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doubt his own powers of observation.

Darwin approached the natural sciences with a strong philosophical bent. Though never moved by notoriety to mount a soapbox, he could not help thinking more publicly about the origins of life as he grew older. When Browne's first volume ends, in 1856, Darwin has passed the midpoint of his life; he is redrafting his secret notebooks and reading such social critics as Thomas Robert Malthus (1766–1834) to gain support for his theory of natural selection. He stands ready at last to show his fellow Victorians his dark and godless truth. In Browne's words, "The pleasant face of nature was . . . only an outward face. Underneath was perpetual struggle, species against species, individual against individual."

Following the publication of his evolutionary theories, Darwin had two decades to live. Much of that time he spent sick and depressed. After *The Origin of Species* (1859) and *The Descent of Man* (1871), he reverted to some humbler studies of flowers and worms. It will be interesting to see how Browne handles these distinctly unglamorous years, when Darwin's greatest voyage was long behind him.

**SCIENCE AND THE QUIET ART: The Role of Medical Research in Health Care.** By David Weatherall. Norton. 320 pp. \$25

"It was his part to learn the powers of medicines and the practice of healing," wrote the Roman poet Virgil in the first century B.C., "and, careless of fame, to exercise the quiet art." In Virgil's day, so little was known about the body's mechanics that medicine was indeed an art. But not today, maintains Weatherall, the Regius Professor of Medicine at the University of Oxford. For all the mounting distrust of medicine and interest in "alternative" remedies, medicine remains a science, and the miracles it performs are products of scientific research. As Weatherall demonstrates in this informative excursion through the history of medical research, to effect cures requires a deep understanding of biology.

For centuries Western doctors, armed with the elaborate belief systems of the ancient

Greeks, confidently bled and blistered their patients to restore the body's "humors" to balance. Few in this prescientific age thought to test whether such remedies did any good. A gulf opened between those who accepted blindly what they were taught and more skeptical healers who chose rather to acquire their knowledge and skills at the bedside. Thomas Sydenham, 17th-century England's most famous pragmatic clinician, was one of medicine's first scientists. He recommended only remedies whose worth he could see and stressed the importance of healthy habits, the body's ability to cure itself, and the doctor-patient relationship. Medicine has taken a long time to reach the same level of common sense by subjecting to rigorous clinical trials the new therapies research makes available.

Costly as modern medicine is, it has made colossal gains against disease and death. Yet medicine today is at an impasse. The spectacular success of antibiotics is now a half-century old, and the major modern scourges—heart and vascular disease, Alzheimer's, cancer, and stroke—are far too complex to be knocked out by a "magic bullet" or kept at bay with a vaccine. By living longer, we have become subject to the long-term interaction of our genes, habits, and living conditions, and to the myriad unexplained failings of old age. When the basic mechanisms of disease are not understood, doctors are reduced to managing symptoms.

If medical science fails, a public yearning for simple answers seeks them elsewhere. Statistics implicate diet, pollution, lack of exercise, and high cholesterol. But Weatherall's review of the latest findings shows that smoking is the only environmental agent conclusively shown to murder on a grand scale. Simple solutions are no solution at all. What is needed is more knowledge. Yet Weatherall has no faith in the directed-research blitz. It is basic research that must have broad support. He believes that if researchers studying the molecular, chemical, and genetic bases of disease are given sufficient time and support, they will eventually break the current impasse. And as general principles come to be better understood, the need for specialization will diminish and doctors will be able to view, and treat, patients as whole human beings.