

# Engineers and Political Power

Some have it, some don't

**I**N THE UNITED STATES, engineers don't rule. According to a *Congressional Quarterly* survey of the 109th Congress, there are just four engineers in the House and one in the Senate. When the engineering specialties in the 2004–2005 Statistical Abstract of the United States are combined, there are 2.12 million engineers in the U.S. versus 952,000 lawyers and 819,000 doctors; yet 10 physicians now sit in the House and two in the Senate, and *CQ* lists 160 representatives and 58 senators with legal backgrounds.

One explanation for those discrepancies is that rapid technological change makes it hard for engineers to return from political office to professional life. In a 1992 interview with *Technology Review*, John H. Sununu, President George H. W. Bush's chief of staff, acknowledged that as a consulting mechanical engineer, he was lagging ten years behind the field. Physicians, however, face equally great problems keeping up with the latest research, and by entering public service, they often forgo even greater potential income.

Another theory is that engineers are self-selected for social distance. Sylvia Kraemer is an intellectual historian who became a senior NASA official and interviewed 51 colleagues for her insightful study *NASA Engineers and the Age of Apollo*. She found that lab engineers and those promoted into management endorsed the reputation of awkwardness. A manager declared that most engineers "wouldn't recognize an emotion if it hit them in the face." One rocket engineer flatly acknowledged, "I related to things."

This is an old American stereotype. In *The Engineers and the Price System*, the maverick economist Thorstein Veblen, championing what was later called technocracy, wrote that the public considered engineers a "somewhat fantastic brother-

hood of overspecialized cranks, not to be trusted out of sight except under the restraining hand of safe and sane businessmen." He added, "Nor are the technicians themselves in the habit of taking a greatly different view of their own case."

But in many other cultures, especially in Eastern Europe, Asia, and the Middle East, engineers have been in the thick of power. They've been prominent in Marxist movements, such as the brief Hungarian Communist revolution of 1919. They became influential enough in the early Soviet Union that Stalin directed one of his first purges against them. Later, scientists and engineers were put to work in the gulags' special research prisons, the *sharashkas*. After Stalin's death, engineering degrees became desirable credentials for the politically ambitious. As the historian Kendall Bailes wrote in 1974, "What lawyers and businessmen are in the American political system—the major professional groups from which most politicians and policymakers are recruited—men with engineering backgrounds have become to a large extent in the Soviet Union."

In 2004, almost all two dozen members of China's ruling Politburo had engineering degrees, including all nine members of the Politburo's Standing Committee. In the Middle East, prominent engineers fill the political spectrum, from former president Süleyman Demirel of Turkey to the members of the Society of Muslim Engineers, pillars of the ayatollahs' Iran, to the late secular nationalist Yasser Arafat. In many countries, engineering appeals to the civic minded. On the other hand, disaffected young men recruited in European engineering schools were prominent among the September 11 hijackers. As R. Scott Appleby and Martin E. Marty observe in *Foreign Affairs*, "fundamentalists tend to read scriptures [as] engineers read blueprints—as a prosaic set of instructions and specifications." Civil engineer Osama bin Laden surely did.

Globally, then, the unpolitical Anglo-American nerd is the exception. The argument that gained credence in 19th-century France and was echoed in other regimes is that a state must be guided by a scientific and technological elite. Two forces kept that notion from taking hold in the United States. The first was American suspicion of central government. The second was industry's appetite for engineers; at the turn of the 20th century, U.S. companies fearing manpower shortages resisted attempts to make elite postgraduate degrees the norm for engineers, as they were becoming for lawyers, doctors, and executives. So engineers in this country continue to design and implement everything but our laws. ■



Nuclear engineer Jimmy Carter, so alone

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