

Science Serves Society, Progress in Human Dignity

Dialogue

By LONG Yun & TIAN Nianping

"When the value created by a product stays where it's made through jobs, skills, and fair wages...that's what I mean by shared prosperity," said Shahbaz Khan, director and UNESCO representative to the Regional Office for East Asia, holding up his smartphone during a lecture at the China Academy of Science and Technology for Development (CASTED).

The device was a Realme, a brand born in China but assembled by young workers in Lahore, Pakistan. "I bought it there because I needed a phone that works in Pakistan," he said with a knowing smile. "But more importantly, local people are employed, trained and earning. That's not extraction. That's partnership."

In an interview following his lecture, Khan gave his version of the China story with his personal observation.

From catching up to setting the pace

"I've been coming to China since 1999," Khan began, recalling his early work on water-saving technologies and irrigation systems. "At that time, China was still catching up with the rest of the world." Back then, scientific infrastructure was developing, research output was modest, and innovation was largely reactive.

Today, the landscape is unrecognizable. "Now, the world is trying to catch up with China," he said.

He pointed to the scale of transformation: massive R&D investment, hundreds of young scientists collaborating in institutions like the Chinese Academy of Sciences, and universities in Wuhan, Beijing and Shenyang operating like "engines of discovery."



Professor Shahbaz Khan is reading the English Edition of Science and Technology Daily. (PHOTO: Science and Technology Daily)

The quality of research, publications, and technological output has surged across fields from solar energy and electric vehicles to robotics, nanotechnology, medical sciences and quantum computing.

But what distinguishes China's rise, Khan emphasized, is its integration of sustainability and inclusivity. "It's not just about building high-tech hubs. It's about cleaning polluted rivers, restoring lakes, improving air quality, and shifting entire industries toward ecological sustainability."

Equally important is how China has diffused the benefits of innovation beyond megacities. "Science and technology are reaching rural villages, small towns and remote provinces, lifting 800 million people out of poverty through systemic, tech-enabled development."

He cited Taobao as a quiet revolution in inclusive economics. "I use it for almost every purchase," he said. "Order a computer part from Shenzhen, and within days it arrives at my door in Beijing."

Behind that convenience lies a deeply integrated digital ecosystem: manufacturers, logistics networks, payment platforms, and last-mile delivery riders connected through information and communication technologies. "And it links consumers directly to primary producers," he added.

Shared prosperity, not zero-sum competition

Does China's rapid technological ascent pose a threat to other countries? "Not really. China's science and technology is not a threat because China is promoting shared prosperity."

He returned to the Realme example. "The same model appears in solar panel factories in Kenya, electric vehicle supply chains in Thailand, and vocational training centers across Africa supported by Chinese partnerships." Students from the Global South come to China, acquire engineering or AI expertise, and return home to contribute to joint ventures. "These aren't extractive relationships. Knowledge, jobs and profits stay where they're created."

China's industrial scale has driven down global prices, creating competitive pressure, but "competition isn't the same as threat. What matters is intent. And China's intent, as I've observed it over the years, is cooperation."

Given China's size, its environmental progress benefits the entire planet. "Global challenges, like climate change, water scarcity and AI ethics, do not respect borders. They require political goodwill and concrete action. In that context, China's contributions through South-South cooperation, UNESCO programs, and institutions like CASTED are invaluable."

Where ancient heritage meets quantum ambition

Even after more than two decades of close engagement, China continues to surprise him. "What still amazes me is the consistency of effort," he said. "People work hard and they also cherish family, tradition and festivals. During Spring Festival, you see red packets, fireworks and reunions. There's a balance between ambition and humanity."

Equally striking is how China harmonizes deep cultural roots with frontier innovation. "Take Zhejiang province as an example, it is home to Liangzhu, a World Heritage site over 5,000 years old, representing one of the world's earliest hydraulic civilizations, jade craftsmanship and social complexity. And it's also where DeepSeek, a leading AI company, is headquartered."

"How can a civilization honor Liangzhu while racing ahead in quantum computing, microchips and AI? That co-existence of memory and momentum is uniquely Chinese. It never stops amazing me," he said.

For Khan, China is a living model where science serves society, innovation lifts communities, and progress is measured not just in patents or GDP, but in human dignity. "That's the beauty of China," he said.

Tech+Culture

Reawakening Innovative Spirit of China's Traditional Culture

By Staff Reporters

In an era of rapid scientific advancement, China's contemporary drive for innovation is increasingly recognized not as a sudden departure from its past, but as a reawakening of deep historical currents.

In a recent interview with *Science and Technology Daily*, three leading Chinese scholars emphasized that the Chinese nation has long possessed a profound, resilient and distinctive tradition of innovation, which remains a source of inspiration for today's scientific and cultural endeavors.

Innovation as a core national trait

Zhu Changrong, director general and research fellow of the Institute of Historical Theory, Chinese Academy of History, Chinese Academy of Social Sciences, said the innovative "gene" embedded in China's fine traditional culture has often been overlooked, particularly during the time when Western-centric narratives obscured or dismissed China's civilizational achievements.

However, the Chinese civilization is the only ancient civilization in the world to have developed continuously without interruption, and innovation has always been central to its endurance.

Ancient Chinese thinkers championed renewal through ideas such as "Governing well begins with discarding the obsolete and creating the new" and "If you can improve yourself today, do so again tomorrow, and keep improving every day." This spirit manifested across three dimensions of civilization.

In material terms, China pioneered advanced systems of rice and dryland agriculture and led the world for centuries in technologies such as cast iron production, papermaking, printing, textile manufacturing, shipbuilding and navigation. It also developed comprehensive knowledge systems in astronomy, mathematics and medicine that sustained a vast population and traveled along the Silk Road to influence global development.

Spiritually, the Chinese civilization continually generated new philosophical and ethical insights amid historical change.

Sun Xiaochun, professor at the School of Humanities, University of Chinese Academy of Sciences, challenged the persistent misconception that ancient China lacked science and therefore had no foundation for innovation.

He contended that while modern experimental science emerged in Europe, ancient China cultivated its own robust scientific culture grounded in empirical observation, practical problem-solving and logical reasoning.

For example, *The Nine Chapters on the Mathematical Art*, compiled during the Western Han Dynasty (202 BC- 25 AD), addressed real-world problems and established a mathematical framework

blending arithmetic, algebra and geometry with a distinctive combination of logical and intuitive reasoning.

Wisdom rooted in people and governance

Zhu highlighted that Chinese innovation has always been characterized by pragmatism, a people-centered orientation, and integrative synthesis.

Zhu explained that throughout history, major reforms were all driven by the need to address concrete governance challenges.

Also, technological innovation served public welfare: The Dujiangyan irrigation system, constructed over two millennia ago by legendary engineer Li Bing and his son during the Warring States period (475-221 BC), transformed agriculture and ecology in Sichuan province in southwest China. It continues to benefit local communities today, embodying the principle of "enriching the people and nurturing life."

Moreover, China's civilizational continuity was sustained through large-scale knowledge integration, as seen in encyclopedic works such as Yongle Dada and Siku Quanshu, which systematically preserved and reinterpreted cultural heritage across generations.

Cultivating a 'Chinese heart' for modern science

Looking to the future, Zou Guangwen, professor at Tsinghua University's School of Marxism, argued that China's fine traditional culture is not a relic of the past but a living reservoir of values and wisdom essential for navigating contemporary challenges.

Core traditional concepts such as "the people as the foundation of the state," "virtue sustains all things," and "harmony between humanity and nature" offer ethical guidance for addressing modern dilemmas like AI ethics, digital inequality and ecological crisis.

He proposed leveraging modern technology to bridge tradition and innovation: using big data and AI-driven semantic analysis to systematically extract principles like "discard the old, establish the new" from classical texts, building dynamic databases of traditional innovation concepts, and employing VR, AR and virtual avatars to reconstruct historical workshops and interpret canonical works in engaging ways.

However, he also stressed the need to "discard the dross and retain the essence" by reinterpreting tradition through a modern, scientific lens.

Sun echoed this balanced perspective. He remarked that ancient Chinese thought offers a holistic, organic and relational worldview that is increasingly relevant in modern sci-tech fields.

"What we need next is to fuse scientific rationality with the soul of Chinese civilization to cultivate a 'Chinese heart' for science. Only then can our innovation be truly original and future-oriented," he concluded.

Qimin Yaoshu : Encyclopedia of Ancient Chinese Agriculture

Traditional Eastern Wisdom

By BI Weizi

Qimin Yaoshu (Essential Techniques for the Welfare of the People) is the most complete ancient Chinese agricultural text, written by Jia Sixie during the



A copy of Qimin Yaoshu is exhibited at the China Agricultural Museum, Beijing. (PHOTO: VCG)

Northern Wei Dynasty (533-544 AD). As one of the most important works in the history of world agriculture, it has exerted a lasting influence on agricultural practices.

Consisting of 10 volumes and 92 chapters, the book systematically summarizes the agricultural and livestock production experiences of working people in the middle and lower reaches of the Yellow River, prior to the sixth century. It also covers food processing and storage, the uses of wild plants, and strategies for mitigating famine. In addition, the book provides detailed information on the relationship between the seasons, climate and differ-

ent soil and crop varieties.

The structure of each chapter is similar, consisting of an introduction, main text and cited references. The introduction provides an overview of the plants and animals covered in the chapter, detailing their origins and characteristics. Following this is the main text, which makes up the core of the book. Drawing on his interviews and personal experience, the author provides meticulous descriptions of the characteristics, production processes and technical information of various agricultural, forestry, livestock and fishery products. The main text is followed by cited references, which are excerpts from other documents that augment the technical knowledge presented in the main text.

Qimin Yaoshu emphasizes the importance of selecting superior species varieties and the interrelationship between organisms and the environment. Jia believed that seed quality played a

crucial role in crop yield and quality. Using grains as an example, the book describes over 80 grain varieties and compares and contrasts them based on characteristics such as maturity period, plant height, yield, quality and resistance to adverse conditions. The book also explains how to maintain seed purity and prevent contamination, as well as the specific preparation required before sowing, to ensure optimal seed development and growth of healthy seedlings.

Qimin Yaoshu was introduced to Japan during the late Tang Dynasty (618-907 AD). Later, around the 19th century, it was introduced to Europe by French Jesuit missionaries in China. In his famous work *On the Origin of Species*, the British scholar Charles Darwin mentioned consulting the "Encyclopedia of Ancient China" and cited relevant examples from it as evidence for his theory of evolution.

A Tale of Two Museums

From page 1

Now, the joint lab has established facilities totaling 650 square meters on the Chinese side and 100 square meters on the Greek side.

It has formed a complete innovation chain spanning scientific research, equipment, standards and applications, achieving significant progress in multiple areas, such as laser cleaning, laser holographic speckle interferometry, non-destructive testing, and digital technologies.

Laser cleaning is one of the key areas of collaborative R&D. The conservation of Lingzhao Xuan provides an excellent opportunity for in-depth cooperation. Primarily constructed of masonry and metal, Lingzhao Xuan, one of the few Western-style buildings in the Forbidden City, stands out distinctively amid the red walls and yellow tiles.

Lingzhao Xuan is not only a witness to historical exchanges between Eastern and Western building materials and cultures, but also a calling card for today's international cooperation in stone cultural relic conservation technologies," said Duan Hongying, section leader of the Material Science Group, Department of Architectural Heritage at the Palace Museum. Currently, the joint lab is making advances in the R&D of a new laser cleaning equipment tailored for on-site operation at the Palace Museum.

Through the collaboration, the Chinese and Greek sides have established a solid foundation of mutual trust, achieved remarkable results, and fostered deep friendship.

In the view of Paraskevi Pouli, senior application scientist at the IESL and Greek head of the joint lab, the joint lab is not only an interdisciplinary international collaboration platform, but also a bridge for the exchange and mutual learning among diverse civilizations.

To date, the joint lab has established two workstations in China and expanded its collaborative research institutions to 12 units across China and Greece.

"In the future, the joint lab will continue to deepen international cooperation. It has already collaborated with the UAE on archaeological excavations and plans to establish a workstation in Malta to jointly conduct research and conservation of local sites, ancient architecture, and murals," said Qu Liang, director of the Palace Museum's Conservation Standard Department and executive deputy director of the joint lab.

"The joint lab aims not only to benefit the Chinese and Greek partners but also to become an exchange and cooperation platform across China, Europe and beyond, making more contributions to international cooperation in cultural heritage conservation technology and the mutual learning among global civilizations," Qu added.



The headquarters of the National Archives of Publications and Culture in Beijing. (PHOTO: XINHUA)