

SCIENCE

The geniuses who tracked down the gene

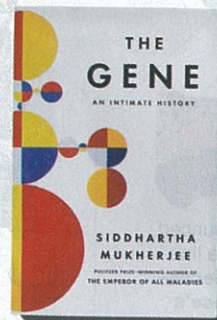
THE STORY OF GENETICS HAS A LONG LINE OF PROTAGONISTS, but the most winning of them is the first: a shy, neurotic Augustinian friar named Gregor Mendel. Born in 1822, the son of two Silesian peasants, he tried to become a teacher but failed the exams, twice. So instead he spent a decade quietly breeding and cross-breeding peas at an abbey in Moravia, meticulously recording and analyzing reams of data by hand. In the process he became the first person to parse the basic grammar of heredity. He published the results in the obscure *Proceedings of the Brno Natural Science Society*. They were immediately forgotten for 35 years.

Siddhartha Mukherjee tells Mendel's story and many others in *The Gene: An Intimate History*. His first book, *The Emperor of All Maladies: A Biography of Cancer*, won the Pulitzer Prize in 2011, and *The Gene* is in the same genre: Mukherjee has a gift for making gripping, vivid narrative out of the cataclysmic but largely invisible drama of molecular biology. There's something both comic and poignant in watching generations of fallible, eccentric geniuses try to peer into their own cells and puzzle out the codes that made them that way.

Scientists inferred the existence of the gene—the basic unit of information whereby inherited traits are transmitted from one generation to the next—long before they located it. Mukherjee tracks the people tracking it, using his novelistic gifts to put us in the rooms where it happened: the first International Conference on Eugenics in 1912 at a London hotel, with Winston Churchill and Alexander Graham Bell in attendance; Thomas Morgan's fruit-fly laboratory at Columbia University—"The smell of fermented fruit was overpowering, and a haze of escaped flies lifted off the tables like a buzzing veil every time Morgan moved"; the yellow-brick chamber to which James Watson and Francis Crick were consigned at Cambridge because they talked too much. In 1953, aided by Rosalind Franklin's extraordinary X-ray photography, Watson and Crick discovered the double-helix structure of DNA.

Mukherjee puts all this into context. "Three profoundly destabilizing ideas ricochet through the twentieth century," he writes, "trisecting it into three unequal parts: the atom, the byte, the gene." These are the fundamental units of matter, information and life, and in all three cases, as the work shifted inevitably from learning to read these primal languages to learning to write in them, explosive powers and energies were released. The context broadens dizzyingly as we approach the present. As Mukherjee acknowledges, this is history being written at a tipping point that isn't done tipping. Recently Harvard Medical School held a closed-door summit to discuss the possibility of building a human genome from scratch. "We all know how imperfect we are," Watson said in 1991.

"Why not make ourselves a little better suited for survival?" Given those imperfections, it's far from clear whether humans should ever go from reading to writing our own genomes. What is clear is that sooner or later, being humans, we'll go ahead and do it anyway. —LEV GROSSMAN



'Our capacity to understand and manipulate human genomes alters our conception of what it means to be "human."

SIDDHARTHA MUKHERJEE, author of *The Gene*

Mukherjee is a Pulitzer-winning author and Harvard-educated oncologist



Danler wrote her novel while waiting tables

FICTION

New York state of mind

THE SHIFTING WINDS OF fortune in the city that never sleeps comprise a special canon, and its latest entrant is Stephanie Danler's debut novel, *Sweetbitter*. Tess, an urban parvenu and "backwaiter" for a restaurant that reads an awful lot like Union Square Café, where the author once worked, recounts her yearlong story partial second person, a nod (also with the plentiful cocaine) to Jay McInerney's *Bright Lights, Big City*. Danler's ripe prose evokes other city stories too—the broiling scullerie of Anthony Bourdain's *Kitchen Confidential* and the bar stench of Richard Price's *Lush Life*. Tess is so brimming with naive potential that neither devilish bartender Jake nor enigmatic would-sommelier Simone can resist her. But ingenues can't stay innocent forever, and Tess's loss is where *Sweetbitter* finds success. —CLAIRE HOWOFF

