

# Tree leaves inject life into old artform

By YUAN SHENGGAO

Long before copying machines were invented, the ancient Chinese had come up with a way to replicate patterns, drawings or characters engraved on oracle bones, bronze ware and stone tablets.

The tools for such an art were quite simple: a piece of rice paper, ink and a cloth ball or brush. The artists first covered the inscriptions with a piece of rice paper, and then tamped down on the paper into the inscriptions with a cloth ball soaked in light ink. When the paper was peeled off, the rubbings would be imprinted. This was something similar to children tracing a coin's patterns with pencil and paper.

To this day, rubbing is still a popular art in the circles of Chinese calligraphers and painters, who want to have copies of calligraphic and painting works rubbed from ancient relics to study, imitate or just to enjoy.

Cao Xiumin, 54, is a renowned rubbing artist in Taiyuan, Shanxi province. She has been working in this trade for more than three decades. Her works have been collected by calligraphers, painters and museums throughout the country.

But it was in recent years that she targeted tree leaves with remarkable vein patterns for her rubbing works.

In 2020, Cao began to collect maple, bamboo, ginkgo and bodhi leaves as the objects for rubbing.

It is popular among Chinese people to use leaves with unique vein patterns as bookmarks and as the ornaments or backgrounds for painting and calligraphic works. Cao found that dried leaves are not easy to preserve but the rubbings can last long.

"Theoretically, the rubbing of leaves is similar to working on hard objects like stone tablets, but the use of the hand's strength and the selection of paper are quite different," Cao said. She added that more subtle skills are needed to produce fine works.

Dozens of artists in Shanxi and China are creating miniature works of calligraphy or painting on the rubbings made by Cao, praising her for "rendering a new, long-lasting life to the leaves that were so easy to perish".

Zhong Qing contributed to this story.



An example of leaf rubbing by Cao Xiumin. PROVIDED TO CHINA DAILY



Employees work at a smart medicine production line in Shanxi No 1 Traditional Chinese Medicines Group. PROVIDED TO CHINA DAILY

# Modernizing strategy validated by congress



Party's emphasis on innovation reinforces province's efforts to upgrade industries with new tech

By YUAN SHENGGAO

The 20th National Congress of the Communist Party of China, which was held in Beijing in October, had highlighted innovation, saying that it will remain at the heart of China's modernization drive.

In Shanxi province, innovation is also a keyword among officials, corporate executives and residents when they are talking about what they've learned from the spirit of the congress and what achievements they've made over the past years as a result of innovation.

Li Wuyang, an executive at Shanxi Intelligent Electronic Technology based in Jincheng city, said Shanxi is now implementing an innovation-driven development strategy. His company is among the many businesses in the province that have reaped the fruits of innovation.

Shanxi Intelligent is a producer of printed integrated circuit boards and other IC components for a wide range of industries including telecommunications, computers, automobiles and healthcare.

Li said his company has been constantly upgrading its operations toward smart manufacturing, which has helped to improve its competitiveness.

"In our plants, we have 24 advanced production lines using smart surface-mounted technology, eight dip-coating lines and 15 smart packaging lines, which can ensure production meets the diversified demands of clients," Li said.

He added that the company's management is encouraged by the congress' highlight on innovation. It is aiming to make Shanxi Intelligent a provincial role model for smart manufacturing.

Shanxi Intelligent is located in the Jincheng Photoelectronics and Machinery Industry Park. The park has attracted 105 enterprises in the fields of photoelectronics and machinery, becoming a high-tech engine for the city's high-quality development, according to an official at the park.

The officials predicted that the park's total output value is expected to reach 50 billion yuan (\$6.98 billion) in three years and 100 billion yuan in five years.

Far from the big cities and manufacturing boomtowns, innovation is also the keyword in rural Shanxi, which is in a process of agricultural modernization.

Chen Yongxin, a corn breeding researcher at Shanxi Agricultural University, is one of the contributors to agricultural modernization.

Her unique contribution is the varieties of sweet and sticky corn breeds that are high in quality, taste good and have a big market potential.

Zhang Guohua, a farmer in You'ao village in Xinzhou city, is one of the beneficiaries of Chen's research.

"Ms Chen told me planting sticky corns together with muskmelon can ensure better yields," Zhang said. "I did so and this year's yields of both earned me 200,000 yuan in net income."

Chen said she was encouraged by the congress for its highlight on innovation, especially in the field of agricultural modernization.

"The work report of the congress highlighted the role of breeding research in agricultural modernization," she said. "I think this is a confirmation of my efforts in decades."

Chen's research has led to the breeding of a wide range of sticky corn varieties under the brand name of Jinnuo.

The latest variety, Jinnuo No 20, has been planted in 26 provinces, autonomous regions and cities across China.

In Shanxi, the traditional Chinese medicine industry is another sector that wants to capitalize on innovation for sustained development.

Zhendong Group, based in the city of Changzhi, is a TCM manufacturer that has been vitalized through innovations.

According to Lei Zhenhong, a senior executive of the group, Zhendong's innovative moves include the standardization of medical herb farms and production plants; sustaining investment in research and development; and integration with Western medicine sciences.

The group's branch company, Zhendong Pharmaceuticals, is the first company in Shanxi to be listed on China's Growth Enterprise Market.

Zheng Lu and Zheng Na contributed to this story.

# City revolutionizes use of coal-bed methane

By YUAN SHENGGAO

The recent operation of China's largest coal-bed methane field in Qinshui county in Jincheng city has made the headlines of the energy industry in Shanxi province.

The Northern China Branch Company of China National Petroleum Corp announced the launch of the operation of a coal-bed methane extraction well with an annual output of 550 million cubic meters in June, pushing the annual output of its Zhengzhuang-Fanzhuang coal-bed methane field to 2 billion cu m, the largest in the nation.

But it was nothing extraordinary for industry insiders in Jincheng, which pioneered the development and utilization of coal-bed methane in China in the 1990s and has since made steady progress.

Lanyan Coal-Bed Methane Group, based in Qinshui county, was the first company to operate a coal-bed methane extraction facility in the early 1990s, according to Feng Qilong, an executive of the company.

Contained in the same stratum with coal, coal-bed methane is usually seen as the byproduct released from coal mining, according to Feng. He added that it was traditionally viewed as a hazardous gas as its concentration reaching a certain degree could lead to a mining shaft explosion.

However, it could be turned into a clean fuel for industries and households if there are safe extraction, storing and transporting technologies in place.

"In China we pioneered the

development of the technology to extract coal-bed methane on the surface in the 1990s," Feng said, "This marked a revolution in the coal-bed methane industry in terms of both efficiency and safety."

The success story of Lanyan has encouraged a number of domestic companies, including CNPC and China United Coalbed Methane, to invest in the coal-bed methane industry in Jincheng.

According to Xing Haibin, head of Jincheng's energy bureau, these companies have invested a total of 38 billion yuan (\$5.3 billion) in building more than 10,000 drilling wells in Jincheng.

Total output of the gas is expected to reach 7 billion cu m this year, making Jincheng the largest coal-bed methane production base in China. And the annual output is projected to hit 10 billion cu m by 2025, according to Xing.

The city also features diverse application scenarios for the coal-bed methane. The gas has been used as the fuel for power plants, ceramic companies, vehicles and households.

All the ceramic producers in Jincheng's Yangcheng Ceramics Industry Park, for instance, have used coal-bed methane to fire their kilns, taking the place of coal and substantially cutting the emissions of carbon dioxide and pollutants.

Xing predicted that the total output value of Jincheng's coal-bed methane industrial chain will reach 50 billion yuan in 2025 and surpass 100 billion yuan in 2030.

Wang Tianxiao contributed to this story.



Workers check equipment at a coal-bed methane field in Jincheng. YU YAN / FOR CHINA DAILY

# Event highlights history of landmark museum

By YUAN SHENGGAO

A unique event featuring historical style, the 2022 Jinci Ancient Chinese Culture Festival, was held at the Jinci Museum in the Shanxi provincial capital of Taiyuan on Nov 5, with shows performed by artists wearing ancient costumes.

Jinci, in the southwestern suburbs of Taiyuan, was the temple for kings of the Jin Kingdom (1033-376 BC). It is now a landmark tourist attraction in the city with centuries-old and even millennium-long ancient structures and picturesque scenery.

At the opening ceremony of the festival, visitors were treated to various shows imitating the lives of those in the Jin Kingdom as well as the later periods that followed.

Even tour guides and service staff at the museum were dressed in ancient costumes, who introduced the tourists to the history of the temple and the Jin Kingdom, as well as stories and legends related to the site and the city of Taiyuan.

According to Qiu Ping, manager for public services at Jinci Museum, this was the third time that Jinci has played host to the ancient-style cultural festival, since its inception in 2020.

About 25 kilometers from downtown Taiyuan, Jinci Temple is a historical cultural site offering fine examples of ancient Chinese architecture, landscaped gardening, sculptures, frescoes and stone stele inscriptions.

The temple features a royal garden with copious pagoda trees and a 3,000-year-old cypress, as well as palaces, moated pavilions

and bridges that branch off each other.

First constructed during the Northern Wei Dynasty (386-534), the temple stands in memory of prince Ji Yu of the Western Zhou Dynasty (c. 11th century-771 BC), who became the first sovereign of the Jin Kingdom, on the site of his kingdom's capital. It was a monument to pay homage to his commitment and dedication to improving the lives of his people.

Modified and expanded over subsequent centuries, the existing temple is a diverse collection of more than 100 sculptures, bridges, terraces and buildings.

Most of the temple's dozens of buildings were built after the Tang Dynasty (618-907), primarily using wood, tiles and stone.

A number of buildings have been well preserved and retain a natural look with wooden surfaces weathered over many hundreds of years.

The most famous building at Jinci Temple is the five-story Yi Jiang Hall, built in the Song Dynasty (960-1279). Yi Jiang was the mother of Ji Yu. The hall is a grand structure decorated with yellow and green glazed edgework and carved wooden dragons coiled around its eight supporting pillars of its convex double-eave roof.

Inside Jinci Temple are painted sculptures crafted in the Song Dynasty, some of the temple's strongest historical offerings. Statues of Yi Jiang and 42 of her maids provide a vivid depiction of numerous Song Dynasty characteristics.

Jinci Temple was listed as a national 4A tourist attraction in 2001.

Wu Jia contributed to this story.

# Decades of work to clean up Fenhe River pays off

By YUAN SHENGGAO

Duan Zhu, a resident in the Shanxi city of Taiyuan, has insisted on swimming in the Fenhe River for about 20 years, be it summer or winter.

The 69-year-old said that in the beginning, he used to swim in nearby ponds with a better water quality and never dared do that in the river.

"The period spanning the 1980s and 90s was the worst time for the Fenhe," Duan said. "It was a dry river most of the year, or polluted with yellowish, stinky water."

He said the deterioration of the river was the result of pollution from the coal-related industries in nearby regions. "This was also evidenced by a landscape blackened by coal dust," he said. "The trees along the river and even the sparrows on the trees were black."

With a length of 713 kilometers, the Fenhe is the second-largest tributary of the Yellow River and is regarded as the "mother river of Shanxi".

It began to deteriorate in the 1970s, featuring substantial decreases in runoff volume and worsening water quality.

Taiyuan began to improve the river in 1998. Local resident Zhang Yuhong said she is a witness to the river's transformation, as she was working in the first phase of the river's improvement project that year.



Migratory birds are spotted in Taiyuan's Fenhe Wetland Park. LIU TONG / FOR CHINA DAILY

"We started enhancing the embankment and dredging the riverbed," Zhang said. "Thousands of residents took part in the project as volunteers, wanting the river's environment to turn for the better as soon as possible."

The Fenhe began to have steady runoff in 2000, Zhang said. Efforts in controlling pollution, greening both banks and increasing the water supply have continued since.

In 2021, Taiyuan announced the completion of the comprehensive river improvement project. The 43-km section of the river has become an attractive scenic belt.

Improving the environment of the

Fenhe River has been a provincewide campaign in Shanxi for decades.

The city of Linfen in the lower reaches of the Fenhe began large-scale improvements of the river in the early 2000s. The city did this by shutting down polluting enterprises and repairing the river's ecosystem.

Quwo county in Linfen is one of the beneficiaries of the river's improvement. A saline land of 170 hectares along the river has been turned into fertile ground for vegetable farming.

"The vegetable farming here generates more than 35 million yuan (\$4.89 million) in net profit a year and brings steady revenue to local farmers," said Yang Xu, general manager of a com-

pany operating the farms.

Ningwu county in Xinzhou city is where the source of the Fenhe is. It was among the earliest in Shanxi to begin improving the river, according to Li Jianmin, an official engaged in the river's improvement for more than 30 years.

Li said the county began to improve the river in the 1980s, with efforts focusing on curbing pollution, harnessing soil erosion and increasing vegetation coverage.

"Over the past three decades, Ningwu has phased out a total of 511 polluting enterprises," Li said. "The forest coverage has increased from 23.9 percent in the 1980s to 45.4 percent at present."

The historical source of the Fenhe is the Leiming Temple spring in Ningwu. But today it has a new source. In Toutaying village, about 20 km from Leiming Temple, the runoff of the river sees substantial growth because of water released from a water diversion project originating in the Yellow River more than 100 km away.

The increased water supply to the river has made it a better habitat for both humans and wildlife. The Fenhe Scenic Belt in Taiyuan, for instance, is now home to about 160 bird species, according to bird-watchers.

Zhao Jianjun and Li Shu contributed to this story.