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multibillion-dollar enterprise to reveal the gulf that often separates good intentions from desirable outcomes. Furthermore, she has the courage to expose the mixed motives and deplorable behaviors that inhabit the shadows of virtually all foreign aid undertakings.

Although no single factor can explain why large-scale foreign aid projects so often fail, the history of efforts to combat AIDS in Africa reveals how such programs satisfy not just the needs of the recipient but also the needs of the donor. Early in the history of the pandemic, aid projects relied heavily on consumables (testing kits, antiretrovirals) available only from the donor country. Such programs in effect diverted tax dollars into the coffers of companies in the donor country. Foreign aid undertakings often provided significant employment opportunities for professionals from the donor nation while generating only a few transient low-wage jobs in the recipient country. Most perniciously, recipient countries became dependent on the vast streams of capital being funneled through the project—streams that would inevitably dry up.

Western countries are learning from their mistakes, and the massive involvement of nongovernmental organizations and private foundations has dramatically altered the landscape of the fight against AIDS in Africa. Nonetheless, a certain Western gigantism still afflicts many of these programs: The sheer scale of the pandemic compels the creation of multimillion-dollar initiatives. But the sudden infusion of vast sums of cash into the economies of most African countries is in itself disruptive, igniting corruption and highlighting inefficiency.

Here again, Epstein's analysis is subtle and informed by her time in Africa. She unflinchingly details the acts of petty and grotesque corruption that have taken place, but she does not succumb to the conventional narrative that blames African greed. As the number of U.S. public servants serving time in prison attests, greed in combination with a shortage of civic morals is not solely an African phenomenon. But in the absence of an independent judiciary and an infrastructure that can audit expenditures, the concentration of power in the hands of only a few people sets the stage for flagrant acts of personal and institutional corruption.

The gigantism Epstein notes also results in the chronic underfunding of small-scale projects, particularly those

for which effects cannot be readily quantified in the short term. The book describes a succession of immense aid ventures foundering under the weight of their own complexity and ambition—for instance, the \$20-million-per-year loveLife project in South Africa, which sought to reduce HIV infection by enhancing the self-esteem of participating teens. But loveLife would not mention AIDS directly and did not, in the end, significantly reduce the risk of contracting HIV.

Epstein also details the rise of abstinence programs, driven by political considerations in the United States and the spread of evangelical churches throughout the African continent. These efforts, usually well intentioned and always well funded (by a \$1 billion allocation from the U.S. Congress), have yet to demonstrate any effect on the behavior or the HIV risk of teenagers.

This book is sobering, but it is not demoralizing. For among the many tales of cultural blindness, venality and mismanagement in the fight against AIDS in Africa, there are some successes. Most notable perhaps is the case of Uganda, where HIV prevalence has fallen from about 18 percent in 1993 to just under 7 percent in 2005. Some of this progress may well depend on factors unique to Uganda—the country's fertile soils, natural wealth and relatively small population. In addition, colonial behavior in Uganda was comparatively benign, leaving behind a cadre of qualified professionals and one of Africa's premier universities. As a result, Uganda has been able to withstand years of political turmoil and violence without the uprooting of the population and the disruption of traditional social networks one might have expected.

PSYCHOLOGY

Bad Seeds

Robert J. Richards

EVIL GENES: Why Rome Fell, Hitler Rose, Enron Failed, and My Sister Stole My Mother's Boyfriend. Barbara Oakley. 459 pp. Prometheus Books, 2007. \$28.95.

In the 1930s, Sigmund Freud collaborated with American ambassador William C. Bullitt to produce a psychoanalytic study of President Woodrow Wilson, which portrayed him as suffering from a libido that had

But perhaps most important has been the willingness of Uganda's citizens and their government to talk openly about HIV and AIDS. Diversified programs distributed condoms and also warned people about the dangers inherent in partner networks. Ugandan men and women were encouraged to practice "zero grazing," a cheeky allusion to the risks of concurrency in sexual relationships. More recently, Uganda has incorporated an extensive array of home services for individuals and families afflicted with AIDS, ranging from meal preparation to the delivery and monitoring of antiretroviral drug therapy. As a result, access to and compliance with antiretroviral regimes has increased markedly. From the outset, Uganda treated HIV as a disease that could infect any of its citizens. The resulting "social cohesion" meant that individuals and institutions viewed combating the pandemic and caring for the afflicted as a shared responsibility.

Infectious diseases, as *The Invisible Cure* reminds us, are the truth serum of social relations. Regardless of what people claim, admit, deny or fear, HIV transmission simultaneously reflects and illuminates the complex reality of sexual contacts. The HIV virus has caused the African continent immense suffering. Its effects—demographic, economic and social—will be felt for many generations. But Africa is a resilient continent. If the economic and scientific resources of the developed world can be joined with the courage and resourcefulness of the people of Africa, the cure for AIDS need not remain invisible.

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the master of psychoanalytic technique could provide a scientific study of a man he had never met, whose history he learned at second and third hand and about whom he had an admitted prejudice, was rejected not only by the sober historian Richard Hofstadter but also by the eminent practitioner of psychobiography Erik H. Erikson. Erikson judged, on the basis of internal evidence, that very little of the final version had actually been written by Freud himself.

No such exculpating considerations appear to relieve Barbara Oakley of responsibility for *Evil Genes: Why Rome Fell, Hitler Rose, Enron Failed, and My Sister Stole My Mother's Boyfriend*. Oakley, an associate professor of systems engineering, became interested in what she calls the "Machiavellian" personality as the result of long experience with the erratic and deviant behavior of the sister referred to in her title. The Machiavellian syndrome was initially defined in the 1950s and principally consists of highly manipulative behavior done without moral scruple. Studies that Oakley cites associate the syndrome with another set of traits, which also characterized her sister: those of the borderline personality disorder, which includes rapid mood swings, impulsive decisions and self-damaging actions.

Having described the phenomena of concern, Oakley explores studies of neural imaging that purport to find correlations between various behavioral traits and hyperactivity of particular brain areas. From that research, she draws such conclusions as the following: "The . . . dorsolateral prefrontal cortex is where plans and concepts are held and manipulated. . . . At the grocery store, this area would help you decide to select Fuji apples rather than Golden Delicious."

On the basis of such studies, Oakley believes we can now understand the origins of Machiavellian and borderline behaviors: The various component traits of these syndromes derive from disturbances of specific neural systems. Thus, impulsivity stems from abnormal activity of the orbitofrontal cortex; inability to resolve conflicting information arises from a problematic anterior cingulate cortex; ineffective evaluations of negative stimuli flow from a dysfunctional dorsolateral prefrontal cortex; and so on. In the case of her sister, Oakley speculates that a mild case of polio as a child may well have caused neural damage to those particular brain centers.

From her intimate experiences with her sister, Oakley, a bit like Freud and Bullitt, turns to more historically dramatic examples of what she regards as similar instances of the Machiavellian and borderline syndromes, such as those manifested by Süleyman the Magnificent of the Ottoman Empire in the early 16th century and his spawn down the ages. She proposes that heritable pathologies rooted in Süleyman and his wife would explain the slow deterioration of the Ottoman Empire during the 400 years of its existence. Cautious historians might find the evidence for this claim a tad exiguous.

But once such bad seeds are identified, Oakley finds them sown in fields afar. Her scattered analyses of personality disorders range from those of Isaac Newton and Gottfried Leibniz (exemplified by their bitter priority dispute) to those of James Watson, Augusto Pinochet, Martha Stewart and the family of Paris Hilton.

Although Oakley devotes only a few pages to the aforementioned personalities, she expends two lengthy chapters on the deeply disturbed behavior of Slobodan Milosevic and Mao Zedong, both presumed to be suffering from borderline personality disorders and thus from brain pathologies in the corresponding areas. She believes that the dysfunctions of neural centers led, in the case of both, to the slaughter of countless innocent people. Mao's "many pathologies," Oakley maintains, "were almost certainly rooted in his genetic predisposition." Although she does not draw out the further conclusion of this presumption, the logic of her argument does suggest that additional millions of Chinese must also have had cerebral abnormalities, since they were not merely complicit in Mao's crimes but were the ones who actually tortured and executed millions of their fellow citizens. Thus considerable parts of the Chinese population—and the Serb as well—must carry the bad seeds.

Reading Oakley's book, one can hear the psychology go pop and then rapidly deflate into a limp outline of some not-unreasonable theses. That our overt behavior is a direct expression of our neurophysiology has been a staple of psychology since the early modern period. In the 19th and early 20th centuries, numerous debates broke out concerning how closely various patterns of behavior could be identified with specific regions of the brain.

In the last part of the 19th century, both Paul Broca and Carl Wernicke identified specific language centers in the brain through postmortem examination of stroke victims. In the 1930s and 1940s, however, Karl S. Lashley, in a series of ablation studies of rats, concluded that although lower sensory and motor functions could be traced to specific regions of the brain, higher mental functions such as memory and learning were distributed over wide areas in a dynamic neural network. Lashley's protégé, Donald O. Hebb, studied the psychological effects of surgical removal (due to disease) of large portions of the cortex of children and adults. He observed that, amazingly, in children the higher mental functions, including language, could be restored, even after hemispherectomy, whereas adults subjected to such surgery would suffer major mental deficits.

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Studies like those of Lashley and Hebb militate against assumptions of precise localization of the kinds of functions associated with the pathologies that Oakley describes in such flexible terms. And flexibility of classification is a distinct problem. After all, the deviant behavior of her sister would seem to have little to do with what Oakley takes to be the Machiavellian activities of Mao Zedong—or Paris Hilton, for that matter; so it is quite unlikely that brain scans of the three would reveal a common pathological pattern.

There are two reasons we should not expect any interesting commonality. First, it seems unlikely that the wildly disparate behaviors exhibited by such different individuals in divergent circumstances would have a common cause, despite her application of the label "Machiavellian" to all of them. A second, and more theoretically interesting, reason is that individual differences in brain circuitry seem to preclude common sources for even apparently similar behaviors. Re-

cent experimental observations of the developing brains of quite young animals, including humans, demonstrate the crucial role of learning and experience in shaping the synaptic connections of the neonate's brain. It would be impossible for the relatively small number of genes controlling brain growth to specify the almost uncountable number of synaptic contacts established during childhood; experience is necessary to forge some links and terminate others. Thus a simple one-size-fits-all presumption about brain centers and their heritability seems to be excluded by this long trail of experimental neurophysiology.

That experimental history, however, has been not so much overturned as ignored by the several kinds of imaging studies on which Oakley draws (some reports coming only from the Web or from popular magazines). The use of PET (positron emission tomography) and fMRI (functional magnetic resonance imaging) techniques in cognitive psychology is quite recent, having largely begun in the 1990s; and many of the investigations cited here, as judged by the very latest standards, now seem naive. PET and fMRI indirectly indicate neural activity by measuring blood flow and metabolism in the brain. Experts recognize that averaging measures to identify particular brain regions disguises individual differences. They are also aware that although certain regions of the brain may exhibit greater metabolic activity while performing experimentally constrained tasks, this represents only a slight increase of the baseline activity of the resting brain. In other words, while some parts of the brain are lighting up, others, still in the dark, are simultaneously doing a lot of work—perhaps choosing the Fuji apples over the Golden Delicious.

These facts ought to caution against any easy identification of brain areas with specific emotional or cognitive activities, lest one be led to a modern version of phrenology. But Oakley raises no red flags about these problems. Indeed, the incaution of the whole book and its manipulative effect on the lay reader might even be regarded as a bit, well, Machiavellian.

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