went on to work in Berlin as a journalist for the famous Jewish Ullstein publishing house, until Nazi influence grew and he was forced out. Along the way, he traded his Zionism for communism.

Touring Russia in 1932, Koestler was shaken by what he saw, but he did not summon the courage to break with the party until 1938, when the third and final show trial was conducted in Moscow. The trial of Nikolai Bukharin, a leading Bolshevik, would serve as the basis for episodes in Koestler's contribution to the anthology *The God That Failed* (1950). Koestler went on to play a leading role in the battle against communism in the late 1940s, when the Soviet Union enjoyed high moral standing among many Western intellectuals. Measured against that act of courage, the late-life obsession with the paranormal that dismayed so many of Koestler's admirers seems a mere foible.

Cesarani, director of the Institute of Contemporary History and Weiner Library in London, has a weakness for glib psychological theories (Koestler's restlessness stemmed from his Jewish ancestry; "guilt was inscribed on his personality"; he was "forever in search of his father"). But the biographer has certainly done the necessary spadework, including extensive digging through archives. There is much to learn here about Koestler's event-filled life.
—*Jacob Heilbrunn*

Religion & Philosophy

FOR COMMON THINGS:
Irony, Trust, and Commitment in America Today.
By Jedediah Purdy. Knopf. 226 pp. $20

It is with trepidation that someone approaching 50 opens a book on politics by a 24-year-old. Trepidation and a little guilt, knowing the responsibility my self-indulgent generation bears for debasing our culture and politics over the past quarter-century. But *For Common Things* proves reassuring rather than dismaying, a demonstration of the human capacity for moral self-renewal.

Purdy protests eloquently against the ugliness and cynicism of public life. He takes his stand against the manipulative language and symbols in politics; against the neglect of our common public space; against the pervasive inauthenticity of our media-driven existence; against the overwhelming posture of "irony" that, he shrewdly argues, has come to dominate contemporary social life (nicely exemplified in the sitcom *Seinfeld*). Echoing the communitarian and civil society movements, though in terms quite striking and often original, he argues for a rededication to civic life based on a bold, even openly naive reaffirmation of political hope. "If we care for certain things," he writes, "we must in honesty hazard some hope in their defense."

Are we hearing, at last, the stirrings of a new cohort, a successor to the famously shallow Generation X? It is tempting to think so, but Purdy may not typify his age group. He was raised and home-schooled in rural West Virginia by parents who, in his father's words, sought "to pick out a small corner of the world and make it as sane as possible." Although Christian fundamentalists dominate today's home-schooling movement, Purdy's parents seem to be secular, liberal, and utopian minded enough to carve out an "intentional" lifestyle in the Appalachians. From home-schooling, Purdy went on to three of the country's most elite educational institutions: Philips Exeter Academy, Harvard, and Yale (where he now studies). In between, there were breaks for environmental activism in West Virginia and a trip to newly democratic Central Europe, both discussed here.

Not even the finest education could explain the grace of this young writer's prose, whose quiet rhythms echo the arcadian music of his childhood and hark back to the way language was used before the information age. "What has so exhausted the world for us?" he writes. "For one, we are all exquisitely self-aware. Around us, commercials mock the very idea of commercials, situation comedies make *being* a sitcom their running joke, and image consultants detail the techniques of designing and marketing a personality as a product. We can have no intimate moment, no private words of affection, empathy, or rebuke that we have not seen pro-

nounced on a 30-foot screen before an audience of hundreds. . . . Even in solitary encounters with nature . . . our pleasure . . . has been anticipated by a thousand L.L. Bean catalogues, Ansel Adams calendars, and advertisements."

Despite a few weak spots—he too hastily dismisses sincere conservative forms of civic

activism, and his treatment of religion is superficial—*For Common Things* is the work of an unusually perceptive social observer. If one wishes to see the world through the eyes of a very intelligent 24-year-old, this is an excellent place to begin.

—*Patrick Glynn*

Science & Technology

THE UNIVERSAL HISTORY OF NUMBERS:
From Prehistory to the Invention of the Computer.
By Georges Ifrah. Translated by David Bellos, E. F. Harding, Sophie Wood, and Ian Monk. Wiley. 633 pp. $39.95

In 1937, archeologists in Czechoslovakia unearthed a 30,000-year-old wolf bone with 55 notches carved into it. A caveman had used the bone to count something (nobody knows what), but he would have been at a loss to say how many notches he had made. Other than perhaps 1 and 2, numbers hadn't been invented. There was no word for 55; like the numbers 6, 78, and 203, it was too large to have an individual name. It was "many."

Humans got by with "1, 2, many" for millennia. Even in the 20th century, the Siriona Indians of Bolivia used the word *pruka* to describe any number greater than 3. Luckily, though, humans have a built-in calculator, which gave rise to number systems based on 5, 10, and 20. In the Ali language of Africa, the word for 5 means "hand" and the one for 10 means "two hands." When each value was associated with an individual word, numbers were born.

In *The Universal History of Numbers*, Ifrah, a former math teacher, traces the tortured past of our Arabic system, which denotes each number by a combination of 10 symbols. It started in Babylon, was carried to India by Alexander, was captured by the conquering Arabs a millennium later, and reached Europe during the 13th century, where it was promptly banned. Westerners were so suspicious of Arabic numerals that Pope Sylvester II, an early advocate of the system, was accused of selling his soul in order to borrow Muslim magic. In 1648, papal authorities cracked open Sylvester's tomb to

ensure that Satan wasn't in residence.

Ifrah also describes the evolution of number systems that failed. Early in the first millennium A.D., the Mayans developed a system that was much more advanced than medieval Europe's—it had a zero, which was unknown in the West until after the Spanish conquest in the 16th century. But Mayan civilization mysteriously collapsed in the 10th century, leaving others to discover zero for themselves.

The Universal History of Numbers is less narrative history than reference work. In the middle, Ifrah interrupts the text with a 70-page alphabetical list of Hindu number concepts. The book also bears little anecdotal filigree. For instance, the author explains that the British Court of Exchequer kept records on wooden tally sticks, but he doesn't tell what happened when the government ended the practice and tried to get rid of the sticks in 1834: the tally stick bonfire got out of control and burned down Parliament.

Despite its lack of flourish, this is a highly satisfying volume, none the worse for having been translated from the French. It will give the same pleasure to math and history buffs that a fine dictionary gives to philologists.

—*Charles Seife*

MEANING IN TECHNOLOGY.
By Arnold Pacey. MIT Press. 264 pp. $27.50

Pacey, who teaches at Britain's Open University, has long been one of the most learned and humane scholars of technology. He made his reputation with a series of wide-ranging works, including *The Maze of Ingenuity* (1976), *The Culture of Technology* (1983), and *Technology in World Civilization* (1991). In popular usage, the word *technology* has become synonymous with computerized devices and software; for Pacey, technology