

# The Scientific Geography of China

**Capital ideas.** This scientific as well as political capital includes top-rated Beijing and Qinghua universities, 43 CAS institutes and 51 state key labs, the country's only high-energy particle accelerator, and the Zhongguancun Special Economic Zone

**E.T. calling?** Remote Urumqi tracks satellites and boasts a 25-meter radio telescope that is part of the global Very Long Baseline Array to observe the most distant objects in the universe.

**Bonanza for science?** Prospects for Tarim Basin oil fields are fueling petroleum industry support for basic research in geology, paleontology, and chemistry.

**Tantalizing tomb.** A lack of research funds has kept archaeologists from excavating the burial mound of Qin Shihaungdi, the first emperor of a unified China.

**Lost horizon.** Tibet's Yangbajian Observatory captures energetic cosmic-ray particles in the thin, crystalline air high in the Himalayas.

**Hub city.** Like Chicago, Wuhan is a communications hub with a leading university and institutes, which are noted for research on optical fibers, telecommunications, rice breeding, and biological pest control.

**Jurassic cemetery.** China's major dinosaur fossil site is the 140-million-year-old deposit at Zigong.

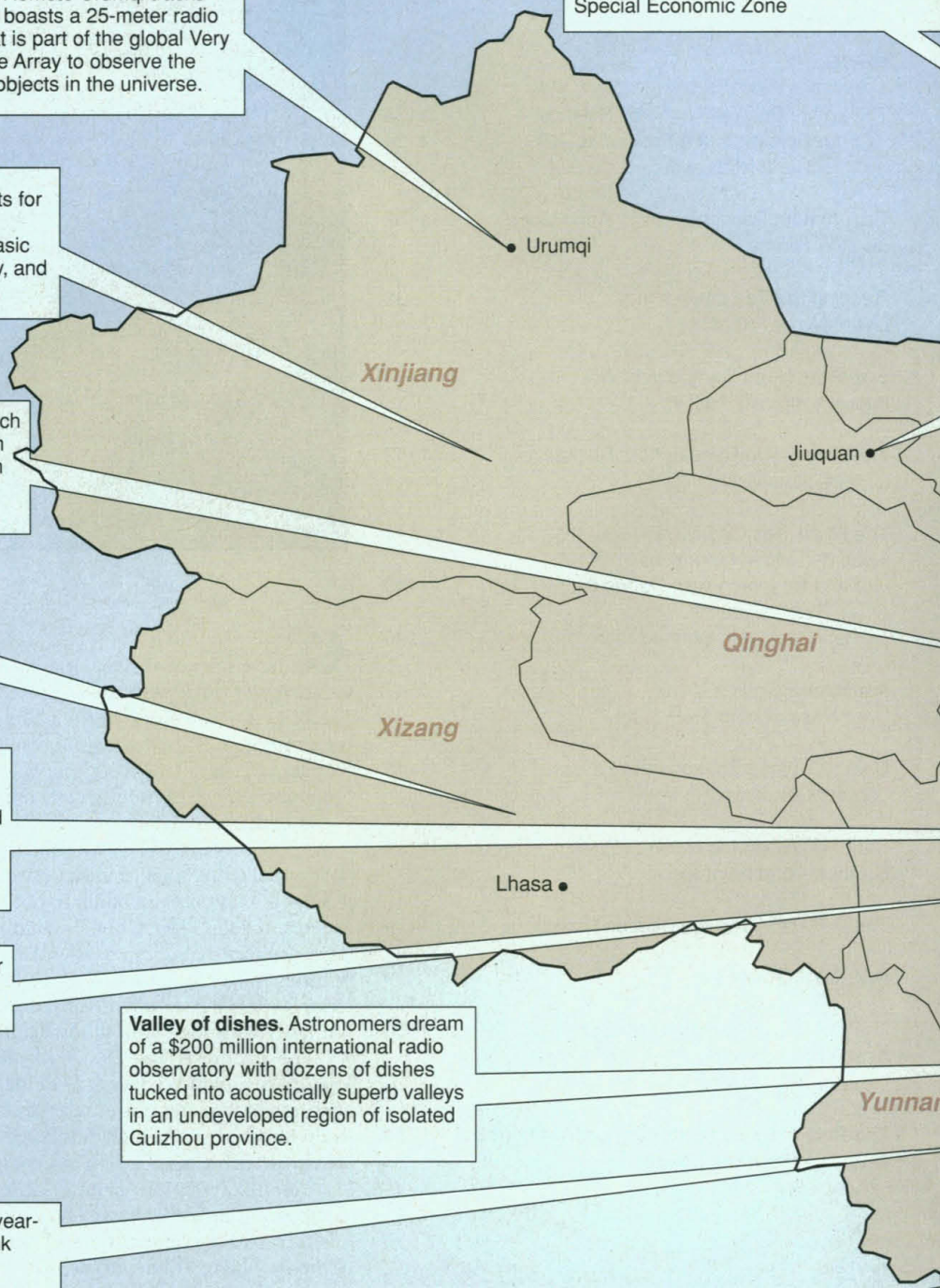
**Valley of dishes.** Astronomers dream of a \$200 million international radio observatory with dozens of dishes tucked into acoustically superb valleys in an undeveloped region of isolated Guizhou province.

**Fossil trove.** The 550-million-year-old Chengjiang fossil beds rank with the Burgess shales as a record of early evolution. Discovered just over a decade ago, only 200 meters of the 30-kilometer beds have been excavated.

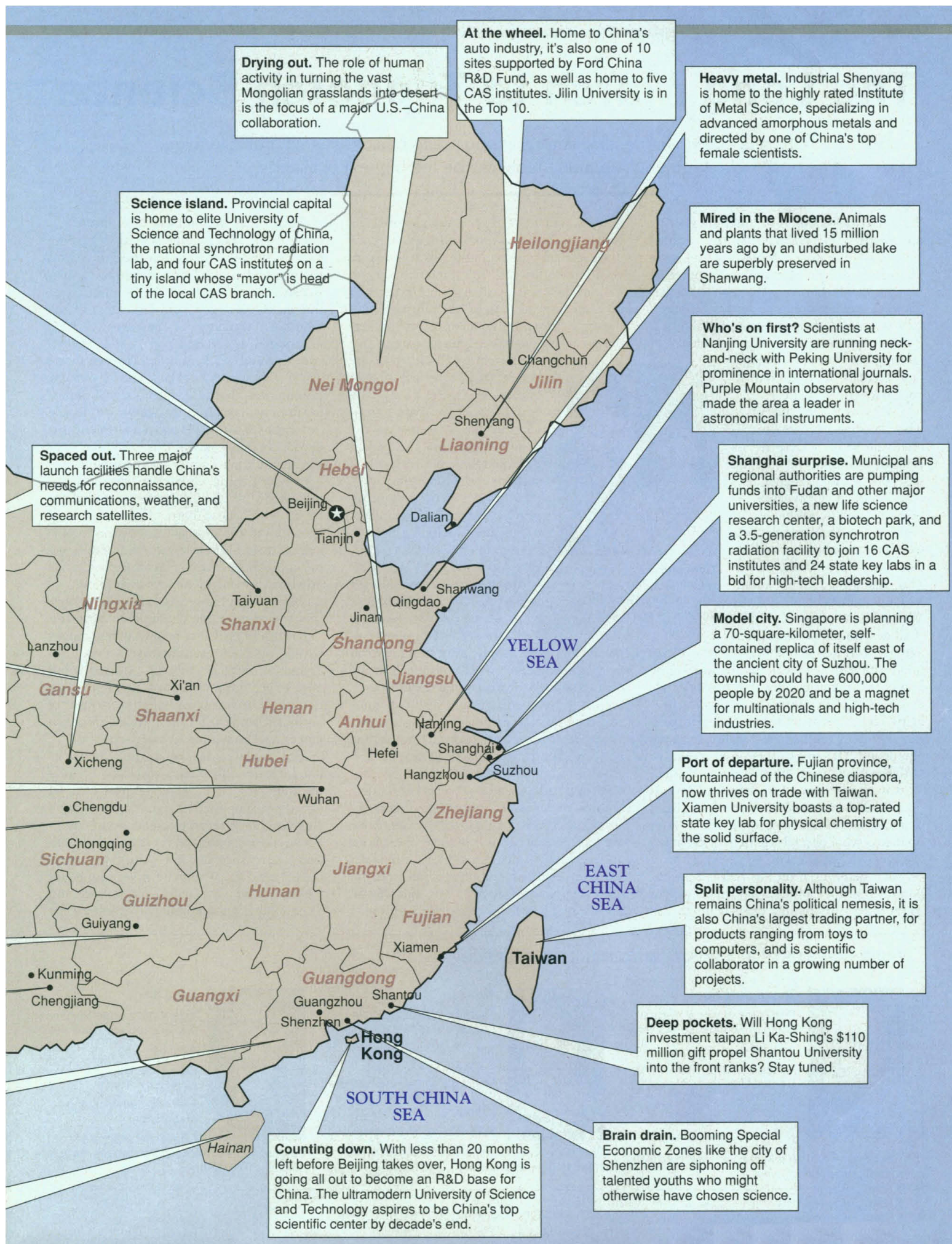
**Southern independence.** Guangdong province takes the lead among local governments in supporting research to stoke its economic furnace. Top institutions include Zhongshan (Sun Yat-sen) University and medical university and South China Agricultural University.

**Brave new world.** Semitropical Hainan island is the site of field tests of genetically modified plants on a scale unknown in the West. Even larger field tests are going on in central Hunan province.

500 km







**Drying out.** The role of human activity in turning the vast Mongolian grasslands into desert is the focus of a major U.S.-China collaboration.

**At the wheel.** Home to China's auto industry, it's also one of 10 sites supported by Ford China R&D Fund, as well as home to five CAS institutes. Jilin University is in the Top 10.

**Heavy metal.** Industrial Shenyang is home to the highly rated Institute of Metal Science, specializing in advanced amorphous metals and directed by one of China's top female scientists.

**Science island.** Provincial capital is home to elite University of Science and Technology of China, the national synchrotron radiation lab, and four CAS institutes on a tiny island whose "mayor" is head of the local CAS branch.

**Mired in the Miocene.** Animals and plants that lived 15 million years ago by an undisturbed lake are superbly preserved in Shanwang.

**Who's on first?** Scientists at Nanjing University are running neck-and-neck with Peking University for prominence in international journals. Purple Mountain observatory has made the area a leader in astronomical instruments.

**Spaced out.** Three major launch facilities handle China's needs for reconnaissance, communications, weather, and research satellites.

**Shanghai surprise.** Municipal and regional authorities are pumping funds into Fudan and other major universities, a new life science research center, a biotech park, and a 3.5-generation synchrotron radiation facility to join 16 CAS institutes and 24 state key labs in a bid for high-tech leadership.

**Model city.** Singapore is planning a 70-square-kilometer, self-contained replica of itself east of the ancient city of Suzhou. The township could have 600,000 people by 2020 and be a magnet for multinationals and high-tech industries.

**Port of departure.** Fujian province, fountainhead of the Chinese diaspora, now thrives on trade with Taiwan. Xiamen University boasts a top-rated state key lab for physical chemistry of the solid surface.

**Split personality.** Although Taiwan remains China's political nemesis, it is also China's largest trading partner, for products ranging from toys to computers, and is scientific collaborator in a growing number of projects.

**Deep pockets.** Will Hong Kong investment taiwan Li Ka-Shing's \$110 million gift propel Shantou University into the front ranks? Stay tuned.

**Brain drain.** Booming Special Economic Zones like the city of Shenzhen are siphoning off talented youths who might otherwise have chosen science.

**Counting down.** With less than 20 months left before Beijing takes over, Hong Kong is going all out to become an R&D base for China. The ultramodern University of Science and Technology aspires to be China's top scientific center by decade's end.