

SCIENCE

Science in China: A Great Leap Forward

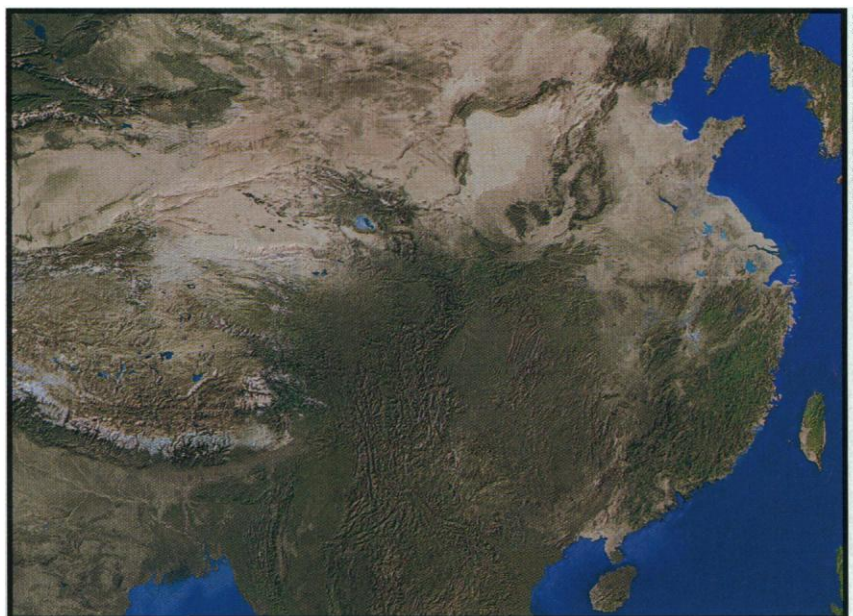
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Chinese science is remaking itself. University and institute labs throughout the country are thick with dust from a frenzy of construction, and several major new facilities are well along in the planning stages (see p. 1139). The country's science establishment is also undergoing rapid changes, fueled by competitive grants, outside collaborations, a stream of young scientists returning home with a splash, and the quiet retirement of thousands of older scientists (see pp. 1142 and 1144).

Is all this activity an omen of a 21st century in which China, with its vast resources (see map on next page), will dominate global science? Or it is a brief and belated flowering after years of isolation and deprivation? Hundreds of interviews with Chinese scientists and officials, both in China and abroad, provide support for both sides. On page 1153, Zhou Guangzhao, president of the Chinese Academy of Sciences, argues that Chinese scientists are primed to enter such a golden age. But many Chinese scientists admit that sizable obstacles—lack of innovation, refusal to cooperate with other mainland labs, disregard for intellectual property rights, and unfamiliarity with the cultural norms of international science—must be overcome.

The picture is also clouded by China's predilection for secrecy. That lack of openness provides cover for the deep-seated organizational rivalries that sap the strength of the scientific enterprise. It also defeats efforts to understand how and why individual programs are started, funded, and managed, or to obtain accurate and comprehensive numbers on many aspects of the nation's R&D activities.

Despite these shortcomings, China's influence on global science seems certain to increase. "Chinese scientists now must struggle to read and publish in English," says Caltech chemist Sunney Chan. "But in 50 years the scientific world will need to learn Chinese." Here, then, is a snapshot of that enterprise, circa 1995. We promise to fill out the photo album in the months and years ahead.

—Jeffrey Mervis and June Kinoshita

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