

CENTRAL AND EASTERN EUROPE

Scientists Step Onto the Political Stage

With the Communist ruling class swept away, researchers across eastern and central Europe are reaching high political office

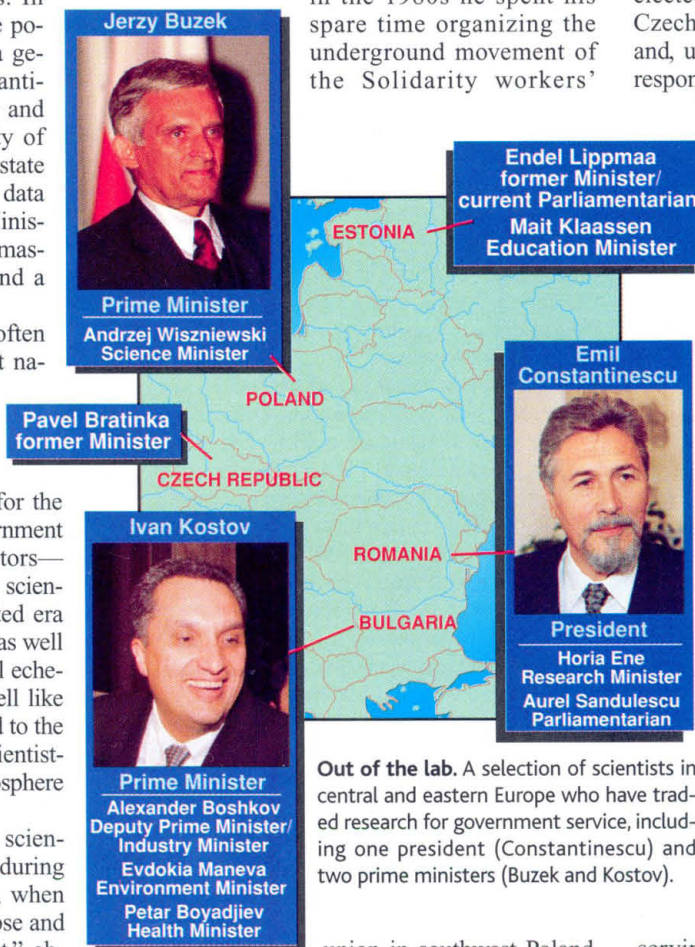
When Polish officials search for ways to fight air pollution, they don't have to look far to find a government expert: Poland's Prime Minister, Jerzy Buzek, is a chemical engineer who has written dozens of research papers about removing sulfur dioxide from industrial emissions. In earthquake-prone Romania, the political summit is occupied by a geologist: President Emil Constantinescu, a mineralogy professor and former rector of the University of Bucharest. And in the Balkan state of Bulgaria, crunching budget data comes naturally to the Prime Minister, Ivan Kostov, who holds a master's degree in mathematics and a Ph.D. in economics.

Science and politics don't often mix, but in the postcommunist nations of central and eastern Europe, from the Black Sea to the Baltic, dozens of scientists have swapped their lab coats or professorial sweaters for the jacket-and-tie uniform of government service. A combination of factors—including the prestige of natural scientists during the Soviet-dominated era and their aura of independence, as well as the demise of the top political echelon after Communist regimes fell like dominoes in 1989–90—have led to the flowering of a new class of scientist-politicians in the hothouse atmosphere of Europe's new democracies.

"A high number of natural scientists in politics is quite usual during unusual times of total change, when formerly accepted values collapse and the future is difficult to predict," observes Endel Lippmaa, a chemical physics professor who has served as a minister in Estonia in three separate governments and is now a member of the Estonian parliament. "Scientists," he says, "are in the business of interpreting the unknown and are therefore by nature rather independent in their thinking and actions."

In Poland, the rise of politician-scientists "is deeply rooted in the manner in which this country regained its democracy," Buzek said in an interview with *Science*. Under the communist system, the natural

sciences offered "the safest profession for a person who wanted to keep his own views and not be obligated to adhere to a binding ideology." As a chemical engineer, Buzek was able to study for a year at Britain's Cambridge University, and as a researcher in the 1980s he spent his spare time organizing the underground movement of the Solidarity workers'



Out of the lab. A selection of scientists in central and eastern Europe who have traded research for government service, including one president (Constantinescu) and two prime ministers (Buzek and Kostov).

union in southwest Poland. Last fall, after the Solidarity-led political coalition won Poland's parliamentary election, Buzek became prime minister. Four other ministers are also professors: a chemist, an electrical engineer, an economist, and a historian.

Andrzej Wiszniewski, a Polish electrical engineer and former university rector who now holds a minister-level position as president of Poland's State Committee for Scientific Research (KBN), followed a similar route. While still a professor at Wrocław Technical University in the early 1980s, he

established his political credentials by spending 3 months in prison for his work as a Solidarity organizer. He says he and Buzek "entered politics in the '80s not because we wanted to but because we were drawn into it by outside forces."

Similar forces pushed Pavel Bratinka into Czech politics. When he was a Ph.D. student in solid state physics in 1974, Bratinka was driven out of an institute of the Czechoslovak Academy of Sciences after he refused to join the Communist Party. He spent several years as a coal stoker, and then—shortly after the nation's Communist regime fell in 1989—he co-founded a conservative political party, the Civic Democratic Alliance. During the 1990s, he was elected to Parliament, later becoming the Czech Republic's deputy foreign minister and, until recently, serving as the minister responsible for scientific research. "Every-

thing was polluted under the old regime, but the natural sciences were perhaps polluted the least," Bratinka says. "They needed scientists, because the communist system's economic chances depended partly on research and development. So scientists were given a bit more freedom to think for themselves. That's why some people who today might study law or political science used to go into the natural sciences."

That was the case with one of the region's most prominent scientist-politicians, Romania's president, Constantinescu. His dissatisfaction with the nation's politically tainted judicial system in the early 1960s led him to switch his studies from law to geology. After the overthrow of the Communist government in 1989, Constantinescu helped found the pro-democracy University Solidarity organization of professors and researchers, became the university's rector, and was elected the nation's president in 1996. Constantinescu is just one of several Romanian scientists and professors

serving in the government and in Parliament. The minister for research and technology, Horia Ene, was a mathematician at a Romanian Academy institute before being appointed a minister earlier this year.

In nearby Bulgaria, Prime Minister Kostov says scientists emerged as "the natural generators of new social and political ideas and took up the challenge to reform society. ... Their analytical skills help and are needed in government." Today, 60 of the nation's 240 members of parliament have advanced degrees, including a dozen professors and two dozen associate professors. The deputy

PHOTOS (COUNTERCLOCKWISE): GAMMA LIAISON; A. GHIRDA / AP PHOTO; M. DOLEZAL / SONY/OTO/ISTO

prime minister, Alexander Boshkov, is a thermal engineer; the health minister, Petar Boyadjiev, is a pediatrician; and the environment minister, Evdokia Maneva, is a chemist and economist.

If researchers were hoping that all this scientific firepower in government would help bolster research funding, they have so far been disappointed: Basic research is suffering in many countries in central and eastern Europe, as cash-strapped economies wean research institutes from formerly generous state subsidies, and restructured industries are not yet able to fill the gaps with their own R&D funding. The region's scientist-politicians are aware of the plight of their former colleagues, but few can help muster enough resources at a time when their nation's economies are going through rapid changes. "There aren't enough resources now," says Aurel Sandulescu, a theoretical physicist who serves in Romania's Parliament, "but I do what I can in Parliament to help." Sandulescu has pushed successfully for increased academy funding and a competitive granting process.

Poland's prime minister, Buzek—whose wife, Ludgarda, still works 3 days a week as a researcher at the Polish Academy's chemical engineering institute in Gliwice—tries to stay above the fray on scientific funding debates. "Of course, I get a lot of information about the status of Polish research," Buzek says. "But if I show particular interest in these issues, it would look as if I'm not really objective." This year, Poland's government agreed on a controversial austerity budget that freezes the KBN research budget at about 0.47% of gross domestic product. Although Buzek thinks that level of funding is insufficient, he says the government has too many other pressing needs for him to give special treatment to research.

Opinion is divided—even among the scientist-politicians themselves—on whether scientists' skills lend themselves well to government service. Estonia's Lippmaa thinks so. "Some of the talents needed in science and politics overlap," he says. Those skills include "a thorough knowledge of the field of research or political action ... a thorough understanding of all the force fields and interactions at play—be it spins, particles, or states and power blocks, and the human factors involved at all levels ... and the ability to think faster than opponents." Wiszniewski agrees. "We are amateurs and, because of that, we make some political errors," he concedes, but because scientists are trained in objective scientific analysis and are good at recognizing and correcting their missteps, "we learn quickly from our mistakes." But Bratinka says scientists aren't especially well qualified or effective

at the business of government—other than in supervising research efforts. "Many scientists are unwilling to challenge the prevailing orthodoxies," he contends.

Even some of those who have joined the influx of scientists into politics say the phenomenon may be short-lived. Estonia's education minister, Mait Klaassen—a professor of veterinary medicine and former university rector—predicts that a new generation of students trained in social sciences eventually "will replace the natural scientists" in many governments. Bratinka, who describes the recent political ascendancy of natural scien-

tists as "an accident of history," says "a new political class is starting to emerge now." And in Warsaw, Buzek believes that more Polish researchers will stay in their laboratories once a new generation of political leaders emerges. "In the future, the proportions of scientists in government are going to be more closely equal to those in other countries," he says. But in the meantime, Buzek and his colleagues are clearly relishing their transition from the lab bench to the pinnacles of government. —ROBERT KOENIG

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INDONESIA

Turbulent Times Mean Trouble for Science

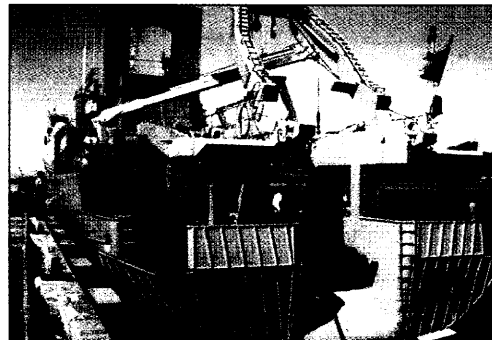
The economic crisis has triggered sharp cuts in research funding, leaving scientists scrambling to find other ways to keep their projects alive

Indonesian agronomist Endah Retno Palupi is continuing with her study of the reproductive biology of snake fruit. But since the government's recent decision to freeze funding for her 3-year grant, she has had to pool money left over from the first year of her grant with personal funds. Sangkot Marzuki, director of the 5-year-old Eijkman Institute for Molecular Biology in Jakarta, doesn't have those options. Instead, he's struggling to pay salaries out of a budget that has effectively shrunk by more than 90%, making it almost impossible to buy reagents and other necessities from abroad.

Throughout Indonesia, scientists are reeling from new policies aimed at reviving a crumbling economy. The crisis began last summer when several Asian currencies took a nosedive. It spread to a general economic and political meltdown that led to the ouster in May of the country's longtime ruler, Suharto, and the elevation of his deputy, B. J. Habibie, the former science and technology minister. This year officials are bracing for a double-digit contraction in the economy, an abrupt turnaround after more than a decade of 7% annual growth rates that fueled significant new investments in research. "I think our situation is worse than in the former Soviet Union," says Marzuki, who was lured back to Indonesia from Australia in 1992 by the government's commitment to basic biomedical research (*Science*, 6 March, p. 1471). "I'm afraid that, without outside help, we could lose most of what we have built up over the past decade."

That sudden reversal of fortune has left

researchers scrambling to preserve the capacity to do science. For Palupi, a faculty member at the country's leading agricultural university, Institut Pertanian Bogor, the blow came with the government's recent decision to cancel what would have been a new competition for RUT grants, which serve all areas of science, and to freeze current awards. Part of the savings will go toward a new applied research program starting this week



Rough waters. Indonesia hopes foreign funds will keep its research fleet afloat during economic crisis.

aimed at increasing the production of food and medicine using existing technology. The grants are intended to foster small and medium-sized businesses, explains Indroyono Soesilo, a senior official at BPPT, the science and technology ministry.

Ironically, the freeze in the RUT program will slow Palupi's efforts to learn how to manipulate the qualities—taste, texture, and seed size—of a fruit in ways that could boost its value as an export crop. But that's a long-range goal in a country desperate for immediate solutions. "I understand the economic difficulties facing the