investigation of Thomas Jefferson and James Madison's home state in the half-century after the Revolution, as it struggled with slavery, weighed government's role in public education, and speculated about the proper parameters of democracy more generally. Dunn, a smooth and persuasive writer, digests the best literature on Virginia and Virginians, highlighting the scholarship of the last 50 years as well as drawing on newspapers and correspondence of the early 19th century. In these pages, illustrious founders vie with lesser lights to chart the future, only half-realizing and half-accepting how shaky a foundation—how exhausted the soil—the future rests upon.

Virginia's decline from Enlightenment-era prosperity to political and cultural backwardness was spiritual as much as a matter of political economy. For her explanation, Dunn points to the depletion of tobacco-stained land, crop failures, the migration of common farmers to the fertile West, the refusal of a tax-averse legislature to support public schools, and the general lack of interest in creative solutions to these issues. Most telling, though, is state representatives' inordinate fear of the consolidation of power within the federal government. "Prisoners of their own plantations," as the author calls Virginia's planter elite, perpetuated their myth of splendor in the grass.

No portrait of the Old South is complete without the eccentric provocateur John Randolph of Roanoke (1773–1833), and he pops up several times in Dunn's account. His people, polished and unfailingly decent, were content to remain isolated from whatever challenged the legitimacy of their dream world. Even Jefferson, a hero of states' rights as much as he was a clarion on behalf of individual rights, was not conservative enough for Randolph. In one of the great put-downs of the 19th century, he dismissed the third president's ample intellect with faint praise for his invention of the moldboard plow: When, in 1829, Jefferson was invoked to promote state constitutional reform, Randolph declared, "Sir, if there be any point in which the authority of Mr. Jefferson might be considered valid, it is in the mechanism of a plough."

Dunn's take on Madison is complex and interesting. Unlike Jefferson, Madison acknowledged and struggled with the contradiction between social happiness and national identity. Neither man could stomach the idea of a biracial society, but Madison was a unionist, clearer in his insistence that North and South were equally bound by the constitutional compact of 1787. Despite his own culpability for the "looming crisis," Madison's final message to the nation, delivered in a short public letter he penned in 1834, "was a supremely rational one—union and vigilance—though he offered it in vain."

Dunn completes her analysis by relating the South's early sacrifice on the altar of limited government—a creation of Jefferson's misguided idealism and provincialism—to Virginia politicians' later opposition to New Deal legislation. And she connects the conservative call for hands-off government in our own generation, and a self-satisfied lethargy that stalled advances in civil rights, to that same unreasonable fear of intrusive federal power. The American nation was conceived in energy and dynamism, much of it engineered in Virginia. So what happened to divide North and South? Dunn's answers, some unsettling, are all credible.

—Andrew Burstein

SCIENCE & TECHNOLOGY

Physician, Think for Thyself

HOW DOCTORS THINK.

By Jerome Groopman. Houghton Mifflin. 307 pp. $26

Once upon a time, doctors made house calls and eye contact. Chatting at patients' bedsides or with their families at kitchen tables, doctors assessed both patient and context. They understood the sensible counsel of postbellum physician William Osler: Listen, and the patient will tell you the diagnosis. So how can 21st-century physicians hope to interpret their patients' ill-

ness narratives, when, in the typical encounter, the doctor interrupts 18 seconds after the patient begins speaking, and within 20 seconds has formed some opinion of what is wrong?

Jerome Groopman, a Harvard professor of medicine and *New Yorker* staff writer, became upset that the medical students, interns, and residents he was training did not seem to be "thinking deeply about their patients' problems." He asked astute diagnosticians around the country how they approached and cracked difficult diagnoses and what happened when they failed. Misdiagnosis is not an insignificant problem: Groopman cites a finding that between one in six and one in seven patients is incorrectly assessed. Most medical errors, he discovered, arose from all-too-human "mistakes in thinking," not technical glitches.

Some physicians latched on to the first diagnosis that could accommodate all apparent symptoms. Some were focused on a particular prototype because they had just missed that diagnosis in another patient or because five patients had recently come in with similar complaints. And some were honoring the law of parsimony—choose the simplest necessary-and-sufficient explanation; their premature anchoring in an incorrect diagnosis reflected attention to the medical maxim, "When you hear hoofbeats, first think 'horses,' not 'zebras.'"

The algorithms and decision trees that young doctors are taught provide "a static way of looking at people," noted one doctor whom Groopman interviewed. But patients are not static and should demonstrate their vitality by actively putting to doctors such questions as "What's the worst thing this can be?" and "Shall I begin at the beginning?" These queries, Groopman suggests, can help doctors reframe their thinking and consider the illness afresh.

His most poignant example of the difficulties in medical diagnoses is the story of a Vietnamese baby adopted by an American woman. When Rachel Stein arrived at the orphanage in Vietnam, she was handed a thin, congested three-month-old who in no way resembled the "robust and content" infant she had seen in photographs. By the time she and Shira arrived home in Boston, the baby was gravely ill.

During a month in intensive care, Shira bore the weight of staggering diagnoses—SCID (severe combined immunodeficiency syndrome), AIDS, pneumonia, exotic and mundane fungal, viral, and bacterial infections—and was subjected to countless interventions. Yet in the end, her problems were all attributable to malnutrition. "In addition to forming mental prototypes and retreating from zebras," Groopman writes, "Shira's doctors made a third cognitive mistake, called 'diagnosis momentum.'" As soon as the first doctor decided Shira had SCID, the other members of the staff accepted SCID as a given. "Diagnosis momentum, like a boulder rolling down a mountain, gains enough force to crush anything in its way."

Medical detective work resembles crime detection with an important difference: "Human biology," Groopman notes, "is not a theft or a murder where all the clues can add up neatly." And contemporary doctors never seem to benefit from the luxury of time for reflection. They're under pressure from patients—do something! anything!—and from colleagues. The most insidious pressures come from drug representatives pushing new products. Groopman cautions patients to ask doctors why they are proposing specific therapies. Did the pharmaceutical company's drug rep give the doctor a ski trip to Vail?

How Doctors Think provides an important 21st-century guide for doctors and patients. In exposing the workings of the medical-industrial complex, it makes a powerful case for a more humane culture of medicine in which patient care would rightly be approached with "a mix of science and soul."

—Ruth Levy Guyer