Hacking the Best-Seller List

In the same way that Windows introduced the masses to mice and graphical user interfaces without having invented them, Dan Brown's books explore for the general public some important themes in security and privacy and their sensitivity to technological change. These are themes that

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we've usually only seen treated in the more rarified zone of hard science fiction. This installment of Biblio Tech departs from the normal pattern of examining more obscure, idea-driven books and stories to focus on the works of a contemporary best-selling author. This departure is unusual because neither this department nor this magazine is part of the star-making machinery behind the popular book. By choosing to look at current popular fiction we run the risk of discovering later that we should have delved deeper. Nevertheless, these works are going to be broadly influential, so let's look at them.

Blending popular fiction with science fiction

Each of Dan Brown's four novels—*Digital Fortress*, *Angels & Demons*, *Deception Point*, and *The Da Vinci Code*—starts off with a murder. In each case, the victim is an innocent whose death looms large in the plot of the thriller that follows, although the connection is not clear until later. We lose a programmer, a particle physicist, a geologist studying the Arctic, and a curator at the Louvre, all to murders that shock with their cryptic brutality.

These books have additional parallels, starting with their heroes and heroines. All the main characters are intellectuals, whether they're academics or intelligence analysts. This makes it possible for the books to be scholarly treasure hunts interlaced with didactic expositions on topics as disparate as religion, art history, architecture, information management, cryptography, and privacy, all at the same time.

Unbreakable code

Digital Fortress starts with the murder of a Japanese programmer whose masterpiece is an unbreakable encryption program. The programmer publishes its source code on his Web site, but encrypts the tarball with the new algorithm. He's in the midst of auctioning the key to the highest bidder when he's killed. David Becker, a linguistics professor, and his fiancée Susan Fletcher, the chief cryptographer at the National Security Agency (NSA, called "No Such Agency" by some wags because so much of its funding is part of the US government's "black" budget), must race against time to prevent the decryption key from being widely released.

The code has two layers: a relatively tough outer shell that's susceptible to brute-force attack, and an inner layer that renders the contents difficult to recognize in natural language. Brown's explanations of the code's structural characteristics wouldn't pass muster in the cryptographic mathematics community, but they're sufficiently plausible for the rest of us to sustain the story. Brown introduces the concept of unbreakable codes in a long discussion between Fletcher and her boss, the NSA's deputy director. In the process of the discussion, he also introduces some of the current debates about encryption and public policy, to which he does tolerable justice.

Although he introduces the Electronic Frontier Foundation and presents a somewhat balanced overview of the debate between civil libertarians and law enforcement advocates on the topic of strong encryption, he might have gone further to cover a little more of the debate's history. As Tom Standage did in *The Victorian Internet*, Brown might have included some historical perspective from the early days of the telegraph, when many national governments forbade the use of codes and encryption. Covering some of these topics, however, would have meant introducing large-scale systems engineering considerations, something perhaps less than compatible with a popular novel.

Scientifically informed fiction

Angels & Demons provides our first encounter with Robert Langdon, the Harvard symbologist whose adventures in *The Da Vinci Code* have dominated the best-seller list for nearly a year. This book is the closest Brown comes to what the science-fiction community would call "hard" science fiction. One of the first scenes introduces a hypersonic transport, which the director of CERN
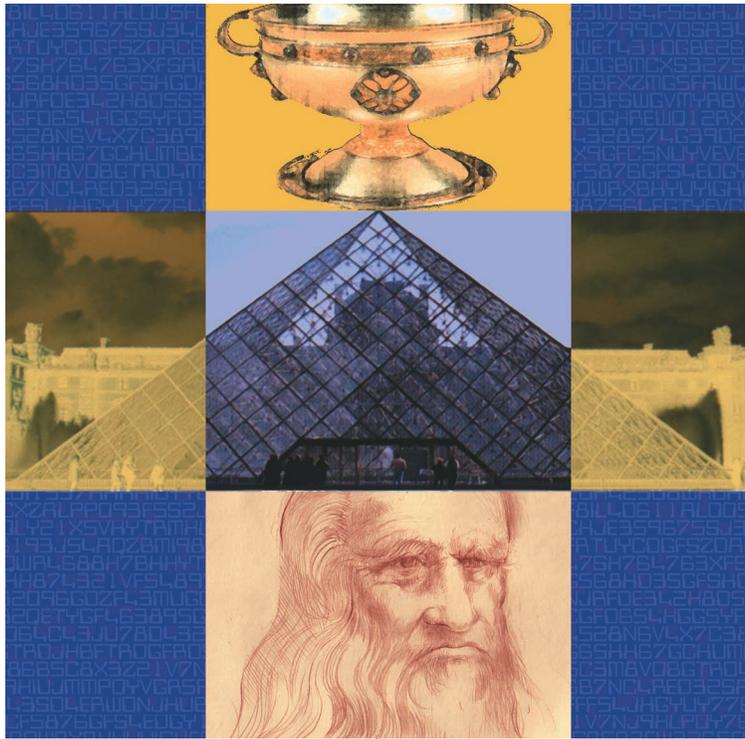
sends to bring Langdon from Boston to Geneva. The victim whose murder Langdon has been summoned to help investigate is a physicist whose research has produced quantities of antimatter—quantities sufficient to attract a terrorist who wants to use it to destroy the Vatican in Rome. Brown's introduction of these elements qualify *Angels & Demons* as science fiction, although the focus on art and architecture help the book appeal to a broader audience.

In his work, Brown often takes a line similar to that in Michael Crichton's *The Andromeda Strain* and *The Terminal Man*: scientifically informed fiction rather than classical science fiction. Both authors' books differ from classical science fiction in two ways. First, the technical artifacts are based on the contemporary state of the art rather than on plausible or possible items. Second, the fictional world's social framework doesn't differ from our contemporary framework. The technology establishes or supports the conflict—it doesn't create a different infrastructure for the world. For these two reasons, these books are considered to be less ambi-

tious technically and less deserving of the term "science fiction" than works by Isaac Asimov, for example.

Political intrigue

Deception Point introduces a protagonist named Rachel Sexton. Rachel, like the typical thriller heroine, is the daughter of a senator running for president. Rachel is also a member of the senior staff at the National Reconnaissance Office (NRO, "We Own The Night"), which is the agency that builds and operates US surveillance satellites and other "national technical means." In this story and in *Digital Fortress*, Brown demonstrates the fruits of his research into the less well-known but not entirely secret corners of the intelligence community. He weaves together his encyclopedic knowledge of current military and space technology with rumored programs, including the supposed Aurora spy plane that some speculate succeeded the famed SR-71 Blackbird in the 1980s as the world's fastest air-breathing plane.

Deception Point features the standard race against time as Rachel and oceanographer Michael Tolland

hurry to unravel the riddle surrounding a mysterious meteorite found deep underneath the Arctic icecap. (The President recruits Tolland and three other prominent scientists to assess the meteorite's authenticity.) With a sequence of hair-raising escapes from death straight out of *The Perils of Pauline*, sinister forces working for a mysterious person identified only as "the controller" pursue characters from NRO headquarters to the Milne Ice Shelf back down to the Atlantic off the coast of New Jersey. Where current technology and rumored future technology leave off, Brown's imagination provides extensions. At one point, the mysterious soldiers fire bullets made of ice at Sexton and her companions, a weapon we've seen before in science fiction works like Asimov's *Caves of Steel*.

Woven into the thriller thread is the old debate between secrecy and openness. In *Deception Point*, a confrontation emerges between the head of NASA and the intelligence community. On one side, Brown's intelligence community leaders bemoan the aid their enemies gain from the release of scientific information; on the other side, the NASA administrator and his supporters parry with the confidence-building effects of sharing scientific knowledge with "enemies." This debate is an eternal one and has raged between real-life scientific and military communities for as long as both have existed.

Art and architecture

Brown's most recent novel, *The Da Vinci Code*, officially took him to stardom. It features Robert Langdon in a new adventure that starts with a late-night request from the French judicial police to come to the Louvre, where he's presented with the naked corpse of a famous curator, Jacques Saunière. He was to have met the curator that evening for the first time if Saunière had kept the appointment his secretary had so mysteriously made shortly before his

death. Saunière's murder introduces the novel; the hunt that ensues leads us on an eclectic tour of art and architecture across France and the United Kingdom, with Langdon and Saunière's estranged granddaughter, Sophie Neveu, struggling to stay a jump ahead of both the police and the murderer, who is seeking the mysterious keystone of the Priory of Sion, a secret society of supposedly great antiquity.

A bit of technology whets our appetites, but none of it is as exciting as hypersonic jets or antimatter bombs. In *The Da Vinci Code*, the technology comes mostly from the dark world of intelligence and espionage, plus an entertaining mixture of mathematics and linguistic puzzles. In addition to the geeky stuff, there's the wonderful description of important works of art and architecture—topics about which our community is generally unevenly educated. Rather than spoil the mystery for those of you who haven't read the book yet, I'll leave it at that. Brown asserts in the preface that the Priory of Sion is an ancient, real organization. The available information confirms that there have been organizations with that name at various times throughout history, al-

though the variance between the statements about the Priory of Sion in the book and elsewhere is rather large. This is within the rights of a work of fiction, of course, but the claims have been widely attacked as a hoax. Be that as it may, Brown stirs up a melange of entertaining facts and factoids, producing from it a tasty and entertaining book.

Dan Brown's stories feature a charming optimism. What in each book seems at first to be a vast conspiracy hatched by massive dark forces struggling to overwhelm the disorganized and mutually mistrustful powers of good eventually turns out to be a single twisted individual who has cleverly manipulated com-

plex systems to his own ends. Invariably, a few heroic individuals, with luck and pluck, manage to thwart and ultimately unmask the malefactor. As each novel ends, the love interests stroll off to their richly earned rewards, and the world returns to bumbling normalcy.

Above all else, Brown's work somehow feels realistic in its treatment of technology—it's there, it can sometimes be confusing, it changes things in unexpected ways, but in the end, the world continues to be more familiar than alien. □

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Table 1. Influential works.

AUTHOR	TITLE	ORIGINAL APPEARANCE
Michael Crichton	*The Andromeda Strain*	1969
Michael Crichton	*The Terminal Man*	1972
Dan Brown	*Digital Fortress*	1998
Tom Standage	*The Victorian Internet*	1999
Dan Brown	*Angels & Demons*	2000
Dan Brown	*Deception Point*	2001
Dan Brown	*The Da Vinci Code*	2003