
Five Patients in 50 years: Revisiting the speculations of Michael Crichton's medical school nonfiction

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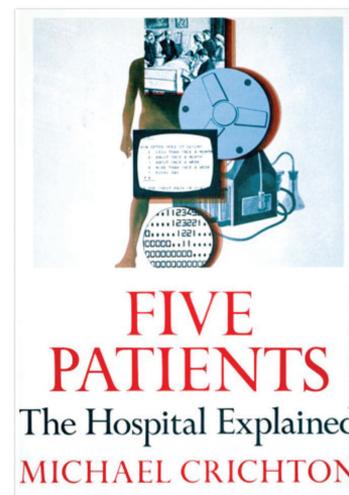
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"We're talking about what the future is; no one knows what the future is!"

– Michael Crichton, 2007¹

Author Michael Crichton (1942-2008) crafted convincing stories of speculative science and technology into Hollywood blockbusters and wide commercial success. Throughout his career, he leveraged his medical education to construct an identity as an authority on science. In merging facts and scientific processes with plausible speculation, he earned a reputation for foresight intermittently at odds with scientific accuracy.

By December 1969, the 27-year-old Crichton had already written 10 novels, published mostly under pseudonyms from the 1960s to early 1970s. Three of the novels had recently been purchased by the motion



picture industry for film adaptation. Among them was *The Andromeda Strain*, which became a *New York Times* Best Seller. By his own admission, Crichton was enjoying his success and recognition as an author, with trips

to Hollywood and meetings with high-profile entertainment executives.² He was, at the time, also a fourth-year medical student at Harvard completing clinical rotations at Massachusetts General Hospital.

Medical school bookends

Crichton's experiences in medical school were both productive and terminal. While flourishing as a writer, his interest in practicing medicine deteriorated. During his first year in 1966, he wrote the racy international crime novel *Odds On* as a ploy to pay the bills during medical school. After finding a publisher in Signet Books, Crichton churned out a series of James Bond 007-inspired paperbacks with names like *Scratch One*, *Easy Go*, and *Zero Cool*, written under the pseudonym John Lange. Crichton's alias served two purposes. It protected him from patient concern that he would write about them,³ and it allowed him to compartmentalize and dissociate from the medical school experience, which he found unpleasant.⁴

As he progressed through medical school, the tone and content of his writing matured. Two books proved transformational in Crichton's development: *A Case of Need* (published under the pseudonym Jeffrey Hudson) in 1968, and *The Andromeda Strain* in 1969.

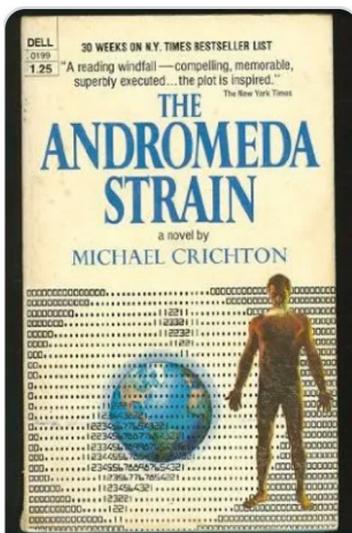
A Case of Need is identified as Crichton's first work of a speculative nature.⁵ Published five years before *Roe v. Wade*, it was a harbinger of both the reproductive rights movement and Crichton's trademarks: the interface of society with science and technology, cautionary bioethics, and the literary trappings of a thriller. The novel also proved to be Crichton's most successful to date, winning an Edgar Award and later being adapted to film.

This success was soon dwarfed by *The Andromeda Strain*, the first novel published under Crichton's surname. The speculative story of a satellite returning to Earth contaminated by lethal pathogens was timely, published just three months before the Apollo 11 moon landing. The popularity of *The Andromeda Strain* made Crichton a household name, and validated his decision to leave medicine after obtaining his MD.

These two novels established Crichton as a speculative writer and an authority on science, but did not immediately cement his identity as such. Their publication

was followed by two additional Lange potboilers, and a crime fiction collaboration with his brother under the alias Michael Douglas.

When he did return to publishing as Michael Crichton, in 1970, it was for *Five Patients: The Hospital Explained*, a work of educative nonfiction interspersed with speculation. This book is organized as a series of case studies, with the narratives of five patients elucidating various aspects of medicine and the hospital. Contemporary appraisals grazed the speculative nature of *Five Patients* focusing mostly on its role as expository writing. A *Journal of the American Medical Association* review praised Crichton's ability to distill the challenges of medicine while disparaging his oversimplification.⁶ *The Harvard Crimson* (a paper Crichton once wrote for) called his historicity obvious and his positions pompous, noting how the book simulates authentic scenarios "in typical Crichton fashion."⁷ Ironically, in 1975 Crichton would go on to publish a *New England Journal of Medicine* editorial deriding medical obfuscation. Only psychiatrist F.C. Redlich writing for *The New York Times* made special note of the conjectures in *Five Patients*, sympathizing with Crichton's implicit proposals for change.⁸



Why speculate?

Crichton believed he could effect change before it was needed, stating in a 1970's *Scientific American* ad, "In the best circumstances, fiction serves as a kind of trial balloon. It allows a society to experience events before they actually take place, make decisions and prepare responses to them."³

In this way, we can view speculative literature as a portent of social change on the other side of works that raise issues ex post facto like Upton Sinclair's *The Jungle*, and Harriet Beecher Stowe's *Uncle Tom's Cabin*. Such examples represent a response or answer; speculative literature is more of a question.

The question speculative authors often ask is "what if?" Crichton's interest in speculation arose in part from columnist Art Buchwald's musings on what would have happened if Barry Goldwater had defeated Lyndon Johnson in the 1964 presidential election.⁹ Buchwald's imaginative considerations were bold and dubious but no less captivating, a framework Crichton appears to

have embraced. Even though Buchwald was considered a journalist, winning a Pulitzer Prize for Outstanding Commentary, his satirical work often blurred the lines of reporting and imagining, a trait not uncommon in Crichton's speculative fiction.

Speculative fiction addresses the decisions and adaptations of humanity.¹⁰ In Crichton's fiction, products of science and technology appear as imminent threats to humanity, though their interactions with society often prove disentangleable. Crichton viewed these threats as so immediate, he often raced to complete stories before a looming historical event.

While writing *The Andromeda Strain*, Crichton worried he would be unable to finish it before the Space Race rendered his work obsolete. *Jurassic Park*, written during the genetic revolution in animal cloning, appeared just six years before the arrival of Dolly the first cloned sheep.

In 2002, he described the science of his nanotechnology thriller *Prey* as "on its way."¹¹ In contrast with futurist speculative fiction authors like Arthur C. Clarke, Crichton's interest in the conceivable consequences of today's science is termed the speculative present.⁵

Collecting (on) patients

In *Five Patients*, 1969-1970 offered an opportune era of medicine in which to speculate. Many of the technologies Crichton highlighted were current introductions, while long overdue changes in culture were beginning to transpire. Crichton's placement at Massachusetts General Hospital afforded him access to the nascent technology while providing a rich history as the nation's third oldest general hospital.

Crichton also had readily available, and apparently willing, subjects for his case studies. He states in the book's "Foreword" that with each patient, he took care to identify himself, his role as a medical student, and that he was writing a book. In recent years, scholars have argued that writing about patients can put doctors in a difficult position when it appears to jeopardize the Hippocratic Oath on confidentiality.¹² Crichton attempts to preempt such concerns by stating that patients' names "and other identifying characteristics"¹³ were changed. It is unclear, however, whether explicit consent was ever sought.

It is clear what Crichton stood to gain from writing *Five Patients*. With the success of *The Andromeda Strain* and his decision to leave medicine upon graduation, Crichton could capitalize on his time in medical school producing content based directly on his experiences.

As an undergraduate, Crichton abandoned an English

major after feeling slighted by a professor whom he suspected of grading unfairly. Instead, he chose biological anthropology and graduated with *Phi Beta Kappa* honors. He taught anthropology at Cambridge the following year before returning to Harvard for medical school.

Crichton appeared to relish an identity as a polymath, resisting being pigeonholed as a science fiction writer.⁵ He played basketball at Harvard, directed films, programmed software, and wrote nonfiction on modern art, computers, and travel. *Five Patients* was the beginning of his foray into nonfiction.

After spending four years immersed in medicine, Crichton was well positioned to write on the topic. *Five Patients'* emphasis on science, technology, and society followed major themes of *A Case of Need* and *The Andromeda Strain*, validating and reinforcing his authority on such subjects.

The media took note, pointing out the mystique of the man who gave up medicine to enter show business.⁴ Promotional materials by publishers heavily emphasized his scientific background. The publicity around Crichton, the doctor writing thrillers, played strategically into his next published novel, 1972's *The Terminal Man*.

The Terminal Man is a neuroscience suspense story about the unintended consequences of invasive medical technology. Heavy-handed in its liberal use of medical jargon, the book was of comparable success to *The Andromeda Strain*, receiving positive reviews and a film adaptation. As a work of speculative fiction, *The Terminal Man* arrived at a time when electrical neurostimulation entered the early Computer Age. Anyone who had read *Five Patients* before *The Terminal Man* hit was primed with an awareness of technology's rapid expansion into medicine, making the realism of *The Terminal Man* all the more captivating.

The Terminal Man, like *The Andromeda Strain*, marked Crichton as a writer of science-based speculative fiction. Relatively little has been made of the classification speculative nonfiction of which *Five Patients* could be considered. Modern scholars have applied the term to a range of works, often with respect to technology. The futurology of prognosticators like Ray Kurzweil and Alvin Toffler occupies an intellectual space parallel to speculative nonfiction, though its emphasis on the sometimes-distant future explicitly contrasts with Crichton's speculative present in *Five Patients*.

The majority of the material in *Five Patients*, however, is not speculative in nature. Crichton provides exhaustive passages on the history and explication of

hospital systems, hence the book's subtitle, *The Hospital Explained*. There are strong narrative elements in the case studies, recounted through Crichton's detached anthropological approach. The historical and pathological examinations are engaging, and could stand on their own as elements of worthwhile nonfiction. Yet, there are significant threads of speculation that run throughout *Five Patients*, which add to its allure, and compromise its legitimacy as an authoritative text on its topics.

Crichton's speculative gambit

Crichton's relationship with speculation is complicated. In later years, he would sour on the practice and publicly criticize those in the media who partook. As a fiction writer, however, his brand of imagining the "what if?" or "what next?" questions of science brought him tremendous success and wealth. *Jurassic Park* alone has become a five-billion-dollar franchise. Other speculative works like *The Andromeda Strain*, *Prey*, *Next*, and *State of Fear* are all *New York Times* bestsellers.

Crichton's proclivity to hypothesize near-term possibilities became part of his public identity. The official website of his estate includes an entire section devoted to Crichton as visionary, likening him to Jules Verne in conceptual foresight. The section highlights his speculative fiction, innovations in film and technology, and his 1993 speech "Mediasaurus," which predicted the decline of traditional news media.³ In a 1999 video question and answer session, he stands alone in front of a white backdrop and responds to questions on various topics of speculation.

Following Crichton's death in 2008, a eulogizing Stephen King remarked, "he made you believe that cloning dinosaurs wasn't just over the horizon but possible tomorrow. Maybe today."¹⁴

In forging this identity, Crichton engaged in what can be conceptualized as speculative gambit. A gambit is defined as a calculated risk often involving short-term loss in sacrifice of long-term advantage. Speculative gambit is thus the disposition to benefit from the act of speculation without regard to, and sometimes at the expense of, fact.

In Crichton's speculative gambit, he plants a variety of assertions and predictions alongside passages of didactic and historical content. The accuracy or basis proves secondary; his ability to craft a narrative as a speculator is paramount.

Crichton's manipulation of fact has been noted in other speculative works. His command of the scientific

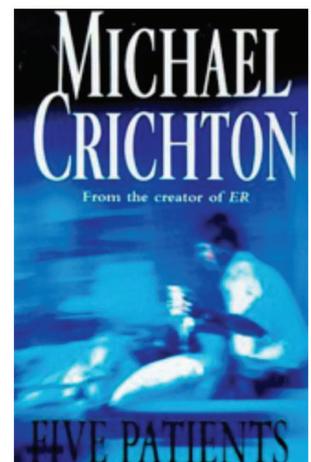
vernacular exploits readers' relative ignorance, fusing fact and fiction into convincing narratives in *The Andromeda Strain* and *State of Fear*.¹⁵ Nanotechnology experts warn of public misperception and implore readers of *Prey* to distinguish reality from imagination.¹⁶ Geneticist perspectives on scientific capacity recommend a purely fictional interpretation of *Jurassic Park's* premise.¹⁷ Even as an MD, Crichton's depiction of temporal lobe epilepsy in *The Terminal Man* is judged by neuroclinicians as a flawed plot device.¹⁸

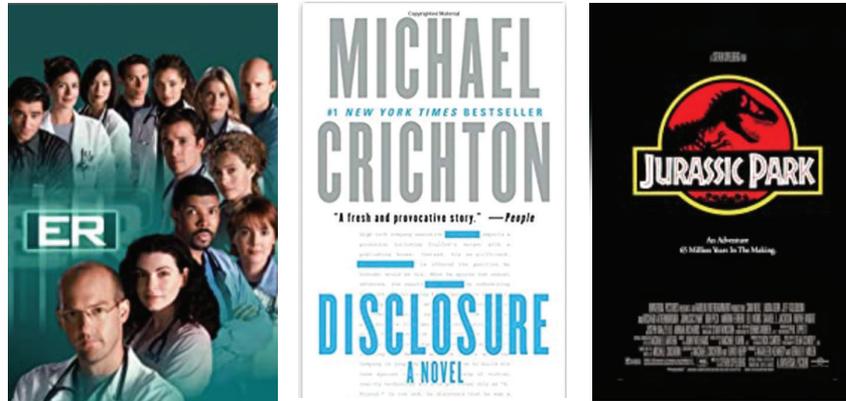
Crichton recognized the dual demand of writing scientific speculative fiction that was both grounded in science and captivating to the imagination.¹⁹ Yet, he remained dogged in his interpretations, even in fields outside his professional expertise. Critics noted and occasionally censured Crichton for this kind of pan-intellectual hubris on topics as varied as global warming (*State of Fear*), international economics (*Rising Sun*), and gender politics (*Disclosure*). Despite the criticism, he remained both commercially popular, and respected enough within the scientific community, to earn a fellowship at the Salk Institute for Biological Sciences, invitations to NASA's Jet Propulsion Laboratory, and keynote speaking engagements with the American Association for the Advancement of Science and the National Press Club.

Crichton's propensity for speculative gambit offered favorable returns. In exchange for consistent factual bases, his willingness to furnish plausible suppositions helped write his stories and fortify his identity. Within this framework, *Five Patients* was an early pillar of Crichton's academic complexion and bolstered his image as a forecaster.

Five Patients revisited

The speculative content in *Five Patients* contributed to Crichton's identity as a speculative fiction writer in its initial release in 1970, and again when reissued in 1994. The timing of the reissue was fortuitous. Crichton was at the zenith of his career, becoming the only creator to simultaneously have the number one box office film (*Jurassic Park*), the number one book (*Disclosure*), and the number one television





series (*ER*). The cover of the 1994 paperback reissue highlights its association with all three titles, drawing extra attention to its parallels with *ER*. The front cover promises, “Their stories are filled with drama, heartbreak and hope. Any one of them could be you...”¹³

While the tagline ignores the speculative bent of *Five Patients*, the updated “Author’s Note” magnifies it. Again, the timing was impeccable, as 1994 was the 25th anniversary of Crichton’s original draft in 1969. This provided an opportune outlet to reflect on his speculations, as he could comment on them while leaving the original text unchanged. Commercially, he could sell more copies of what would otherwise be obsolete—or at the very least, archival—literature without doing disproportionate work that would take him away from writing blockbuster fiction.

Crichton’s own assessment of his speculation is candid, if uneven. He acknowledges a number of developments he failed to foresee: the proliferation of malpractice suits, genetic testing, and the large number of women entering medicine. He also notes a contrast in considerations of patient rights, but makes no mention of how his own writing may be implicated.

The 1994 “Author’s Note” continues with further self-assessment of specific predictions from the original publication. The speculative content can be classified into three primary categories: technological advancement in medicine; the economics of health care; and cultural and structural changes in medicine. In qualitatively assessing these speculations 50 years after publication, the nuances of Crichton’s speculative gambit in the context of contemporary medicine become clear.

Technological advancement in medicine

Crichton explores medical technology at great length in *Five Patients*. He accurately surmises that systems like clinical decision support and electronic medical record software would proliferate, while wrongly assuming computer interviews would replace those of physicians. In the 1994 “Author’s Note,” he singles out video technology as a prediction that had not yet found widespread application. However, he is unwilling to discount the possibility entirely and alludes to forecasters who see the technology as still emerging.

The journal *Telemedicine and e-Health* was founded the following year. Telemedicine continued to grow slowly throughout the 1990s until proliferation of video-enabled smartphones reinvigorated interest.

The result of the rapid growth in video-capable mobile technology in the past 10 years is that Crichton’s optimistic forecast from 1969 was ultimately closer than his more tempered reflection in 1994. In 2018, more than half of health systems offered telemedicine services.²⁰ In this instance, Crichton was able to hedge his speculative gambit and still appear prescient.

He invokes similar backtracking on predictions regarding medical automation and computer-based diagnosis. In the 1994 reissue, Crichton concludes neither patients nor physicians have accepted the technology. In describing why certain technologies have failed to take hold, he points to society’s continued grappling with issues of privacy and accuracy.

Taken as gestalt, Crichton’s initial enthusiasm for technology in medicine is appropriate. He correctly (perhaps uncontroversially) predicts its continued significance, along with the notion that it will organically

foster its own innovation. He provides no basis for this assertion but continues with brazen objectivity casting a long gaze toward “an absurd end-point”¹³ in which patients are diagnosed and treated without ever entering the hospital.

To some extent, that time has arrived. Clinicians can connect with patients through smartphone video applications, perform visual and auditory diagnostics, and write electronic prescriptions that are delivered to a patient’s door. For more complex cases, remote, automated, or otherwise nontraditional interventions remain fodder for futurists.

The economics of health care

Although assessments and predictions on the cost of care constitute a smaller number of pages than technology, the magnitude of the problem is described at various points in *Five Patients*. In the 1994 reissue, Crichton summarizes that the economic challenges described in the original text seem modest. National health care expenditure had surged from roughly six percent of gross domestic product (GDP) in 1969 to 14 percent in 1994. Though the percentage has continued to rise in the 25 years since 1994, most recent calculations in 2019 place annual expenditure at around 17.9 percent of GDP.²¹

Crichton states that the book was written before “the great government interventions of Medicare and Medicaid.”¹³ This is not only incorrect (as Medicare was introduced in 1966), but he references Medicare in the original 1970 text during a screed against the American Medical Association’s opposition to it. Medicaid similarly predated *Five Patients*, arriving as part of the Social Security Amendments of 1965. The result of this obfuscation—whether intentional or not—is that he could redouble his call for a more nationalized health care system. This provided an opportunity to affirm his initial argument that countries with socialized medicine pay less for better health care. It’s an assertion that is still germane.

Cultural and structural changes in medicine

Crichton’s speculations on the culture and structure of medicine dovetail with assumptions about changes in technology. In the original text, he argues that automation of medical processes will promote a shift toward practicing medicine as an art. He further predicts a growing orientation around public health as medicine, with TV and computer technology facilitating Hippocrates’ call to educate the masses. The 1994 “Author’s Note” links both

notions by contrasting who he supposes was the most well-known physician during the 1960s—cardiovascular surgeon and innovator Michael DeBakey (AΩA, Tulane University School of Medicine, 1931)—with endocrinologist-turned-transcendental lifestyle advocate Deepak Chopra. Crichton notes that diet, meditation, and exercise constitute legitimate, prescribed interventions that were once ridiculed.

The nebulous nature of these assertions buffers more direct instances of speculative gambit, such as Crichton’s prediction that physicians of the future would split into two groups: clinicians and researchers. He omits any mention of research in the 1994 “Author’s Note,” despite properly predicting its extraordinary growth in the original text.

The reissued *Five Patients* came on the heels of 1993’s *Jurassic Park* movie that focused heavily on biotech research. By instead highlighting the growing role of health care in politics and society, Crichton could buttress the relevance of his latest creation, *ER*. Strategic again with its timing, *ER* debuted in 1994 and would win 23 Emmy awards over 15 seasons.

(Re)considering speculation

In 1994, as in 1970, Crichton’s *Five Patients* audience was primarily those outside of medicine. Like *The Andromeda Strain* and *State of Fear*,¹⁵ *Five Patients*’ speculative gambit succeeded due to the reader’s relative unfamiliarity of the subject matter and Crichton’s reputation—both earned and manufactured—as a speculator of science topics. Like his medical thrillers, the narratives of *Five Patients* are augmented by didactic lessons that, while illuminative for the layperson, should not be regarded as wholly factual. Crichton’s suppositions influence many of his conclusions, though the speculative nature is often obscured amidst history and evidence.

Ironically, the prognosticating that brought Crichton wealth and acclaim eventually became his nemesis. Late in his career, he began to fret about speculation. In 2002, he delivered the speech “Why Speculate?” a scathing critique of the media in which he decried the speculation he once championed.

His 2004 novel *State of Fear* further targeted speculators of doomsday climate scenarios, ironic particularly in its own classification as a work of speculative fiction. Though commercially successful, the book garnered harsh responses from popular critics and scientists. Nevertheless, Crichton remained obstinate in his convictions. In true speculative fashion he predicted that he would be validated for his climate views.¹

Crichton's speculative gambit in *Five Patients* rewarded him as a perceived member of the scientific community, and as an author of speculative literature. In its initial 1970 publication, the book helped Crichton transition from a medical student and part-time writer to a bestselling author acclaimed for convincingly scientific works of fiction. In 1994, the 25th anniversary reissue of *Five Patients* allowed Crichton to underscore his foresight in the wake of his successful speculative science fiction film *Jurassic Park* and hit TV medical drama *ER*.

Five Patients' persuasive blend of fact and supposition renders its legitimacy as authoritative medical nonfiction questionable, despite many speculations that have proven prescient with 50 years of hindsight.

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