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# **Pseudoscience and Extraordinary Claims of the Paranormal**

**A Critical Thinker's Toolkit**

**Jonathan C. Smith**

Roosevelt University

 **WILEY-BLACKWELL**

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## Praise for *Pseudoscience and Extraordinary Claims of the Paranormal*

“This book, particularly in regard to its discussion of memory errors and its insistence on the value of real science, takes a place of prominence on my personal library shelf.”

*James Randi, Chairman of the James Randi  
Educational Foundation*

“I am astonished by the excellence of this book. Smith has produced a highly readable and very entertaining yet critical examination of virtually the entire gamut of paranormal claims, and he demonstrates an encyclopedic knowledge of the field in doing so. While drawing extensively from psychology, physics, logical analysis and history, he always manages to keep things clear and straightforward, so that one is never lost in complexity. Moreover, the tone is light-hearted throughout, and never becomes pedantic or condescending. And the book offers much more than an evaluation of extraordinary claims. It provides a refined set of critical thinking tools that the reader will find invaluable in everyday life. I strongly recommend this book to everyone who values the pursuit of truth in all things. And I can only wish that those who know that they already have the truth would read it as well, for they need it the most.”

*James Alcock, York University*

“Can you be both a critical thinker and a believer in the paranormal? The ‘reality checks’ in Jonathan Smith’s *Critical Thinker’s Toolkit* will guide you to your answer.”

*Robert Todd Carroll, author of The Skeptic’s Dictionary*

“An excellent, engaging, and highly readable introduction to the paranormal and to the distinction between science and pseudoscience. A superb student-friendly guide to extraordinary claims. Chock full of interesting and fun examples, not to mention humor. Should become a favorite in undergraduate psychology courses.”

*Scott O. Lilienfeld, Emory University*

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*Elmo, Gum, Heather, Holly, Mistletoe, Rowan, and Al*

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## About the Author



**Dr. Jonathan C. Smith** has written extensively on stress, relaxation, meditation, and mindfulness as well as spirituality and skepticism. He is a Licensed Clinical Psychologist, Professor of Psychology at Chicago's Roosevelt University, and Founding Director of the Roosevelt University Stress Institute. Dr. Smith has published 17 books with major international publishers and has authored more than three dozen articles. His innovative approaches to relaxation, meditation, and mindfulness have won wide professional acclaim. Dr. Smith has taught his approaches to thousands and has served as consultant

for government, business, educational, medical, and health organizations around the world.

For nearly a half century, Dr. Smith has had an enduring and deep interest in teaching critical thinking and exploring the paranormal. His doctoral dissertation, completed at Michigan State University in 1975, was one of the first professionally acclaimed double-blind placebo studies on the then popular transcendental meditation (he found no therapeutic effect). This work led to three APA articles and his first two books. In 1984 he founded the Roosevelt University Stress Institute primarily to combat pseudoscience and quackery in the field. His manuals and textbooks on meditation, mindfulness, and spirituality take a distinctly skeptical perspective toward popular extraordinary claims often associated with these approaches. More recently he has written reviews of paranormal books for the American Psychological Association journal *PsycCRITIQUES*. In addition he has created classroom and online classes at Roosevelt University specifically designed to teach critical thinking skills and evaluate extraordinary claims of the paranormal.



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## Preface

I confess I am a bit passionate about the paranormal. I truly believe that claims of astrologers, psychics, spiritualists, mind-readers, spoon-benders, practitioners of complementary and alternative medicine, acupuncturists, faith healers, and creationists should be taken very seriously. Not because these claims may be true or false. Instead, I believe that extraordinary claims can have extraordinary consequences.

Think about it. A paranormal event magically violates the laws of physics, what we know about matter and energy. If demonstrated true, a paranormal phenomenon could require rewriting the textbooks of science. Furthermore, it could require a massive emergency research effort that would dwarf historical efforts to create an atom bomb or land a man on the moon. Why? What would be the consequences if a rabbit's foot worked, *really worked*—and terrorists figured it out first? Seriously, what if people could indeed predict the future; influence the past; read minds; cure illness through touch, thoughts, and prayers; secretly observe hidden events; and move and manipulate objects and devices from great distances through simple intention? What if, as claimed by some paranormal researchers, they're *all* true? Think about it.

It is a mistake to discount the paranormal as the foolish obsession of tabloid newspapers. Seventy-three percent of Americans are paranormal believers (whereas 27% have no paranormal belief), and this number is growing. More people believe in astrology today than in the Middle Ages. In the United States, most of us belong to a religion, and for the vast majority faith is built on the rock of paranormal claims. However, this book is for a select audience, those who have chosen to step back and, for a brief precious moment, to question. I have written this book for:

**College students.** This book is an appropriate core reading for three types of college courses: *Critical Thinking*, *Research Methods*, and

*Pseudoscience and the Paranormal.* Courses need not be restricted to the paranormal; the tools I offer work for evaluating a wide range of extraordinary nonparanormal controversies such as Freudian psychoanalysis, graphology, polygraphy (lie detectors), and conspiracy theories.

**Health professionals.** Nurses, social workers, counselors, psychologists, and physicians encounter paranormal claims in courses and workshops on complementary and alternative medicine (CAM). CAM includes nontraditional treatments such as those from nonwestern cultures (Chinese acupuncture, Indian yoga chakras, shamanistic healing, etc.), mind–body techniques (healing touch, tai chi, meditation and prayer), and bio-energy treatments. Health professionals need to know to what extent these treatments work because of claimed undetected energies and powers or through suggestion and the placebo effect.

**Journalists.** The paranormal is a perennial topic of great interest to the media. A responsible journalist often must consider extraordinary claims in face of pressing publication deadlines that preclude exhaustive investigation. This book is designed to be a useful quick guide.

**Public officials.** Yes, government officials must consider paranormal claims. Should taxpayer revenue be spent for energy treatments (acupuncture, healing prayer, tai chi) based on forces not detected by physics? Should the CIA and FBI investigate the national security implications of flying saucers and mind-reading (and worry about a possible “psychic gap” with Russia)? Should the state prosecute faith healers who, in the name of Jesus, charge huge sums for bogus cures? Should the law permit parents to give their children magical alternative treatments instead of standard medicine? Who is responsible if such treatments don’t work and children are injured or die? Should biology classes be required to teach paranormal-based creation myths along with the science of evolution?

**Religious seekers and educators.** The spiritual journey is a search for transcendent realities and possibilities hidden in the fog of selfishness, superstition, and ignorance. Every major religion teaches the importance of avoiding “false gods,” idols, and narrow-minded temptation. This book offers the seeker and educator assistance in evaluating the credibility of claimed divine revelations, magic relics, miracle cures, healing shrines, exorcisms, resurrections, reincarnations, prophecies, visions, spontaneous combustions, spontaneous creation of matter, virgin births, and so on. It should be noted that such paranormal claims are not the sole property of any one religion, but characterize most, if not all.

**Paranormal investigators.** Scientists who study paranormal claims face special challenges. It may not be easy to tease out a subtle

paranormal effect from coincidence, suggestion, and ordinary natural phenomena. Perhaps even more challenging is the task of conducting a study that skeptics take seriously. This book summarizes scientific standards advocated by both skeptical and believing researchers.

### The Critical Thinker's Toolkit

Here is my perspective and plan. Overall our goal is to consider and apply a systematic approach for performing **reality checks** on paranormal claims, **The Critical Thinker's Toolkit**. The **Toolkit** begins by asking "Why believe a paranormal claim?" We consider three basic types of support: Is the claim from a credible source? Is it based on clear logic? Is it the product of good scientific observation? Then we look at five alternative explanations for any apparent paranormal event:

1. Is this event an oddity of nature or the world of statistics?
2. A perceptual error or trick?
3. A memory error?
4. The placebo effect?
5. A sensory anomaly or hallucination?

For Toolkit practice I present a selection of paranormal claims. I deliberately focus on **claims of consequence**, phenomena with historical, individual, social, philosophical, and political significance. Astrology (Chapters 3–5) is important because it is the "grandfather" of paranormal beliefs, offers a prototype for prophecy and psychic readings popular to this day, and provides a vivid contrast to the view of the universe offered by the science of astronomy. Historically, spiritualism and channeling with the dead (Chapter 11) helped trigger and shape current interests in the paranormal. The best methodology for studying paranormal claims is used by parapsychologists. Indeed, they have come tantalizingly close to providing evidence for some extraordinary claims (Chapter 12). Energy treatments such as acupuncture and tai chi (Chapter 13) cost individuals millions of dollars each year and have attracted millions of government research funds. The healing power of prayer is by far the most popular paranormal belief and faith healers (Chapter 14) have persuaded critically ill patients to forgo life-saving medical treatment. The debates over creationism and evolution (Chapter 15) have influenced American politics for decades and provide a lesson in the importance of separating science and religion.

## What This Book Is Not

You may not find your favorite paranormal topic in this book. There are simply too many and my goal has not been to write yet another encyclopedia of the paranormal (see Appendix B for a listing of some excellent online resources). We do not devote much time to the many paranormal curios found in Halloween shops or circus sideshows. These include pixies, fairies, ghosts, haunted houses, flying saucers, UFO crop circles, alien abductions, Atlantis, werewolves, Bigfoot, dowsing, the Shroud of Turin, the Bermuda Triangle, and tens of thousands of quaint everyday superstitions. Fun and popular as these topics may be, ultimately they are of lesser consequence and perhaps are best left to the tabloids, B movies, and cable television faux documentaries. However, even if you are a true believer in fairies, pixies, or whatever, I invite you to practice your reality-checking skills and apply the Critical Thinker's Toolkit. Once again, I have attempted to limit focus to *paranormal claims of consequence*.

Also, this is a book on the paranormal. We do not consider pop psychology, psychoanalysis, humanistic therapies, "New Age" philosophy, questionable or "crazy" psychotherapies, or debated assessment strategies such as the Rorschach inkblot test, graphology (handwriting analysis), or lie detectors. First, some are legitimate topics of scientific debate, with qualified scientists arguing for and against. This is particularly true for psychoanalysis, humanistic therapies, the Rorschach test, and lie detectors. Good scientists disagree, and they are not pseudoscientists or paranormalists. Also, to include such topics would require that we include a discussion of every current controversy in psychology, which is not the task of this book.

## This Book's Perspective (and Bias?)

Studies of the paranormal are fraught with accusations of bias. Quickly you will find examples of skeptics and believers who unfairly discount each other's "prejudiced" work. In this climate, I suspect that my efforts will be tagged as tainted. But let me make this clear: Bias consists of ignoring or distorting reality. My commitment is to embrace fact over fiction, even when this proves discomforting. Unlike a few skeptics, I am more than willing to accept a solid finding that challenges what science tells us is "possible." Indeed, I would take some delight in thumbing my nose at prevailing popular opinion. Anyone who has read my work will discover that I've shamelessly done this in the past. However, we aren't there yet, and I take greater delight in living in the world as it is. I don't like to be tricked or fooled.



In sum, there is one point I hope my book makes:

If we accept one extraordinary paranormal claim that fails to meet a few sensible reality checks, we are obligated to accept all paranormal claims that have equivalent support.

If you believe in ghosts, you must also believe in astrology, reincarnation, TV psychic superstars, prophetic pets, alien abductions, communication with the dead, fortune-telling, mental spoon-bending, and a Pandora's box of other treasures. Why? All have sincere, honest, sane, intelligent, educated, articulate, famous, and passionate proponents. All are based on the same types of support. And for all, the evidence might at first seem quite convincing. But rather than falling victim to an exploding box of troublesome surprises, I offer a systematic way of taking thoughtful pause.

## A Look Inside

This book offers something new for students, scholars, and those who are simply curious. I share a few scholarly inventions which I hope my colleagues will pursue. In addition, I've done some things to make this book useful and engaging.

### Conceptual Advances

This book attempts to integrate evaluative tools used by both paranormal believers and skeptics. Although key elements of our Toolkit are standard fare in careful considerations of the paranormal (logic, use of the scientific method), I introduce a few innovations not present in any other text. These include:

- The Continuum Mysteriosum, an eight-part hierarchy for organizing paranormal and supernatural claims (Chapter 1). The Continuum not only helps us rank paranormal claims but provides criteria for evaluating their implications if true.
- A detailed discussion of the costs of erroneously accepting (or rejecting) paranormal claims. I introduce an extended and novel approach to subjective relativism (Chapter 2).
- A discussion of criteria for evaluating sources, including why we should question sources even considered to be reputable (Chapter 3).
- A new and practical system for categorizing logical errors. There are many ways to organize fallacies of logic. This text presents an approach my students have found useful. I introduce the error of mistaking science with jargon, technobabble, and science fiction (Chapter 4).

- Elaboration of how scientific thinking is, as Einstein has suggested, common-sense thinking at its best (Chapter 5).
- Introduction to the **FEDS Standard**, an expansion of Carl Sagan’s widely quoted advice, “extraordinary claims require extraordinary evidence” (Chapter 5). Here it is:

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### The FEDS Standard

To be fully credible, a paranormal study should include expert independent and impartial supervision and replication to minimize:

- ✓ **Fraud:** The investigator makes up or changes data, reports only positive results, fails to report compromising design features, or claims to have done something that was in fact not done.
- ✓ **Error:** The investigator misuses experimental tools, methods, or statistics.
- ✓ **Deception:** Research participants, assistants, or colleagues trick the investigator.
- ✓ **Sloppiness:** The investigator does not take into account the research problems outlined in this text.

- 
- Introduction of the five major alternative hypotheses that must be considered when confronting a paranormal claim (Chapters 6–10).
  - New research on perceptual errors. I offer five categories of cold reading techniques that enable a beginning student to perform as well as a TV psychic superstar (Chapter 7).
  - Latest research on memory errors and déjà vu (Chapter 8).
  - A new model of placebos that emphasizes the role of hypnotic suggestion, classical conditioning, the opioid system, and self-stressing (Chapter 9).
  - Introduction to sensory anomalies, such as the pupil response, that may underlie possible paranormal experiences. Application of latest thinking of hallucinations to the paranormal (Chapter 10).
  - The beginnings of a new theory of “paranormic propensity” that hypothesizes why some people get caught up in paranormal thinking (Chapter 16).

### Instructional Highlights

I have attempted to make the **Toolkit** short, clear, and organized. For the Critical Thinker in a hurry, I recommend Chapter 2 (Why Study These

Things?), Chapter 5 (Evaluating Scientific Evidence), Chapter 7 (Perceptual Errors), and Chapter 10 (Sensory Anomalies and Hallucinations). For those facing a paranormal emergency, I recommend Chapter 2. Our final Chapter (16) outlines key points and suggests how to perform a full reality checkup using the **Toolkit**. I have attempted to keep things brief so that instructors can provide their own favorite supplementary readings or elaborate upon topics I note.

Although I am a psychologist, I recognize that many users and instructors come from other areas, including philosophy, religion, journalism, and the health professions. For this reason, I have attempted to minimize technical discussion of such topics as neurophysiology, cognitive theory, psychopathology, logic, and statistics. If a user requires elaboration of any of these or other topics, many excellent specialized texts are available. For example, a course on research methods could include this text along with a core text on statistics. Seminars on medical diagnoses could supplement primary medical texts with this book.

In addition, through Wiley-Blackwell I offer an extensive bank of multiple choice questions, PowerPoint chapter summaries, sample syllabi, links to online university instruction, current video links, and a variety of tested instructional aids. For a sample syllabus, course description, and free online video library, visit my website: <http://faculty.roosevelt.edu/jsmith>

I have favored content and quality primary sources that are readily accessible without charge on the internet. The reader who wishes to explore a topic I briefly note can readily explore my sources. These, supplemented by the many excellent DVDs available on topics such as astrology, psychics, healing, creationism, and the supernatural, should spark considerable discussion.

In sum, here you will find an assortment of scientific studies, discussions of history, philosophical debates, a touch of theology, and a bit of humor. I challenge you to take it all seriously. Whether I am explaining, philosophizing, joking, or attempting parody, my goal remains the same—to inspire and provoke critical thinking. Enjoy the journey!



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## Part I

# Introduction





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