

• **extrasensory perception (ESP)** the controversial claim that perception can occur apart from sensory input, includes telepathy, clairvoyance, and precognition.

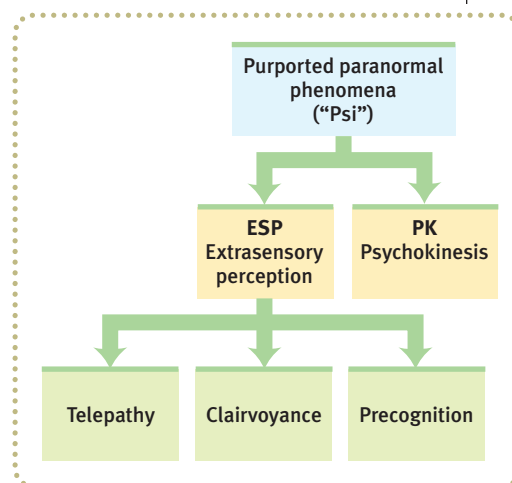
• **parapsychology** the study of paranormal phenomena, including ESP and psychokinesis.

- There would also be some people, notes Michael Shermer (1999), who would have no need for Caller ID, who would never lose at “rock, paper, scissors,” and for whom we could never have a surprise party. •

### SNAPSHOTS



► FIGURE 6.54  
Parapsychological concepts



## Is There Extrasensory Perception?

**25:** What are the claims of ESP, and what have most research psychologists concluded after putting these claims to the test?

CAN WE PERCEIVE ONLY WHAT WE sense? Or, as nearly half of Americans believe, are we capable of **extrasensory perception (ESP)** without sensory input (AP, 2007; Moore, 2005)?

Are there indeed people—any people—who can read minds, see through walls, or foretell the future? Five British universities have **parapsychology** units staffed by Ph.D. graduates of Edinburgh University’s parapsychology program (Turpin, 2005). Sweden’s Lund University, the Netherlands’ Utrecht University, and Australia’s University of Adelaide also have added faculty chairs or research units for parapsychology. Parapsychologists in such places do experiments that search for possible ESP and other paranormal phenomena. But other research psychologists and scientists—including 96 percent of the scientists in the U.S. National Academy of Sciences—are skeptical that such phenomena exist (McConnell, 1991). If ESP is real, we would need to overturn the scientific understanding that we are creatures whose minds are tied to our physical brains and whose perceptual experiences of the world are built of sensations. Sometimes new evidence does overturn our scientific preconceptions. Science, as we will see throughout this book, offers us various surprises—about the extent of the unconscious mind, about the effects of emotions on health, about what heals and what doesn’t, and much more. Before we evaluate claims of ESP, let’s review them.

### Claims of ESP

Claims of paranormal phenomena (“Psi”) include astrological predictions, psychic healing, communication with the dead, and out-of-body experiences. But the most testable and (for a perception discussion) most relevant claims are for three varieties of ESP:

- *Telepathy*, or mind-to-mind communication—one person sending thoughts to another or perceiving another’s thoughts.
- *Clairvoyance*, or perceiving remote events, such as sensing that a friend’s house is on fire.
- *Precognition*, or perceiving future events, such as a political leader’s death or a sporting event’s outcome.

Closely linked with these are claims of *psychokinesis* (PK), or “mind over matter,” such as levitating a table or influencing the roll of a die (FIGURE 6.54). (The claim is illustrated by the wry request, “Will all those who believe in psychokinesis please raise my hand?”)

### Premonitions or Pretensions?

Can psychics see into the future? Although one might wish for a psychic stock forecaster, the tallied forecasts of “leading psychics” reveal meager accuracy. No greedy—or charitable—psychic has been able to predict the outcome of a lottery jackpot, or to make billions on the stock market. During the 1990s, tabloid psychics were all wrong in predicting surprising events. (Madonna did not become a gospel singer, the Statue of Liberty did not lose both its arms in a terrorist blast, Queen Elizabeth did not abdicate her throne to enter a convent.) And the new-century psychics missed the big-news events, such as the horror of 9/11.

(Where were the psychics on 9/10 when we needed them? Why, despite a \$50 million reward offered, could none of them help locate Osama bin Laden after 9/11?) Gene Emery (2004), who has tracked annual psychic forecasts for 26 years, reports that almost never have unusual predictions come true, and virtually never have psychics anticipated any of the year's headline events.

Analyses of psychic visions offered to police departments reveal that these, too, are no more accurate than guesses made by others (Reiser, 1982). Psychics working with the police do, however, generate hundreds of predictions. This increases the odds of an occasional correct guess, which psychics can then report to the media. Moreover, vague predictions can later be interpreted (“retrofitted”) to match events that provide a perceptual set for “understanding” them. Nostradamus, a sixteenth-century French psychic, explained in an unguarded moment that his ambiguous prophecies “could not possibly be understood till they were interpreted after the event and by it.”

Police departments are wise to all this. When Jane Ayers Sweat and Mark Durm (1993) asked the police departments of America's 50 largest cities whether they ever used psychics, 65 percent said they never had. Of those that had, not one had found it helpful.

Are the spontaneous “visions” of everyday people any more accurate? Consider our dreams. Do they foretell the future, as people often believe? Or do they only seem to do so because we are more likely to recall or reconstruct dreams that appear to have come true? Two Harvard psychologists (Murray & Wheeler, 1937) tested the prophetic power of dreams after aviator Charles Lindbergh's baby son was kidnapped and murdered in 1932, but before the body was discovered. When the researchers invited the public to report their dreams about the child, 1300 visionaries submitted dream reports. How many accurately envisioned the child dead? Five percent. And how many also correctly anticipated the body's location—buried among trees? Only 4 of the 1300. Although this number was surely no better than chance, to those 4 dreamers the accuracy of their apparent precognitions must have seemed uncanny.

Throughout the day, each of us imagines many events. Given the billions of events in the world each day, and given enough days, some stunning coincidences are sure to occur. By one careful estimate, chance alone would predict that more than a thousand times a day someone on Earth will think of someone and then within the ensuing five minutes will learn of the person's death (Charpak & Broch, 2004). With enough time and people, the improbable becomes inevitable.

That was the experience of comics writer John Byrne (2003). Six months after his Spider-Man story about a New York blackout appeared, New York suffered a massive blackout. A subsequent Spider-Man storyline involved a major earthquake in Japan. “And again,” he recalled, “the real thing happened in the month the issue hit the stands.” Later, when working on a Superman comic book, he “had the Man of Steel fly to the rescue when disaster beset the NASA space shuttle. The *Challenger* tragedy happened almost immediately thereafter” (with time for the issue to be redrawn). “Most recently, and chilling, came when I was writing and drawing Wonder Woman and did a story in which the title character was killed as a prelude to her becoming a goddess.” The issue cover “was done as a newspaper front page, with the headline ‘Princess Diana Dies.’ (Diana is Wonder Woman's real name.) That issue went on sale on a Thursday. The following Saturday . . . I don't have to tell you, do I?”

## Putting ESP to Experimental Test

In the past, there have been all kinds of strange ideas—that bumps on the head reveal character traits, that bloodletting is a cure-all, that each sperm cell contains a miniature person. Faced with such claims—or with claims of mind-reading or out-of-body travel or communication with the dead—how can we separate bizarre ideas from

“A person who talks a lot is sometimes right.”

Spanish proverb

“At the heart of science is an essential tension between two seemingly contradictory attitudes—an openness to new ideas, no matter how bizarre or counterintuitive they may be, and the most ruthless skeptical scrutiny of all ideas, old and new.”

Carl Sagan (1987)

### Testing psychic powers in the British population

Hertfordshire University psychologist Richard Wiseman created a “mind machine” to see if people can influence or predict a coin toss. Using a touch-sensitive screen, visitors to festivals around the country were given four attempts to call heads or tails. Using a random-number generator, a computer then decided the outcome. When the experiment concluded in January 2000, nearly 28,000 people had predicted 110,972 tosses—with 49.8 percent correct.

Courtesy of Claire Cole



those that sound bizarre but are true? At the heart of science is a simple answer: *Test them to see if they work.* If they do, so much the better for the ideas. If they don't, so much the better for our skepticism.

This scientific attitude has led both believers and skeptics to agree that what parapsychology needs is a reproducible phenomenon and a theory to explain it. Parapsychologist Rhea White (1998) spoke for many in saying that “the image of parapsychology that comes to my mind, based on nearly 44 years in the field, is that of a small airplane [that] has been perpetually taxiing down the runway of the Empirical

Science Airport since 1882 . . . its movement punctuated occasionally by lifting a few feet off the ground only to bump back down on the tarmac once again. It has never taken off for any sustained flight.”

Seeking a reproducible phenomenon, how might we test ESP claims in a controlled experiment? An experiment differs from a staged demonstration. In the laboratory, the experimenter controls what the “psychic” sees and hears. On stage, the psychic controls what the audience sees and hears. Time and again, skeptics note, so-called psychics have exploited unquestioning audiences with mind-blowing performances in which they *appeared* to communicate with the spirits of the dead, read minds, or levitate objects—only to have it revealed that their acts were nothing more than the illusions of stage magicians.

The search for a valid and reliable test of ESP has resulted in thousands of experiments. Some 380 of them have assessed people's efforts to influence computer-generated random sequences of ones and zeros. In some small experiments, the tally of the desired number has exceeded chance by 1 or 2 percent, an effect that disappears when larger experiments are added to the mix (Bösch et al. 2006a,b; Radin et al., 2006; Wilson & Shadish, 2006).

Another set of experiments has invited “senders” to telepathically transmit one of four visual images to “receivers” deprived of sensation in a nearby chamber (Bem & Honorton, 1994). The result? A reported 32 percent accurate response rate, surpassing the chance rate of 25 percent. But follow-up studies have (depending on who was summarizing the results) failed to replicate the phenomenon or produced mixed results (Bem et al., 2001; Milton & Wiseman, 2002; Storm, 2000, 2003).

If ESP nevertheless exists, might it subtly register in the brain? To find out, Harvard researchers Samuel Moulton and Stephen Kosslyn (2008) had a sender try to send one of two pictures telepathically to a receiver lying in an fMRI machine. In these pairs (mostly couples, friends, or twins), the receivers guessed the picture's content correctly at the level of chance (50.0 percent). Moreover, their brains responded no differently when later viewing the actual pictures “sent” by ESP. “These findings,” concluded the researchers, “are the strongest evidence yet obtained against the existence of paranormal mental phenomena.”

From 1998 to 2010, one skeptic, magician James Randi, offered \$1 million “to anyone who proves a genuine psychic power under proper observing conditions” (Randi, 1999, 2008). French, Australian, and Indian groups have parallel offers of up to 200,000 euros to anyone with demonstrable paranormal abilities (CFI, 2003).

“A psychic is an actor playing the role of a psychic.”

Psychologist-magician Daryl Bem (1984)



The “Bizarro” cartoon by Dan Piraro is reprinted by permission of Chronicle Features.

Which supposed psychic ability does Psychic Pizza claim?

Large as these sums are, the scientific seal of approval would be worth far more to anyone whose claims could be authenticated. To refute those who say there is no ESP, one need only produce a single person who can demonstrate a single, reproducible ESP phenomenon. (To refute those who say pigs can't talk would take but one talking pig.) So far, no such person has emerged. Randi's offer has been publicized for three decades and dozens of people have been tested, sometimes under the scrutiny of an independent panel of judges. Still, nothing.

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### BEFORE YOU MOVE ON . . .

#### ➤ ASK YOURSELF

Have you ever had what felt like an ESP experience? Can you think of an explanation other than ESP for that experience?

#### ➤ TEST YOURSELF 7

What psychic ability is being claimed by the sports channel in the cartoon above?

Answers to the Test Yourself Questions can be found in Appendix B at the end of the book.

To feel awe and to gain a deep reverence for life, we need look no further than our own perceptual system and its capacity for organizing formless nerve impulses into colorful sights, vivid sounds, and evocative smells. As Shakespeare's Hamlet recognized, "There are more things in Heaven and Earth, Horatio, than are dreamt of in your philosophy." Within our ordinary sensory and perceptual experiences lies much that is truly extraordinary—surely much more than has so far been dreamt of in our psychology.

"People's desire to believe in the paranormal is stronger than all the evidence that it does not exist."

Susan Blackmore, "Blackmore's first law," 2004

"So, how does the mind work? I don't know. You don't know. Pinker doesn't know. And, I rather suspect, such is the current state of the art, that if God were to tell us, we wouldn't understand."

Jerry Fodor, "Reply to Steven Pinker," 2005