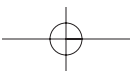
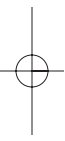
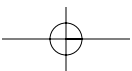
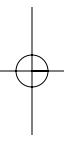
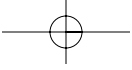


How to Really Fool Yourself





How to Really Fool Yourself

Illusions for All Your Senses

Vicki Cobb

Illustrations by Jessica Wolk-Stanley

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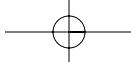
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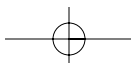
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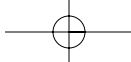
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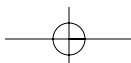
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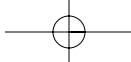
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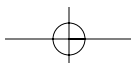
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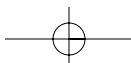


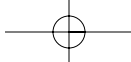
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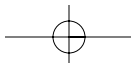
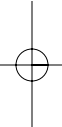
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A Sense of Reality



AT THIS VERY MOMENT you are having an experience with this book. You are reading these words, and, if you are holding the book in your hands, you are feeling its weight and the smoothness of its pages. You may be aware of its smell. All true. So what else is new?

Seriously, how do you know that this book exists? That it is not a figment of your imagination? That it is not an illusion? In your perception, this book is real! Here's a list of reality checks to prove it:

- 1 You can see it.
- 2 You can touch it and feel its weight.
- 3 You can smell it and maybe taste it.
- 4 You can read it aloud and hear the words.
- 5 You can ask other people if they experience these same reality checks, thus confirming your own.

In short, you test for reality by bombarding all your senses with various aspects of the experience of this moment. If they agree, you have a sense of reality.

A Subject to Question

What is reality, really? Three separate views of reality are nicely illustrated in a joke. Three baseball umpires are stating how they each judge balls and strikes. The first umpire says, "I calls 'em as I sees 'em." (He trusts his sense of sight to show him what is real.) The second umpire, feeling much superior to the first, says, "I calls 'em as they is!" (His judgments based on his sense of sight are real.) The third umpire, certain he is one up on the other two, smiles and says in resounding tones, "They ain't nothin' 'til I calls 'em!" (His personal judgments create reality. Where the ball actually is located in the strike zone doesn't count.)

The question of reality has fascinated philosophers, psychologists, scientists, writers, and other seekers of truth for all of recorded history. In discussions and writings, they have considered such heavy questions as: What is existence? ("To be or not to be?") What is

awareness? (“I think, therefore I am.”) If a tree fell in the forest and nobody heard it, did it make a sound? These questions are fair game for anyone to argue. Try one. There is no final authority on the answers, and the solutions are still up for grabs. But as far as your reality experience of this book is concerned and the experience of its content still to come, I suggest that reality has three parts.

The first part is made up of the book’s physical properties and the physical properties of the rest of the universe that are separate from you. The book’s physical properties include its size, shape, weight, light reflecting from its surfaces, sounds of words read aloud, and the chemical makeups of paper and ink. Physical properties to which a person responds are called *stimuli*. (A single property responded to is a *stimulus*.)

The second part of reality is *sensation*—the various ways your body reacts to external stimuli or events. These responses occur first in specialized sense organs—eyes, ears, nose, and skin—that all have one thing in common, namely, nerve cells. Nerve cells that respond to stimuli are called *receptors*, and they carry messages of stimuli to the brain.

Receptors in your eyes are, of course, sensitive to light. Vision is considered our dominant sense if you go by the numbers. Seventy percent of all receptor cells in your body are in your eyes. Sound is sensed primarily by your ears, although your skin has been known to sense certain sound vibrations. Your nose and mouth have receptors sensitive to *chemicals*. Receptors fire messages to the brain when they make direct contact with certain molecules. Our chemical sense of smell and taste are considered our most primitive senses. Other animals, including dogs and fish, are far more developed in this area than we are. Basic survival in many lower animals depends more on these senses than in our case. And, finally, there is your skin and internal touch receptors, which respond to temperature, pressure, and pain in such an infinite variety of combinations that you know when a fly is walking along your arm, when you are touching velvet, and when a pot is too hot to handle. The marvel of touch led the great Greek philosopher Aristotle to think of it as the most important

sense. For him, touch was the ultimate test of reality. If you could touch something, it was truly real.

The third part of reality is knowledge gained from your past experiences. How your sense organs responded to stimuli in the past, how your brain interpreted the information, how you behaved, and the consequences of your actions all play a part in your present experience. The thousands of hours you spent learning to speak English, then learning to read it, then learning that some books are a pleasant experience, are no small part of the reality of this moment (I hope!).

About Fooling Yourself

Perception is the awareness that comes from the stimuli of the physical world, your sensation of them, and your experience in interpreting them. Perception is your basic way of knowing reality. But, although your perceptions *seem* accurate, they are often subject to weaknesses and limits. You are susceptible to illusions, to *not* experiencing reality accurately, yet experiencing something that appears and feels very real. When you are aware of a misperception, you feel strange. Your mind tells you that your senses are deceiving you. The word “illusion” comes from a Latin root meaning “mockery.” Your eyes and ears can play tricks on you. So can your other senses.

This is what this book is about: ways to explore the weaknesses and limits of your perception, ways to create all kinds of illusions for yourself, setting up contradictory situations where your senses tell you one message and your brain tells you another. There are many reasons why illusions occur. Some are caused by built-in limits of your senses. Some are based on conflicts between senses. Some come from false expectations. And some are in the physical world itself.

If there is any lesson to be learned in life, it is that we can make mistakes. Judgments based on false perceptions can be errors. (Unfortunately, they can also prove correct.) The experiments in fooling yourself in this book show one important thing: most of us perceive in similar ways, and our perceptions are similarly leading us

astray. These illusions and experiments can be experienced by all of us. Sometimes it takes a little time and practice to have the experience. So, if you don't "get" an illusion right away, keep trying.

Throughout the history of science, it has been extremely useful to know how we can be fooled. By knowing our weaknesses and limitations, we created tools to correct and extend them. Instruments like the telescope and microscope clearly extend the limits of our senses. Computers have memories that make no mistakes when it comes to total recall. Great minds create models of never-seen objects like atoms and molecules that can explain events we do experience. Such ideas create another reality that helps us to understand the universe and leads to a different kind of truth. Awareness of how we can be mistaken helps us stop kidding ourselves.

Maybe our biggest illusion is that we must be right all the time. If so, you've come to the right place. This book is an adventure in human failing. Prepare yourself for many humbling yet enlightening experiences. Enjoy!