*

The part of our brain that leaps to conclusions like this is called the adaptive unconscious, and the study of this kind of decision making is one of the most important new fields in psychology. The adaptive unconscious is not to be confused with the unconscious described by Sigmund Freud, which was a dark and murky place filled with desires and memories and fantasies that were too disturbing for us to think about consciously. This new notion of the adaptive unconscious is thought of, instead, as a kind of giant computer that quickly and quietly processes a lot of the data we need in order to keep functioning as human beings. When you walk out into the street and suddenly realize that a truck is bearing down on you, do you have time to think through all your options? Of course not. The only way that human beings could ever have survived as a species for as long as we have is that we've developed another kind