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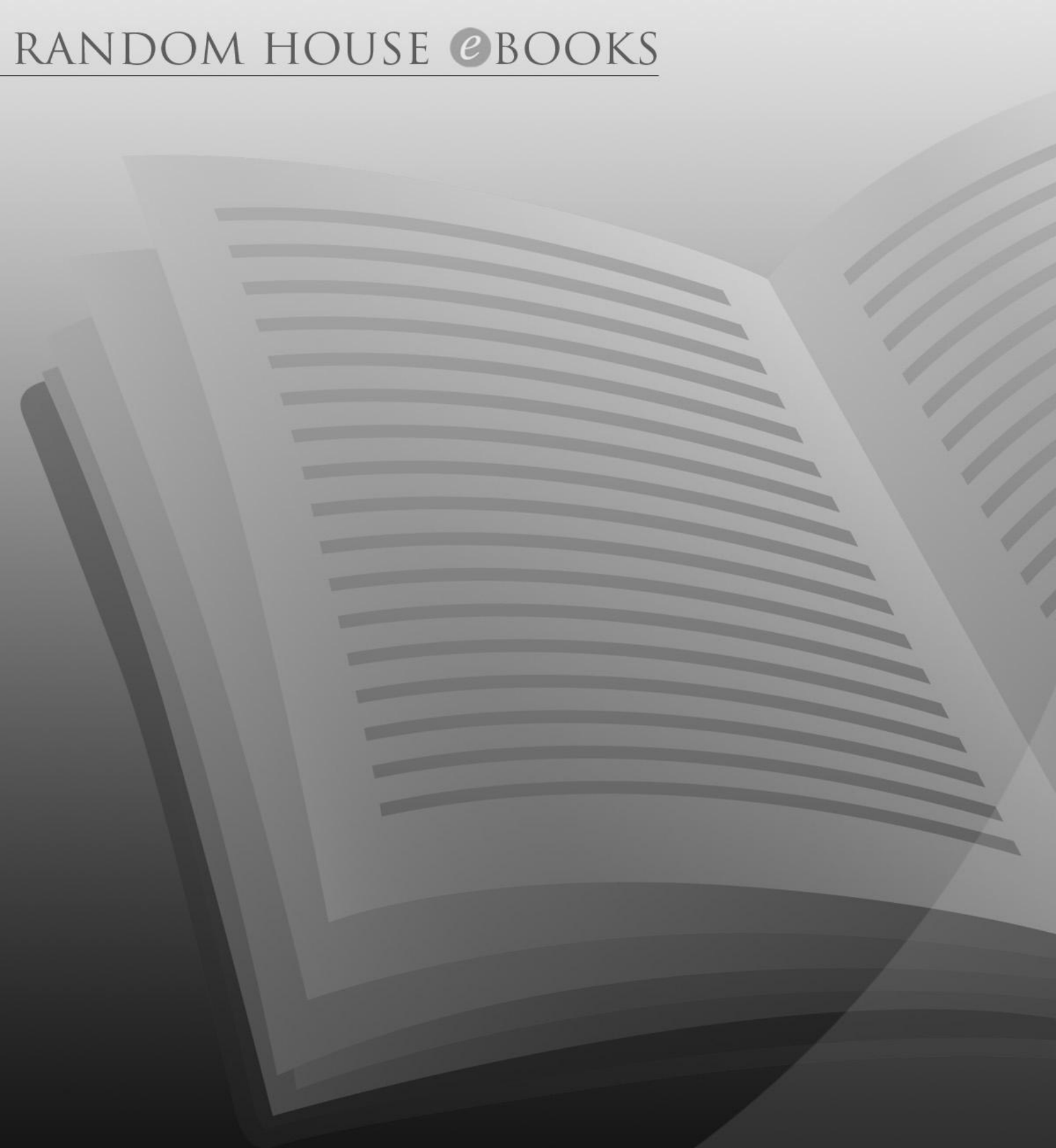

# Questioning the Millennium

Stephen Jay Gould

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# About the Author

Stephen Jay Gould is the Alexander Agassiz Professor of Zoology and Professor of Geology at Harvard University, and the Curator for Invertebrate Palaeontology in the University's Museum of Comparative Zoology. His publications include *Eight Little Piggies, Wonderful Life, Ever Since Darwin, The Panda's Thumb, Dinosaur in a Haystack* and, most recently, *Life's Grandeur*.

ALSO BY STEPHEN JAY GOULD

*Ontogeny and Phylogeny*
*Ever Since Darwin*
*The Panda's Thumb*
*The Mismeasure of Man*
*Hen's Teeth and Horse's Toes*
*The Flamingo's Smile*
*An Urchin in the Storm*
*Time's Arrow, Time's Cycle*
*Illuminations* (with R.W. Purcell)
*Wonderful Life*
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*Dinosaur in a Haystack*
*Life's Grandeur*

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*In loving memory of my friend Carl Sagan*

*The most passionate rationalist of our times*
*The best advocate for science in our millennium*

Stephen Jay Gould

# QUESTIONING THE MILLENNIUM

A Rationalist's Guide
to a Precisely Arbitrary
Countdown

# Preface

# Our Precisely Arbitrary Millennium

I BEGAN TO think about this book during the first week of January 1950. I was eight years old, and a good part of my life revolved around the simple pleasures of weekly rituals. On Sundays, I would pull out *The New York Times* sports section and turn to the agate-type listings of performance records for major league baseball players. I would take an index card, align all the stats for a single player along the top edge, and then slowly move the card down, a player at a time, studying the numerical data for each in turn.

The weekly arrival of *Life* magazine, that quintessential organ of middlebrow culture, defined a second activity—this time a less structured survey of pictures. The first issue for 1950 hit me with a force that I still don't comprehend, and burned into my cortex a permanent memory as potent and enduring as the records of childhood's more tumultuous events—my kid brother's birth, my father's return from war. This first issue for 1950 marked the halfway point of the twentieth century by evaluating what had happened and predicting what the second segment might bring. (The publication of this special issue in January 1950, rather than January 1951—the "true" half-century point, according to one school of thought—provides yet another expression of that recurring, perverse, frustrating, funny, yet somehow fascinating

debate on the unresolvable issue of when centuries end, the subject of Part 2 in this book and the source of more passionate discussion than ever before, because the forthcoming passage also marks the inception of a new millennium.)

For some reason, as I scanned this issue, my main thought went forward to the year 2000. My third grade mathematics told me that I would then be fifty-eight years old, while two living grandparents testified to the high probability that I would witness this far more interesting event. I have been buoyed by this lovely idea ever since—that I would enjoy the rare privilege of experiencing a transition that (however arbitrary) would rivet the attention of nearly all nations. Most folks live and die in years of little numerical distinction. I figured that I was one helluva lucky guy. When I should have died of cancer in the mid-1980s, but recovered instead, I listed only two items as placeholders of all the reasons for cherishing life in our times: “I dwelled on many things—that I simply had to see my children grow up, that it would be perverse to come this close to the millennium and then blow it” (from the preface to *The Flamingo’s Smile*, 1985 ).

There will be an orgy of millennial books, and I hate to follow crowds. What then, beyond the indulgence of a little boy’s whim dating from January 1950, can possibly justify my addition to this ephemeral genre? In one sense, this little book rests its case for distinctiveness upon an omission. I will eschew, absolutely and on principle, the two staples of fin de siècle literature, especially of the apocalyptic sort inspired by a millennial transition. I regard these subjects as speculative, boring, and basically silly—for they rank as primary examples of “punditry’s” fundamental error: the fatuous notion that a head-on rush at the biggest questions will automatically yield the deepest insights.

I shall, first of all, make *no predictions* about human futures, either for years, decades, millennia, or geological ages; or for individuals, family lineages, or races; or for cities, nations, hemispheres, or galaxies. (I limit myself to predicting the aforementioned glut of books about the millennium.) Second, I refuse to speculate about the psychological source either for the angst that always accompanies the endings of centuries (not to mention millennia) or for the apocalyptic beliefs that have pervaded human cultures throughout recorded history, particularly among the miserable and malcontented.

Instead, I will confine myself to a set of related millennial questions that may seem paltry or laughably limited compared with the grandeur of unknowable futures, but that (as I hope to convince you) gain greater potential import by their definability and their exemplification, in fruitful ways, of questions as general as the nature of truth and the mechanisms of human knowledge. God bless all the precious little examples and all their cascading implications; without these gems, these tiny acorns bearing the blueprints of oak trees, essayists would be out of business. I want to talk about calendars and numbers; about fingers, toes and the perception of "evenness"; about the sun and the moon, the age of the earth, and the birth of Jesus.

These preciously definite, but wondrously broad, calendrical questions all arise from a foible of human reasoning, and also underlie all the passionate arguments now swirling around the impending millennial transition. In a famous motto, the Roman dramatist Terence stated in the second century B.C.: *"Homo sum: humani nihil a me alienum puto"* (I am a man, and nothing human can therefore be alien to me). Our urge to know is so great, but our common errors cut so deep. You just gotta love us—and you gotta view misguided millennial passion as a primary example of

our uniqueness and our absurdity—in other words, of our humanity.

The astronomical, historical, and calendrical questions of this book all rest upon the distinction between nature's factual status and our arbitrary definitions within these constraints—in other words, the interaction of undeniable reality and the flexibility of human interpretation. Some things in nature just are—even though we can parse and interpret such real items in wildly various ways. A lion is a lion is a lion—and lions are more closely tied by genealogy to tigers than to earthworms. (Of course, I recognize that some system of human thought might base its central principle upon a spiritual or metaphorical tie between lion and earthworm—but nature's genealogies would not be changed thereby, even though the evolutionary tree of life might be utterly ignored or actively denied.)

But other important categories in our lives, however precisely definable and however objectively ascertainable, must be judged as arbitrary in the crucial sense that nature permits a plethora of equally reasonable alternatives, while providing no factual basis for a preferred choice. For example, each pitched baseball crosses home plate in a particular location of undeniable factuality—but the definitions for balls and strikes are human decisions, entirely arbitrary with respect to the physics of projection, however sensible within a system of rules and customs regulating this popular sport. (These definitions can also change—and have often done so—when circumstances favor an alteration.) Similarly, although nature dictates days by a full rotation of the earth, the parsing of days into packages of seven, called weeks, represents an arbitrary decision of some human cultures.

Millennial questions record our foibles, rather than nature's dictates, because they all lie at the arbitrary end of this spectrum. At the opposite and factual end, nature gives us three primary cycles—days as earthly rotations,