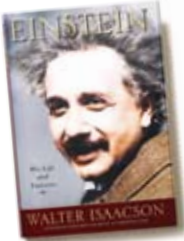


GUIDE TO GLOBAL SCIENCE CULTURE

# {REVIEWS}



**Einstein:  
His Life and Universe**  
By Walter Isaacson  
(Simon and Schuster)

## INTIMATE WITH EINSTEIN

A new biography of Albert Einstein reveals the humanity behind the genius.

Think for a moment about the people in your workplace. Have you ever considered that one of your coworkers might forever revolutionize our understanding of the universe, bending space and time in his or her mind? Can you imagine any of them attaining a celebrity status superceding that of any current star of the cinema, for nothing other than their sublime intellect?

In 1902 the employees in a small patent office in Bern, Switzerland, not far from the fabled Zytglogge clock tower, certainly could never have ventured that they had such an individual toiling among them. The recently hired, third-class technical expert, a 23-year-old high school dropout who scarcely made it through college due to his recurrent truancy, didn't seem the man to overturn our view of the cosmos in a mere three years' time. There were no hints that this government clerk struggling for promotion to support his pregnant girlfriend, who made perhaps the most prodigious use of spare time in history, would later be deemed *Time's* Person of the Century. No one could have anticipated that his name and visage would become archetypes for genius—that he would be “Einstein.”

Albert Einstein is a man we all know, but whom most of us know little about. We recognize the legend but don't typically contemplate the human who gave rise to it. Last year the Hebrew University in Jerusalem, which Einstein helped inaugurate, released the last extant parcel of private letters to and from the late theoretical physicist. Some 3,500 previously unseen pages, revealing intimate details of Albert Einstein's life, were made available to scholars for the first time. Walter Isaacson's *Einstein: His Life and Universe* is the first of the inevitable spate of new biographies that will attempt to incorporate all we know about the man under the disheveled mane (Einsteinphiles won't have to wait long for the second; this spring a well-regarded German biography by Jürgen Neffe is being updated to accommodate the revelations and will be released in the US).

PHOTO ILLUSTRATION BY ADAM BILLYEALD

Biography is often the construction of informed voyeurism, and there is no lack for either information or personal stories about Einstein. Many of his former acquaintances and loved ones long ago published accounts of his life. But to write the complete biography of a physicist of such resounding intellect and importance, a person must be either extremely well versed in his science or a masochist. Walter Isaacson is a masochist, and he is, thankfully, a very talented one.

Isaacson is a career newsman with an adept journalist's eye for a good story. He was managing editor at *Time* for several years (including the issue in which Einstein was named Person of the Century) before becoming the CEO of CNN. Today he is the president and CEO of the Aspen Institute and also a board member for several corporations. He has written two other biographies of formidable men, Benjamin Franklin and Henry Kissinger.

In writing about Einstein, Isaacson exudes both a crisp precision and profundity that belie the difficulty of the physics Einstein created. He masterfully guides us through the man's expansive body of work that prefigured most modern physics. Isaacson accomplishes this by using a mere two equations: one of which you can surely guess, and another that has been completely undervalued and merits mentioning.

More impressive than his lucid prose is Isaacson's deft interpretation of much of the larger context of Einstein's work. He rightly states that Einstein's special theory of relativity is not as revolutionary as his original insights on the quantum problem. Einstein's hesitations about the loss of absolute cause and effect that his own contributions to quantum mechanics would entail are superbly rendered in Isaacson's tale. Einstein could never believe that the universe is fundamentally probabilistic, that one could not predict the decay of a nucleus, for example, with absolute precision. “God does not play dice” was Einstein's mantra, to which his friendly quantum adversary, Neils Bohr, once famously replied, “Einstein, stop telling God what to do!”

Isaacson even manages to incorporate much of the interpretive scholarship on Einstein's approach to science and the social context in which he devised his theories. He limns the thesis of physics historian Peter Galison: that Einstein's job examining patents, especially those for synchronizing Bern's clocks, like the Zytglogge, using light signals, might have supplemented Einstein's notorious reliance on pure thought in discovering special relativity. He further elucidates the arguments of the philosopher John Norton on Einstein's formulation of general relativity (Norton helped edit Isaacson's book) and the cultural and thematic studies of the legendary Einstein scholar Gerald Holton (who also vetted the book).

To his credit, Isaacson enlisted scores of experts to look over his shoulder during his writing: Several historians and myriad physicists, including Nobel Prize winners Murray Gell-Mann and Dudley Herschbach, are noted for checking his work. Masterful physicist-scribes, such as Brian Greene and Lawrence Krauss, receive profuse thanks for their editing. Einstein scholars, especially the physicists, can be very protective of their prophet and his legacy, and Isaacson's reverence for their expertise makes for exemplary science writing.

But Isaacson's true gift is in narrating the life of a complicated man. Einstein was an aloof ideologue who despised authority (*Zwang*, German for “coercion” or “constraint,” was Einstein's term for it). He was also a renowned philanderer and free spirit who tended to maintain distance from his family and friends. Yet, for the first time, we see a portrait of Einstein as a sincere and caring, if somewhat distracted, husband and father to his two sons and stepdaughters. Einstein also emerges as a

*Einstein*. Isaacson's tremendous scholarship in uncovering more of the less frequently discussed aspects of Einstein's character will stand as a benchmark for works to come.

As with many great books, *Einstein* is not without its peccadilloes and minor disappointments. On top of an inexplicable early penchant for referring to Einstein as “sassy,” using out-of-place sports metaphors such as “across the goal line” and “open field runner,” and relying on Wikipedia as a reference for Schrödinger's Cat, one can't help wishing that Isaacson had gone further in his analysis. As a longtime purveyor of the news, he is the ideal person to update Einstein for the present day. Many of Einstein's pronouncements as a public intellectual can be seen as remarkably prescient in light of recent events, especially those on freedom, education, and the Israel-Palestine debate. Our times lack for such a beloved scientist with frank talk, and it is well within the purview of biography to acknowledge the lessons of its subject for current dilemmas.

### 3 THINGS WE DIDN'T KNOW ABOUT EINSTEIN

- 1 Einstein kept portraits of three scientists—Isaac Newton, Michael Faraday, and James Maxwell—hanging above his desk as he worked. He also kept a single portrait of a non-scientist: Gandhi.
- 2 In a 1938 poll of the incoming Princeton class, Einstein placed second in the “greatest living person” category. Hitler was first.
- 3 Einstein didn't fail math in grade school, but one professor does hold the distinction of failing Einstein in college, Jean Peret. In the course *Physics Experiments for Beginners*, Einstein never listened to instructions and once caused an explosion in the lab, requiring stitches in his hand. He was reprimanded for “lack of diligence.”

jovial presence, quick with a joke and always the first to bellow a hearty laugh at his own expense. Upon hearing that the Nazis reputedly put a price on his head of \$5,000, he quickly reached up, touched it, and exclaimed, “I didn't know it was worth that much!” Isaacson dispels myths (such as the unfortunate, oft-repeated contention that Einstein failed math in grade school) and strikes the perfect balance between previous accounts of Einstein, such as Abraham Pais's technical *Subtle Is the Lord* and Albrecht Fölsing's emotional *Albert*

Lack of recognition in a person's own lifetime is typically one of the hallmarks of genius in art; not so in science. Einstein was a true celebrity of his time, and Isaacson has admirably resurrected his ascension to fame through vivid descriptions of the man's work and personality. There may never come another Einstein, but there may also not be any need for one. Weighing all that Einstein accomplished and has left for us, as Isaacson's biography informs us, the universe as we know it is still truly his. —Joshua Roebke



### 10.3 DIDN'T DO A BODY GOOD

Got milk? If you were a Neolithic European, the answer would be probably not. Most mammals can digest milk only during infancy, and only some humans drink milk all their lives, producing the lactase enzyme well into adulthood. To understand when this adaptation arose, scientists sequenced DNA from Neolithic skeletons at five European archaeological sites, looking for the gene associated with lactase persistence. None had it, implying that European milk-drinking is a relatively recent adaptation.