

**Trending** Topics at 2018 "Two Sessions" 16-21

**High-speed Spring Festival Rush**  62-65

**Icy Sports En Vogue** 



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#### **Express**

08 New Day for China's Constitution

#### **Sensing China**

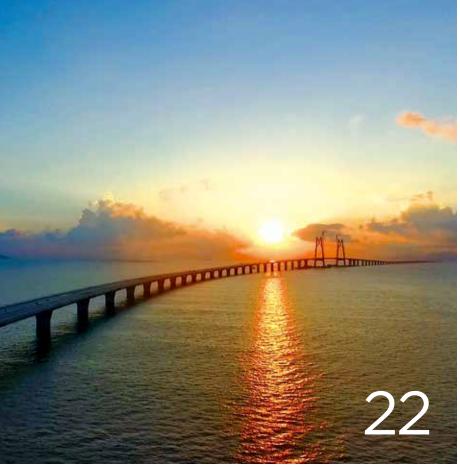
10 More Understanding, Less Stereotyping

#### **SPECIAL REPORT**

12 Trending Topics at 2018 "Two Sessions"

#### New Ideas and New Goals for a New Era

16 High-speed Spring Festival Rush















#### **Features**

- 22 Bridge to the Future
- 24 The Hong Kong-Zhuhai-Macao Bridge: Project of the Era
- 36 Birth of a Modern Marvel
- 42 Builders of the Hong Kong-Zhuhai-Macao Bridge
- 48 Bay Area 3.0

#### **People**

52 Ding Yinnan: Lives Examined

#### **Ecology**

58 From a Desert to an Oasis

#### **Society**

62 Icy Sports En Vogue

#### Culture

- 66 Portrait of Modern Chinese Painting: Wang Xijing's Ink
- 70 The Tale of Chinese Medicine
- 74 Academy and Salon Exhibition



by Ju Peng/Xinhua

#### Xi's Visit to Sichuan

February 12, Wenchuan County, Sichuan Province: Chinese President Xi Jinping, also general secretary of the Communist Party of China (CPC) Central Committee and chairman of the Central Military Commission, visits Yingxiu Town, the epicenter of the 8.0-magnitude earthquake that struck Wenchuan County on May 12, 2008.

Ahead of Spring Festival, which fell on February 16 this year, President Xi spent several days visiting poor families in southwestern China's remote mountains, inspecting the earthquake-hit area and joining villagers'

preparations for celebrations for this most important festival of the year for the Chinese. "My job is to serve the people," Xi declared during the inspection tour. The poor have always remained Xi's foremost concern. In his 2018 New Year speech, the word "people" appeared most frequently and he emphasized the well-being of the Chinese people, evidencing the president's peoplecentered governance philosophy.

Chinese leaders have made it a tradition to visit ordinary people across the country ahead of Spring Festival, the most important holiday on the Chinese calendar.



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#### May's 'Productive' China Trip

February 1, Beijing: British Prime Minister Theresa May and her husband Philip May visit the Palace Museum, also known as the Forbidden City.

Chinese President Xi Jinping met with the British Prime Minister at the Diaoyutai State Guesthouse and called on both countries to forge an enhanced version of the "golden era" of bilateral ties.

May noted that in 2015, the "golden era" of United Kingdom-China relations commenced after Xi made a successful state visit to the UK. Britain supports free trade and would like to enhance practical cooperation with China in trade, investment, science and technology, environment, culture, and the internet, she said.

May started her visit in Wuhan on January 31. In Beijing, she took part in the China-Britain annual meeting between heads of government with Premier Li Keqiang at the Great Hall of the People.

China and Britain signed a dozen deals in areas including trade, finance, healthcare, and smart city technology, pledging to further promote the "golden era" of their strategic partnership.



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#### Holiday Travel Upgrade

February 17, Shanghai: People visit a lantern fair in Yuyuan Garden on the third day of the Spring Festival holiday. The 33-day lantern fair lit up on February 1, with over 30 lighting projects and nearly 1,000 colorful bulbs decorating the classic architecture.

While family reunions and returning home are the traditional activities of the Spring Festival holiday, traveling has become an increasingly popular way for families to spend the holiday, which has contributed to the booming tourism market.

Data from the China National Tourism Administration showed tourists made 386 million trips during the holiday, a year-on-year increase of 12 percent, and the tourism industry earned 475 billion yuan (about US\$75 billion) in revenue, up 12.6 percent from last year's holiday.



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#### See You in Beijing in 2022

February 25, Pyeongchang, South Korea: The Beijing 2022 presentation during the closing ceremony for the 2018 Pyeongchang Winter Olympic Games at Pyeongchang Olympic Stadium.

As the host city of the next Winter Olympics, Beijing staged the splendid eight-minute show to extend a warm invitation to the whole world. "Together with all the Chinese people, I welcome friends from all over the world," said Chinese President Xi Jinping in a video message presented during the show. "See you in Beijing in 2022."

The Pyeongchang Winter Olympics began on February 9. A total of 92 countries and regions participated in the Games.



### **New Day** for China's Constitution

Text by Jiao Hongchang

The 19th CPC National Congress announced that socialism with Chinese characteristics has entered a new era. The new path, new theory and new institutions need reaffirmation and rephrasing in China's Constitution.

hina's Constitution is the symbol of national unification and ethnic unity. It serves as a set of general guidelines for administering state affairs and ensuring national security. It also gives full expression to the will of the Party and the people. Moreover, it is a crystallization of the collective wisdom of the Chinese people.

The last paragraph of the Preamble of China's Constitution reads: "This Constitution, in legal form, affirms the achievements of the struggles of the Chinese people of all nationalities and defines the basic system and basic tasks of the state; it is the fundamental law of the state and has supreme legal authority." The reason a country's constitution enjoys supreme legal authority is that it contains the major functions of affirming and defining. It affirms the existing democratic facts with the fundamental law. It also defines the future, the dreams and hope of the country and the people, and the protection of human rights. China's Constitution also testifies to those two functions.

The 19th National Congress of the Communist Party of China (CPC) announced that socialism with Chinese characteristics has entered a new era. According to changes in guiding ideology, fundamental tasks and institutional achievements, the second plenary session of the 19th CPC Central Committee adopted a proposal on amending the Constitution.

The plenary session noted that Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era is the latest achievement in adapting Marxism to the Chinese context and is a form of Marxism for contemporary China and the 21st century. The Thought should be a guiding ideology that must be upheld in the long term by the CPC and the country. Writing a guiding ideology named after a leader into the Constitution is a Chinese characteristic—as it was with Marxism-Leninism, Mao Zedong Thought and Deng Xiaoping Theory in the Preamble. If Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era is written into the Constitution, it will become the guide to action and fundamental rules, with

supreme legal authority.

The leadership of the CPC constitutes the most essential attribute of socialism with Chinese characteristics, and the greatest strength in this system. This major move is the culmination of China's historical experience and scientific interpretation of truth. The Constitution adopted in 1982 solidified the leadership of the CPC into a constitutional norm with the people's exercising their power to revise the Constitution. It should be expected that the Party's overall leadership in all areas will become more effective when the Constitution is revised.

Building China into a great modern socialist country that is prosperous, strong, democratic, culturally advanced, harmonious and beautiful by the middle of the century and achieving the great rejuvenation of the Chinese nation are the fundamental tasks of the country. Generations of Chinese people have persistently sought answers to such questions: what kind of socialism should the country uphold and develop, and how to achieve it? This work converges in the Constitution, which presents the fundamental tasks for the country. If the goals of building a harmonious and beautiful country, from the Party's Constitution, are written into the country's Constitution, they can serve as guide to the whole nation as it becomes a strong country.

China's reform of the national supervision system is a major structural political reform that has a direct impact on the big picture. It is a major strategy that will strengthen self-supervision of the Party and the government. To make sure that major reforms have a legal basis, the Standing Committee of the National People's Congress (NPC)

has approved pilot reforms in Beijing, Zhejiang Province and Shanxi Province, which then rolled out throughout the nation. The standing committee considers drafting the law on national supervision the top priority of the new NPC, which is expected to be enacted this law. If the nature, status, structure, term, functions, and power of the supervision committee are added in the Constitution, it will create a solid constitutional foundation for the stipulation of the law on national supervision and the creation of the supervising power. As a result, the major reform will have legal and constitutional basis.

The plenary session also vowed to strengthen major institutions related to the Constitution. After the 18th CPC National Congress, the NPC approved an amendment of the Legislation Law of the People's Republic of China, which authorized people's congresses at municipal level with the power of legislation on certain issues. The NPC also decided to implement regulations requiring a pledge of allegiance to the Constitution. If these adjustments are written into the Constitution, they will play a key role in developing and improving socialism with Chinese characteristics.

Laurence H. Tribe, professor of constitutional law at Harvard, commented that "the framers of the Constitution wisely spoke in general language and left succeeding generations the task of applying that language to the unceasingly changing environment in which they would live." China's rule of law has entered a new era, so the new path, new theory and new institutions need reaffirmation and rephrasing in the Constitution.

The author is dean of the Law School of China University of Political Science and Law.

#### 白色经济

#### **White Economy**

Edited by Li Zhuoxi

Since Beijing won its bid to host the 24th Winter Olympic Games in 2022, public enthusiasm for winter sports has been on the rise. The market for winter sports-related industries including facilities, venues, events and training is also emerging with great potential, which is referred to as the



January 7, 2018: The Bird's Nest Ski Resort, the biggest of its kind in urban Beijing, formally opens to the public. This snow and ice world of more than 60,000 square meters features over 20 sections for skiing and ice skating. VCG

"white economy." According to the China Tourism Academy, revenue from the domestic winter tourism market reached approximately 270 billion yuan from 2016 to 2017. It is estimated that China's winter tourism revenue will reach 670 billion yuan from 2021 to 2022.

It is also estimated that revenue from winter sports-related industries stimulated by the Beijing Winter Olympics will exceed 300 billion yuan. Ski equipment, ski resorts infrastructure, skiing events operation and skiing services are four major areas where more investments are needed.

The winter sports industrial chain covers a wide range, from equipment, venues, events and training to the relevant upstream and downstream industries such as tourism, real estate and entertainment, boasting huge market coverage and potential. According to incomplete statistics, the annual output value of China's skiing market is about 12 billion yuan. Compared to the international winter sports market, there is still huge room for market growth in China.

#### 国家精品在线开放课程

#### **National-level MOOCs**

Edited by Li Zhuoxi

MOOC (Massive Open Online Course) is a newly emerging online course development model. Lately, the Ministry of Education of China selected 490 "National-level MOOC" courses, among which about 70 percent are sponsored and provided by leading universities in China. Courses are mainly in video form, each ranging from a few minutes to over a dozen minutes in length. After watching part of the video, students are required to answer some questions before they can continue. Students can also hold discussions online. Those MOOC courses provide assignments, deadlines and final exams, which are scored by an automated computer system. For some courses, students are granted a certificate if they pass all exams.

According to Wu Yan, director of the higher education department of the Ministry of Education, China's volume of MOOC courses ranks first in the world. Currently, over 460 universities have provided and uploaded more than 3,200 MOOC courses, of which 200 courses are also available on overseas



Now the quantity of Chinese MOOC courses ranks top in the world, with nearly 1,000 courses more than that of the United States, which ranks second. VCG

MOOC platforms.

Future goals for MOOC development in China include two priorities: improve quality and promote fairness, which are also the two fundamental pillars for improving the quality of higher education in China and building the country into a leading power of higher education. By 2020, the Ministry of Education of China will carefully select 3,000 national-level outstanding online courses and 7.000 outstanding offline courses, a total of 10,000 national-level topnotch courses.

### More Understanding Less Stereotyping

Text by Michael C. Hilliard

When we discard stereotypes we start to see real people. And it always turns out that on the inside, they're a lot like us.

very coin has two sides" is a popular idiom globally that seems to be well-known in China. It's a common response to questions, and my girlfriend informed me that everyone learns it in school. It's a fitting figure of speech for a lot of what is said about China.

Love it or hate it, China pierces the soul and becomes an integral part of a person if he or she stays long enough. Any foreigner who spends much time here tends to develop strong feelings and opinions about the country. During my three-

July 8, 2017: Over 60 students from the United States visit the Mutianyu Great Wall in Beijing as part of a China-U.S. cultural exchange program. IC



year stay here, China has evolved from a stop on the map and a step on a journey to something more like a second home.

Perhaps this is why I often find myself playing devil's advocate on many issues related to China. It's part of my personality: I like to test various sides of an issue and challenge my own assumptions about things. And perhaps I'm a little contrary by nature.

Any country of the size and scale of China is going to be hard to understand in a comprehensive way. The more I learn about China, the more I realize I know so little. The same could be said for the United States. China and the United States are both massive countries of beauty and complexity as well as plenty of contradiction and controversy.

Considering both the physical space that separates our countries and how our cultures have developed along different lines, China and the United States certainly have their share of differences. When reacting to stories in the news or the people we encounter on the streets, Americans and Chinese both tend to generalize and rely on stereotypes for their understanding of the

other. And, really, such behavior is only natural when there's limited knowledge of the other and often little direct contact in daily life.

In the United States, you can find a mix of positive and negative stereotypes about Chinese people. On the positive side, many Americans view the Chinese as super smart and think that they can do calculus in their heads, play the piano or violin, know kung fu, and dominate on ping pong tables. On the negative side, Chinese are often considered loud in public, overbearing parents and terrible drivers.

In China, anyone who doesn't look Chinese gets lumped together under the laowai or waiguoren (foreigner) label. It's common to hear statements like: "Foreigners are so polite!" "Foreigners are so rude!" "Foreigners are rich!" "Foreigners are just here because they can't find work in their home country." "Foreigners don't care about their families like Chinese do." "Parents kick their kids out of the house when they are 18, and the kids don't take care of their parents when they get older." "You'll like this, because foreigners all like this food." One girl, upon meeting me



June 10, 2009: A hearing-impaired doctor of educational psychology from the University of Illinois, along with her students, teaches hearing-impaired Chinese children American Sign Language (ASL). VCG

for the first time, asked, "How are you so thin if you only eat junk food all the time?" Based on the two years I spent teaching in China, I'd wager I eat less junk food than most of my students do. But in the eyes of many Chinese—who are largely exposed to American food via the plethora of fast food providers such as McDonald's, KFC, Starbucks and Pizza Huts in Chinese cities—junk food is all Americans eat.

Being a minority in any country and dealing with these kinds of expectations can be exhausting, frustrating and depressing at times. The good news is that change is possible. A lot of people in China and the United States are genuinely curious and would like to know more about each other.

When I polled my friends and family on Facebook (most of whom are from the United States and other countries) to gauge their opinions of China and Chinese culture, the responses were almost all positive and curious. Many Chinese feel the same way.

As much as may be different, we have a lot in common. Chinese people love watching *Tom & Jerry* just as much as Americans do, and *Coco* was a hit in both countries because people everywhere can identify with themes of remembering and honoring those in our families who came before us. Parents work hard to make a better life for their children. Children want to help take care of their parents as they age. We all want to find work that is fulfilling.

As individuals and as countries, we have plenty that can unite or divide us, and real issues remain in both the United States and China that need work. We often have different views and perspectives, and

sometimes our assumptions about the other aren't fair. As popular as it is for Chinese netizens to self-criticize about "glass hearts," it's easy for anyone to react negatively to criticism, stereotypes and overly simplistic views. Whenever I hear something complex described as simple, I want to argue for richer understanding. Maybe that's a noble intention, but it doesn't do much good without maintaining grace and seeking common ground first.

In the United States and China, we have our differences. But when we focus on what we share in common and look at both sides of the coin before judging its value, we're all better off. When we discard stereotypes we start to see real people. And it always turns out that on the inside, they're a lot like us.

The author is a senior training specialist at Objectiva Software Solutions.

### **Trending Topics at**

# "Two Sessions"

Edited by Hu Zhoumeng

n March 2018, the 13th National People's Congress (NPC), China's top legislature, and the 13th National Committee of the Chinese People's Political Consultative Conference (CPPCC), China's political advisory body, will hold their first annual sessions (known as the "Two Sessions") in Beijing. Newly elected NPC deputies and CPPCC National Committee members will gather to discuss critical issues concerning the country's development. What topics will inspire the greatest concern nationwide or even worldwide? *China Pictorial* has a few predictions.

#### **Constitution Amendment: Advancing with the Times**

China's current Constitution was adopted in 1982 and revised in 1988, 1993, 1999 and 2004, evolving with the development of the reform and opening up and socialist modernization.

At the Two Sessions, a draft amendment to the Constitution will be submitted to the NPC for deliberation. The revision is expected to place more focus on the will of the people, better utilize the strength of socialism with Chinese characteristics and better meet the demand to improve the long-term governance capacity of the Communist Party of China (CPC), to advance law-based governance and to promote modernization of China's system and capacity for governance.

#### **Anti-graft Networking**

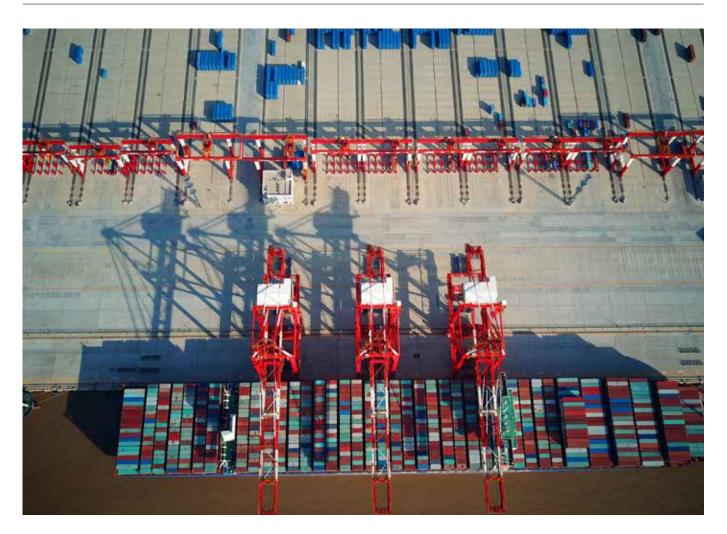
Reform of the national supervisory system has rolled out across China. Supervisory committees at provincial, municipal and county levels have gradually come into shape to realize full coverage over all employees with public power. The committees are established to integrate functions such as anti-graft and anti-misconduct in administrative and judiciary systems and to fight corruption effectively and efficiently.

During the Two Sessions, the draft law on national supervision will be submitted to the NPC for deliberation. "The legislation of the national supervision law will help promote reform of the national supervisory system on track with law-based governance," said Zhuang Deshui, deputy director of the Research Center for Government Integrity Building at Peking University.

#### **New Leadership Election**

The 19th CPC Central Committee elected a new central leadership at its first plenary session in October 2017. During the Two Sessions, the NPC, China's central government, Supreme People's Court and Supreme People's Procuratorate will also elect and decide on new leadership, as will the CPPCC National Committee.

The year 2018 marks the beginning of comprehensive implementation of the policies made at the 19th CPC National Congress, a decisive year for China to complete the building of a moderately prosperous society in all respects as well as a crucial year to implement the 13th Five-Year Plan. How the new leaders will start their work has inspired considerable speculation.



#### **New Chapter for Reform and Opening Up**

This year marks the 40th anniversary of China's reform and opening up. China will introduce new and more powerful measures to strengthen the reform and opening up, some of which may exceed international expectations, revealed Liu He, a member of the Political Bureau of the 19th CPC Central Committee and director of the General Office of the Central Leading Group for Financial and Economic Affairs, at the annual World Economic Forum in January. The country's new plans and strategies for reforms are drawing intense attention.

A bird's-eye view of Phase Four of Shanghai Yangshan Deep-water Port, the world's largest automated terminal. IC

#### **High-quality Development**

As its supply-side structural reform deepens, China's economic growth has remained between 6.7 percent and 6.9 percent for 10 consecutive quarters. It has become a major goal for China to improve the quality and performance of its economic development. Xi Jinping, general secretary of the CPC Central Committee, noted in his report to the 19th CPC National Congress that China's economy has been transitioning from a phase of rapid growth to a stage of high-quality development.

Wang Yiming, deputy director of the Development Research Center of the State Council, believes that high-quality development means a shift from quantity-focused to quality-focused, from factordriven to innovation-driven, and from changing backward social production to tackling unbalanced and inadequate development.



June 1, 2017: China's manned submersible Jiaolong prepares to dive into the Mariana Trench to conduct scientific research. by Liu Shiping/Xinhua



November 15, 2017: Robots sort packages at a logistics center of China Postal Express and Logistics Corporation in central China's Wuhan City, Hubei Province. by Hou Wenkun/Xinhua

#### **Developing a Modernized Economy**

"Developing a modernized economy," first stated by General Secretary Xi Jinping in his report to the 19th CPC National Congress, is a strategic goal for China's development. It is imperative for China to transform its economic growth model, improve its economic structure and foster new drivers for growth.

Xi has clarified the methods to build a modernized economy: focus on the real economy, accelerate innovation-driven development, promote coordinated urban-rural development, enhance the open economy and deepen economic reforms.

#### **Combating Poverty**

China has made decisive progress in its fight against poverty over the past five years: More than 60 million people have been lifted out of poverty and the poverty headcount ratio has dropped from 10.2 percent to less than four percent. Chinese President Xi Jinping said in his 2018 New Year address, "By 2020, China will lift all rural residents living below the current poverty line out of poverty. That is our solemn commitment, and we will honor it."

Poverty relief work should focus more on areas of extreme poverty, quality of poverty relief and targeted poverty alleviation as well as a combination of external aid and internal impetus, a mix of development-oriented poverty relief and social security, explained Liu Yongfu, director of the State Council Leading Group Office of Poverty Alleviation and Development.



January 31, 2018: Two men perform with *Ciba*, glutinous rice cake, in Songtao Miao Autonomous County in Tongren City, southwestern China's Guizhou Province. Folk customs in the countryside are attractive to tourists. VCG

#### **Rural Vitalization Strategy**

According to General Secretary Xi Jinping's report to the 19th CPC National Congress, China must prioritize the development of agriculture and rural areas to implement the rural vitalization strategy. To build rural areas with thriving businesses, pleasant living environments, social etiquette and civility, effective governance and prosperity, the country need to put in place sound systems, mechanisms and policies for promoting integrated urban-rural development, and accelerate the modernization of agriculture and rural areas.

In 2018, ministries and commissions under the State Council actively began designing policies to implement the rural vitalization strategy. At the Two Sessions, approaches to deepening agricultural supply-side structural reform and realizing strong agriculture, beautiful villages and prosperous farmers will be widely discussed.



June 13, 2017: A farmer operates irrigation machines to sprinkle a nutrient solution on vegetables in Taizhou City, Zhejiang Province. by Xu Yu/Xinhua

#### **Recalling Blue Skies**

Statistics from China National Environmental Monitoring Center indicate that the country improved its air quality drastically in 2017. The progress came after the Chinese government undertook reforms related to a new ecological damage compensation system, strengthened enforcement of environmental law and boosted the production and usage of clean energy. Moreover, a three-year plan to "make the skies blue again" is expected to be released in 2018.

"To break through bottlenecks preventing constant improvement of air quality, we must focus more on pollution prevention alongside pollution control," declared Wang Jinnan, head of the Chinese Academy of Environmental Planning. "We should accelerate the formation of spatial patterns, industrial structure, production and lifestyles that are beneficial to atmospheric protection."



February 21, 2018: Citizens exercise in a park in Beijing on a sunny winter day. VCG

#### **Community of Shared Future for Mankind**

More than 100 countries and international organizations have showed support for the Belt and Road Initiative and actively participated in its construction since 2013. The Initiative advocates achieving shared growth through consultation and collaboration and promotes policy coordination, infrastructure connectivity, unimpeded trade, financial integration and people-to-people exchange in an effort to build a community with a shared future for mankind.

In January 2017, Chinese President Xi Jinping systematically stressed on the concept of building a community with a shared future for mankind at the annual World Economic Forum and the United Nations Office at Geneva, Switzerland. The concept is an important public good China offers to the world, and it shows how China shoulders responsibility as a major country. It is worth paying attention to how China continues to walk the walk on the global stage.



September 14, 2017: A Zambian student learns Chinese painting from a Chinese teacher at Hebei International School in Shijiazhuang City, northern China's Hebei Province. by Zhai Yujia/ China News Service/VCG

#### 47

# High-speed Spring Festival Rush

Text by Zhou Xin

As China's high-speed railway network continues expanding and increasing numbers of bullet trains begin operation, miserable journeys home for Spring Festival have become a relic of the past for many people.

hen Spring Festival (New Year on the lunar calendar) draws near, Chinese people across the country all seem to be thinking about one thing: going home. One of the most important traditional festivals in China, Spring Festival is the time for Chinese families to reunite after a year of work or study in places away from home. However, though the moment they meet

Mr. Zhang, an interior decorator working in Beijing, goes home with his two daughters on the G4907 high-speed train. by Xu Xun



their families again may be joyful, travel among the huge crowds of people has always been far less desirable.

According to China Railway
Corporation, operator of China's massive
railway system, the organization made
special adjustments for this year's Spring
Festival travel rush, from February 1 to
March 12. It was estimated that China's
railway system would handle as many as
390 million passengers during this year's
Spring Festival travel season, a year-onyear increase of 31.31 million, and trains in
China would carry 9.55 million people every
day on average.

Before high-speed rails began connecting the whole nation, the dominant method of travel for Chinese people was traditional trains which were not only slow, but also extremely crowded during the travel rush.

The past five years have brought









stunning changes everywhere in China. The development of the high-speed rail is one of the greatest contributors. As China's highspeed railway network continues expanding and increasing numbers of bullet trains begin operation, more and more people can get home faster than before. Miserable journeys home for Spring Festival have become a relic of the past for many people.

#### **High-tech Convenience**

China now boasts high-speed rails of over 25,000 kilometers, accounting for 66.3 percent of the total high-speed rails worldwide. This year will see 57.5 percent of passengers during the travel rush take bullet trains, an increase of 4.8 percent. Among routes opened specially for the travel rush, 43 percent feature bullet trains. More and more cities are now accessible by high-speed trains.

Thanks to new cutting-edge technologies, several new strategies have been employed in

railway stations to save passengers' time and make trips more convenient. For instance, facial recognition devices were installed at the Beijing South Railway Station to check ID cards and tickets quickly, which can verify whether the passenger matches his or her ID card and ticket in only two seconds.

Other thoughtful services have been introduced as well. For example, because the Beijing South Railway Station is so huge and difficult to navigate, the WeChat account for the station features a virtual guide to the interior. On the official WeChat account of the Beijing South Railway Station, a real-time navigation service was launched to help passengers better get around the station, find the right platform and prepare for boarding.

Furthermore, on-train food delivery is now rated as one of the most-loved features of high-speed trains. Passengers can order meals through China's official







Mr. Lin, 70, goes home to Jiangxi Province with his wife. They look after their grandson in Beijing. by Dong Fang



A couple of parents, together with their six-month-old twin daughters, wait for the high-speed train heading for their home in Anhui Province. by Xu Xun

train ticket booking website 12306.cn or its mobile app and pay with apps such as Alipay or WeChat Pay. They can order before setting off or even while on the train. The meals are prepared by restaurants at stations where the train stops. When the train arrives at the station, the meal is loaded onto the train and delivered to the passenger by a railway staffer.

#### **Dedicated Staff**

Not surprisingly, railway employees are the busiest during the Spring Festival travel rush. This year's Spring Festival fell on February 16. When the day for family reunions arrived, they spent it on trains while most Chinese people ate dumplings and watched the Spring Festival Gala on television with their families. And preparations for the travel rush started long before the festival.

On February 1, 2018, the G4907 high-

Ms. Chen, who runs a business and resides in Beijing, travels to her hometown in Fujian Province with her husband and twin daughters on the first day of the Spring Festival travel rush. by Dong Fang









High-speed trains at the depot in Beijing. by Wan Quan



Meals board the high-speed train. Direct-to-seat food delivery is now rated as one of the favorite features of highspeed trains. by Duan Wei

speed train made its first trip during the Spring Festival travel season. The G4907, which ran in 2016 for the first time, is only offered during the Spring Festival travel rush. According to the schedule, the train will cease operations on March 12 this year. This bullet train sets off from Beijing to Anqing, Anhui Province, covering more than 1,000 kilometers. The train is operated and managed by staff of only a dozen workers.

Moreover, the G4907 is a shuttle train that goes back to Beijing in the afternoon of the same day, and arrives at the capital city just past midnight the next day. Train staff must work over 18 hours straight.

Yan Tao, chief conductor of this train, has been working on trains since 2006 when he finished military service. He recalls bittersweet memories of celebrating Spring Festival on the train. On the eve of the Lunar New Year, when most Chinese people are already home, he and his colleagues would be left on an almost empty train. "It's fairly boring to work on an empty train," he admits. "But the train still runs as usual to deliver the passengers we do have. There are always some passengers."

When the eve of Spring Festival arrived, the staff made dumplings right on the train. "We didn't have a rolling pin, so we used a beer bottle," grins Yan. "We created the atmosphere of the festival by making dumplings ourselves."

Zhang Guiqin performs janitorial services on the train. The 48-year-old, like her colleagues, also continues working straight through the holiday, sweeping every corner and collecting trash from every seat of the three carriages she maintains. The hard-working cleaner seldom returns home during Spring Festivals.

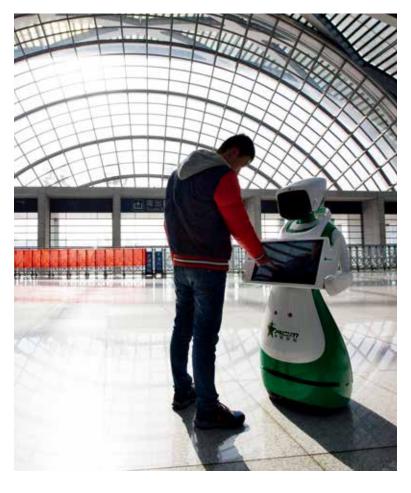
Surprisingly, she looks forward to shifts during the festival because the extra holiday pay means her February paycheck will be almost doubled. She enjoys the work and notes that her colleagues can hardly believe that she is almost fifty years old.

#### Fast and Comfortable Trip Home

Bitter wind and heavy snow highlighted an unusually cold winter in southern China this year. The weather didn't deter the high-speed train as it dashed through the white world towards the South. Passengers aboard leaned back on their soft seats, enjoying the comparatively short trip in a warm, spacious carriage.

Ms. Li used to ride the coach home during the Spring Festival holiday. The high-speed train has saved her considerable misery. "I got serious carsickness on the coach and felt extremely uncomfortable," Li cringes when describing the past. "Every trip, I vomited on the way home. On the high-speed train, I don't get carsickness anymore."

"Once I couldn't even get onto the train because it was so packed with people," said



Xu Guozhu. "My friends lifted me up so I could crawl in through the window." Xu is an interior decorator residing in Beijing who heads home to Tongling County, Anhui Province each year for Spring Festival. He had a particularly chaotic experience during his first trip during the travel rush. "The aisle was so packed with people that I didn't have anywhere to stand, let alone sit. Finally, I had to sit on a table between two rows of benches. Some people were even laying beneath the bench or up on the luggage rack." The year was 2000, and unfortunately his trip then took nearly 24 hours.

A decade ago, the trip still took 16 hours. In stark contrast, the bullet train now cuts the trip to only six hours. "High-speed trains make travel more convenient and comfortable and cut travel time drastically," Xu beamed.

A passenger searches for information with the help of a robot at the Tianjin West Railway Station. by Dong Fang

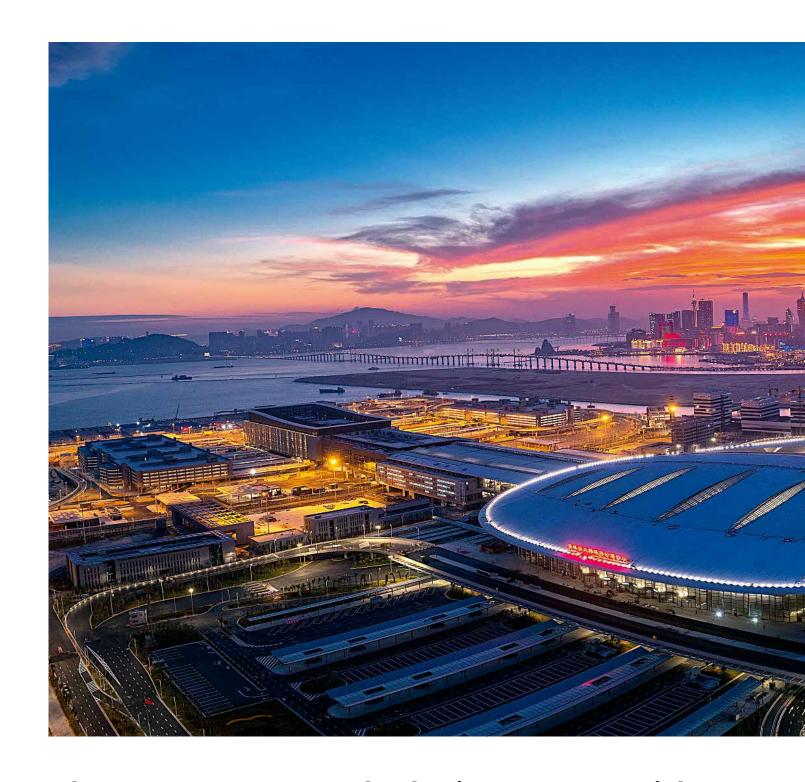


# Bridge to t

rom 2003 to 2018, tens of thousands of workers built the Hong Kong-Zhuhai-Macao Bridge, one of the "seven wonders of the modern world" according to *The Guardian*. The grand bridge is designed to last for at least 120 years. It takes shape as China rises, leaving an incredible imprint on world bridge history.

# ne Future





# The Hong Kong-Zhuhai-Macao Bridge Project of the Era Textby LiXia



The Hong Kong-Zhuhai-Macao Bridge is a milestone in world bridge history.

#### FEATURES

By 2003, China had undergone 25 years of reform and opening up, and Hong Kong had been returned to the motherland for more than five years. That year, the nation's GDP grew 10 percent to nearly 1.4 trillion yuan, and its Shenzhou 5 spacecraft was launched.

In August of the same year, the State Council of China approved the launch of preparatory work for the Hong Kong-Zhuhai-Macao Bridge (HZMB) project and agreed to set up the HZMB Advanced Work Coordination Group.

Soon, the Office of HZMB Advanced Work Coordination Group, the predecessor of today's HZMB Authority, was established. It was responsible for pre-construction research and preparatory work for the launch of the project. In July 2010, the Office completed its mission and was replaced by the HZMB Authority. As the proprietor of the bridge, the HZMB Authority, which initially comprised only 13 members, oversees construction management, operation and maintenance of the project. Their wisdom and expertise as well as a great sense of dedication and responsibility have resulted in epoch-making achievements after 15 years of tireless efforts.

July 7, 2017: Staffers of the Hong Kong-Zhuhai-Macao Bridge (HZMB) Authority pose for a photo in front of a bridge tower in the shape of a Chinese knot when the two sections of the bridge were joined. courtesy of the HZMB Authority



#### A Visionary Team

On March 30, 2004, Zhu Yongling, former chairman of Guangdong Provincial Expressway Development Co., Ltd., was appointed director of the Office of HZMB Advanced Work Coordination Group. At that time, the Office was tasked only with tracking the feasibility study for the HZMB project and soliciting relevant public opinion.

Most of the 13 original members of the Office came from the transportation sector of Guangdong Province, including 36-year-old Yu Lie, then deputy director of the Engineering Department at Guangdong Provincial Department of Transportation, 42-year-old Su Quanke, then chief engineer of Guangdong Hualu Technology Co., Ltd., and 29-year-old Zhang Jinwen, then vice director of the Department of Engineering Management of

Guangdong Provincial Expressway Development Co., Ltd. Later, the addition of capable professionals such as Gao Xinglin from Guangdong Provincial Department of Transportation made the team even stronger.

The moment they took the HZMB project job, these professionals, most of whom were born in the 1960s and 1970s, realized that they were lucky to participate in such an important project. "Due to its unprecedented features, the project will certainly become a milestone in world bridge history," Zhang Jinwen predicted.

Soon after the Office of HZMB Advanced Work Coordination Group was founded, Zhu Yongling felt that because the project was "unbelievably massive," a major concern was that the team's competence might not match up. As the planner, coordinator,

organizer and implementer of the mega-project, its construction management team had to persistently meet or surpass the requirements of the bridge project. Surpassing every standard became the goal of the Group.

The HZMB links Guangdong, Hong Kong and Macao and its megastructure comprises bridges, artificial islands, and an undersea tunnel. It goes through the habitat for the Chinese white dolphin, an endangered species under first-class state protection, which required the project to follow strict environmental standards during construction. Moreover, the project faced a multitude of difficulties including the need for cutting-edge engineering technologies. As the most complicated mega-bridge project in China and the world, tremendous struggles emerged to challenge existing knowledge structures, ways of



thinking, comprehensive quality and the insight and judgment of members of the Office of HZMB Advanced Work Coordination Group. According to the plan, the Office would complete a feasibility report, relevant planning and specialized research for the project by 2008.

Preparatory work didn't progress smoothly. Because of varied interests of relevant local governments and sectors, involved parties had to conduct lengthy discussions and negotiations when determining foothold locations and navigation channels, choosing port inspection modes, coordinating anchorages and financing methods and clarifying project administrative division and management structure.

"In those days, our knowledge and experience were insufficient for the challenges of the HZMB project," Zhu recalled. "All we could do was to learn from others with an open heart."

With progression of the project, the team has increasingly been reinforced. The Planning and Contract Department of the Office of HZMB Advanced Work Coordination Group was responsible for planning management, schedule ratification, and contract signing. In 2003, the department established a special task force to survey major bridges around China and seek training in countries such as Britain, Japan, Switzerland and the Netherlands, Members of the task force learned quite a lot during those surveys, including advanced bridge deck pavement technologies, the new concept of increasing construction investments to reduce maintenance cost and designs to prolong the operational life of bridges.

Thanks to the surveys, members of the department also realized that although China started early in bridge construction, it still lagged behind in terms of project management, technology and construction quality compared to some developed countries. Thus, they became committed to making the HZMB project an opportunity to eliminate the gap.

As their understanding of the project deepened, members of the Office of HZMB Advanced Work Coordination Group gained insight into the policies, laws, management systems, administrative procedures, technical standards and ways of thinking of the three regions involved. By the end of 2008, they had formed a clear vision: Build a world-class project on par with China's strength to herald a great new era.

In 2009, the year after the Beijing Olympics, the Wenchuan Earthquake and the 2008 international financial crisis, then-Chinese Premier Wen Jiabao declared that the HZMB project would begin construction within that year because its financing had been settled. He announced that all preparatory work had progressed smoothly, when meeting Chinese and foreign journalists after the second session of the 11th National People's Congress.

On December 15 of the same year, Li Keqiang, then-member of the Standing Committee of the Political Bureau of the Communist Party of China (CPC) Central Committee and vice premier of the State Council, attended the groundbreaking ceremony of the HZMB project in Zhuhai.

#### Cooperation and Partnership

In May 2010, Zhu Yongling was appointed director of the HZMB Authority. Given that China's mainland, Hong Kong and Macao feature the policy of "One Country, Two Systems," the project involving all three regions was unrivaled, and no precedent had been set in terms of cooperative construction and management. Considering the different ways of thinking, values and social systems in the three regions, as a primary goal of the HZMB Authority, Zhu was determined to guarantee smooth progression of the project.

Compared to large-scale infrastructure projects carried out on the Chinese mainland, the HZMB involved the joint inspection and approval by the governments of Guangdong, Hong Kong and Macao. Quality had to exceed the highest applicable standard in any of the three regions, and its environmental specifications had to be world class, which posed considerable challenges for the project's management and construction efficiency. Establishing

good relationships with the three governments and winning their trust and support became a prerequisite for the HZMB Authority to move forward the construction of the project.

Hong Kong and Macao stressed on following the rules and regulations, while the mainland advocated integrating principles and flexibility. This evidences the different philosophies of officials in those regions when handling affairs. When the HZMB Authority was first established, the governments of Guangdong, Hong Kong and Macao signed the agreements and documents that met their respective laws, regulations and management requirements. The HZMB Authority strictly abides by those agreements and documents and shares details of its decision-making process and implementation results with the three governments in a transparent and timely manner, earning trust for the Authority from all three governments.

The governments of Hong Kong and Macao each dispatched a representative to act as deputy director of the HZMB Authority. They participate in the daily operation of the HZMB Authority and report relevant information to their respective governments. By doing so, the Hong Kong and Macao governments obtained deep understanding of the pressure and difficulties Zhu Yongling and his colleagues faced, and expressed admiration for their dedication.

Zhang Jinwen, director of engineering at the HZMB Authority, feels like it was a miracle that the cooperative mechanism has operated so smoothly for 15 years.

Since the very beginning, the HZMB Authority stressed that the project must completely adopt international design and construction standards. A total of 11 overseas companies and institutions joined



various phases of design, consulting and management of the project.

"Effectively integrating advantageous resources from around the globe and embracing every advanced technology, piece of equipment and material indicate that the project is an international effort," commented Yu Lie.

Previously, the Chinese mainland adopted one set of national quality standards concerning bridge construction, Hong Kong followed British standards and Macao used the European standards. The HZMB Authority determined that coherent standards should serve as the foundation of the project, so it designed a full set of technical standards for the design, construction, quality assessment, operation and management of the

HZMB project.

"We prefer flexible management attitudes," noted Zhang Jinwen. "We adopt standards based on rational consideration of actual conditions."

The designed service life of the Hangzhou Bay Bridge on the Chinese mainland is 100 years, but the HZMB adopted the Hong Kong standard of 120 years. As its designed service life is expanded, all other standards must be elevated accordingly. When China's national economy was still weak, construction standards were formulated to save costs and enhance efficiency, so factors such as design, environmental protection and even quality were not top considerations. Nowadays, with the dramatic improvement of the nation's comprehensive strength, administrators and builders have set

goals to construct excellent projects that can benefit later generations.

"As the HZMB began construction, how to handle relations with contractors, supervisors and other stakeholders and form a joint force became a question pondered over by all members of the HZMB Authority," recalled Gao Xinglin.

Organizing such a massive, complicated project with multiple technical difficulties, the HZMB Authority invented a creative management mode called "partnership." To motivate contractors and constructors, it entrusted both design and construction of the project to them, thus avoiding a rift between design and construction. This has not only reduced risk, but also enhanced construction efficiency.

In the eyes of Zhu Yongling, such a partnership is the cornerstone of all management systems. The HZMB Authority shows respect and trust for contractors while ensuring costs and quality control on behalf of the governments of the three regions involved as well as protection of investments.

Contractors also recognized the "partnership" concept. More importantly, all stakeholders reached a consensus: The HZMB project represents national image and displays national strength.

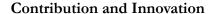
"We always remind our contractors that the project represents the nation," noted Zhu Yongling. "As constructors watch TV news reports on the HZMB they are building and tell their families about their contributions to the project, we want them to feel proud. If their enthusiasm and sense of responsibility are engaged, they will definitely do a good job."





The Chinese people made remarkable achievements through arduous efforts in the five years from 2012 to 2017. Xi Jinping, general secretary of the CPC Central Committee, pointed out in his report to the 19th CPC National Congress: "The five years since the 18th National Congress have been a truly remarkable five years in the course of the development of the Party and the country... We have upheld the underlying principle of pursuing progress while ensuring stability, risen to challenges, pioneered and pushed ahead, and made historic achievements in reform, opening up, and socialist modernization."

The five years also witnessed the comprehensive construction of the HZMB. With a systemic philosophy, administrators and builders broke boundaries between different industries and sectors as they developed an innovative design and construction strategy for the bridge. By making major technical breakthroughs, formulating new standards and adjusting industrial structure, they created one record after another in Chinese bridge history.



Typically, bridge builders make reinforced concrete structural components on the spot. As a result, the construction sites are usually dirty and noisy. In 2008, after repeated surveys and literature research, the Planning and Contract Department decided to build the HZMB using a method commonly adopted in equipment manufacturing. They built structural components in factories and installed them with machines like building blocks.

"This is a conceptual change a giant leap forward in our industry," remarked Zhang Jinwen.

China Railway Shanhaiguan Bridge Industrial Park, which began operation in July 2012, was responsible for building steel box girders. In those days, it was unimaginable to consider transporting colossal box girders with

floating crane vessels atop the sea. Then, China had only a few 1,000ton or above floating crane vessels, most of which were imported from countries like Japan and South Korea. Ten years earlier when the Hangzhou Bay Bridge was constructed, the country had only one 2,000-ton floating crane vessel. The figure increased to five when the HZMB began construction, all of which were domestically developed. A 12,000-ton floating crane vessel was used in the final closure of the bridge. Innovative ideas and engineering technologies can happen only when a country's comprehensive national strength substantially improves.

"We make positive attempts to learn from other sectors," said Zhang Jinwen. "Along with equipment and technological improvements, we also learned





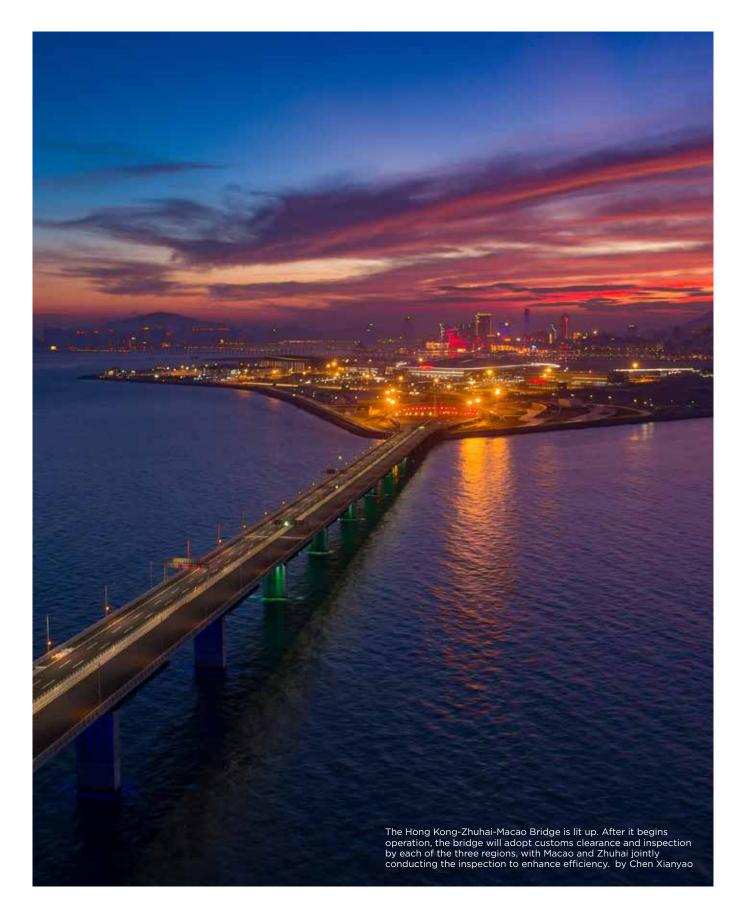
August 4, 2013: A bridge pier under construction. by Wang Liguo

from other industries and projects in terms of management models."

To reduce and avoid accidents and environment pollution, the petroleum industry created a health, safety and environment (HSE) system. Builders working on the HZMB project learned from the HSE system and optimized it according to the characteristics of cross-sea bridge engineering. They were the first to do so in China.

Compared to other industries, the transportation industry has never stood out for its information management system. Back to 2006, the best information management system was found in the nuclear power industry. To sharpen the edge of the HZMB's information management system, the project's Planning and Contract Department sent specialists to conduct a survey at the Ling'ao Nuclear Power Station. They used what they learned to develop the information management system of the HZMB, which in turn gave the transportation industry an overall upgrade.

"This is the evolution from understanding to practice, as well as a way of thinking," remarked Zhang Jinwen. "It requires a clear understanding of new things and casting off of old mindsets."



In 2017, China successfully hosted the Belt and Road Forum for International Cooperation in Beijing and the 9th BRICS summit in Xiamen, and held the 19th CPC National Congress.

On the night of December 31 that year, the HZMB was lit up, marking the completion of the bridge's power supply and lighting system. This also signaled that the main part of the bridge was ready for operation.

On February 6, 2018, a delivery and acceptance ceremony for the HZMB project was held in Zhuhai. According to quality assessment requirements, the bridge was qualified for operation.

#### Glory and Excellence

Every project administrator and constructor was overcome with pride when the HZMB project was completed. Difficulties in the process of construction tested the courage, wisdom and sense of responsibility of both decision-makers and builders.

Each "Chinese knot" on the Qinglong navigation channel bridge, part of the HZMB, consists of more than 9,000 sets of highintensity bolts, and its two bridge towers used more than 18,000 sets of high-intensity bolts in total. Before installing the immersed

February 3, 2014: Workers install steel reinforcing bars at the CB03 section of the Hong Kong-Zhuhai-Macao Bridge. The success of the mega-project is attributed to hard work and dedication of more than 20,000 builders. by Ji Shunli



tunnel elements, constructors had to build a foundation with crashed stone 42 meters wide and 1.3 meters deep on a seabed 40 meters under water, with a deviation of no more than four centimeters. Immersed tunnel elements were docked with machines 13 to 44 meters under the sea, and such docking operations had to be performed 34 times. Every engineer or builder was required to use extreme precision.

The complicated project took more than 20,000 builders thousands of days and nights to complete, during which time they made tremendous sacrifices. "Completion of the massive project proves that God helps those who help themselves," remarked Zhang Jinwen.

Project administrators and builders think deeper about the meaning of the bridge.

"Every time I think about the bridge, many things comes to mind—it not only links pieces of land but also connects the past, present and future and the unknown to the known, and to an even broader world." added Zhang. "The bridge is more than just a concrete structure; it carries the

soul of its constructors. The bridge would have not been completed without such respectful and openminded constructors. In the face of difficulty, one must maintain lofty ideals. Only such a person can understand the symbolic spirit of the bridge. We grew up together with the bridge."

"Developed transportation is the foundation of a prosperous country," said Yu Lie. "The bridge closely links the Chinese mainland, Hong Kong and Macao and helps them enhance mutual recognition despite different social systems. The completion of the HZMB is a milestone in the long river of history. It symbolizes the revival of the nation."

In February 2018, the main stretch of the HZMB project passed the quality inspection and was delivered. Afterwards, the primary task of the HZMB Authority shifted to operation of the bridge. So far, research on policies concerning vehicle management, driver qualification, insurance, tolls and customs clearance have been completed, and the relevant policies are rolling out quickly. Bridge management and maintenance equipment has been installed. Even before the bridge began operation, the HZMB Authority had planned to use artificial intelligence technology in daily operation.

Construction of the HZMB was a cooperative process between three regions seeking cooperation and shared benefits through joint contributions. The wisdom, openmindedness, knowledge and vision of administrators, as well as prosperity and strength of the nation, have laid a solid foundation for the completion of the great mission.

## The Hong Kong-Zhuhai-Macao





Bridge length: 55 kilometers



Two-way six-lane highway



Designed speed: 100 km/h



Expected service life: 120 years



30 minutes to drive from Hong Kong to Zhuhai and Macao



Deigned to allow the pass of a 300,000-ton giant vessel, withstand an 8-magnitude earthquake, super typhoon and the hit of a 10,000-ton vessel.









Eastern Artificial Island

### Bridge

The project mainly consists of:

6.7 km

Undersea tunnel

22.9 km

Offshore bridge section

28 x



Two artificial islands, which cover a total of 200,000 square meters—an area equal to 28 football fields Western Artificial Island

Undersea Tunnel







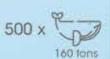




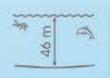
Two artificial islands were completed in only 207 days.



The undersea tunnel is composed of 33 giant immersed tunnel elements and a final closure joint.



Each tunnel element is 180 meters in length, 37.95 meters in width and 11.4 meters in height, with a weight of about 80,000 tons



The lowest part of the tunnel reaches 46 meters deep into the water.



The two artificial islands are supported by a total of 120 giant steel barrels.



Each barrel is 22 meters in diameter, as large as a basketball court, and 50.5 meters in height—equal to that of an 18-floor building.



Each barrel weighs 550 tons, as heavy as an Airbus A380.

Sensot and by Articles Addison

### Birth of a Modern Marvel

Text by Yang Yunqian

After six years of preparation and eight years of construction, the HZMB, which has been referred to as a "Bridge Marvel," is ready for operation.

he Hong Kong-Zhuhai-Macao Bridge (HZMB) holds many world records: it is the longest crosssea bridge in the world, and has the longest steel bridge as well as the longest underwater immersed road tunnel. As the most technically challenging highway bridge project with the largest construction scale to date in the history of highways, the difficulty of its construction can be ranked among the highest in the world.

Totaling 55 kilometers, the bridge connects Hong Kong's Lantau Island, the Macao Peninsula and Zhuhai City of Guangdong Province from east to west. After six years of preparation and eight years of construction, the principal section of the bridge is ready for operation after the project's management authority completed an acceptance check in February 2018.

The bridge will cut travel time across the Pearl River Delta—previously four hours by car and one hour by boat—to about half an hour.





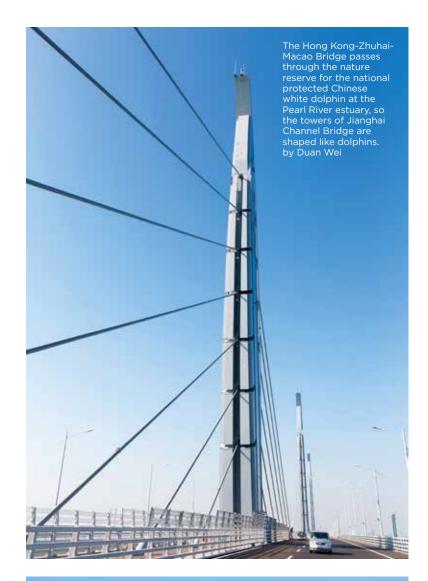
### Three Sets of Distinctive Bridge Towers

The mega-project consists of three parts overall: the Main Bridge; Boundary-Crossing Facilities for Hong Kong, Zhuhai and Macao; and Link Roads into the three regions. Approaching the Zhuhai end of the bridge features a six-lane highway just past a toll station, overlooking the sea dotted with islands and vessels. Occasionally, Chinese white dolphins leap out of the water.

To name the 29.6-kilometer section cobuilt by the three regional governments "Main Bridge" can be a bit confusing, given the fact that it is a combination of bridges, artificial islands and a tunnel. The scale of the project is often deemed daunting. A case in point would be the 425,000 tons of steel used for deck girders and bridge towers, equivalent to 60 Eiffel Towers. The 22.9-kilometer bridge section includes the Jiuzhou Channel Bridge, Jianghai Channel Bridge, Qingzhou Channel Bridge and a 20-kilometer non-navigable bridge. Over the three channel bridges sit seven towers, shaped like sails, dolphins and Chinese knots, respectively, all adorned with simple patterns that are deeply meaningful.

The Jiuzhou Channel Bridge is the closest to the city proper of Zhuhai. Towering over the Lingdingyang waterway, the "sail" design can be seen from Lover's Road, a landmark thoroughfare along the city coast. Because of its proximity to the Macao airport, buildings were limited to a height of 122 meters, so the two "sails" stand at 120 meters. Jianghai's three dolphin-design steel towers were transported and erected on the bridge after construction in a factory, the first time such a strategy was employed in China. "Each steel tower is connected by shafts at its seat," says Zhang Jinwen, director of engineering of the HZMB Authority. "Lifted by huge steel cables and two floating cranes, the 3,000-ton tower was turned vertically from horizontally to be erected on the bridge in one go, a maneuver that no one had ever attempted before."

Shaped like two Chinese knots, the Qingzhou Channel Bridge towers are a token





of bonding and connection among Hong Kong, Zhuhai and Macao. "It took 100 days to install the Chinese knots because every detail was so important. Only with high-precision installation of each piece came the ultimate successful connection." Zhang continues. According to him, the Pearl River estuary is a nature reserve for a national protected animal: the Chinese white dolphin. So the towers of the Jianghai Channel Bridge were designed in the shape of dolphins.

Furthermore, the deck surface having been paved in the Main Bridge section totals 700,000 square meters, also the largest project of its kind in the world. When they solicited bids to provide materials for the work, the HZMB procurement team found no qualified company. Good materials are crucial elements of a quality project. So the HZMB Authority proposed the idea of setting up a factory dedicated to producing its aggregates, which resulted in the birth of the most advanced Zhongshan Aggregate Factory.

"Contractors determine the quality of a project," remarks Gao Xinglin, assistant director of the HZMB Authority and head of its Planning and Contract Department. "The contractors did a better job than we expected. We used uniform-sized aggregates with a low proportion of mud so that our standards stayed on par with international norms." He believes the HZMB represents an innovation in the field of the country's bridge surfacing.

#### Two Shell Islands

About 20 kilometers from the Zhuhai port, past the Qingzhou Channel Bridge sits a western artificial island, which connects to an eastern artificial island towards Hong Kong through an undersea tunnel. Viewed from above, the HZMB resembles two dragons rising from the sea, one winding to the east, the other to the west. The two artificial islands also resemble two round shells or two huge vessels meeting each other halfway.

The two islands have similar buildings but different functions. The eastern island serves as a comprehensive operation center covering



The eastern artificial island. Xinhua

transportation, management, services, rescue and tourism. It offers sightseeing platforms and corridors. The western one focuses on monitoring, maintenance and office work.

Completing the tunnel and the two beautiful artificial islands providing transitions from the bridge to tunnel was the most challenging task for the construction team.

The Lingdingyang waterway, under which the tunnel runs, is an important global trade passage that handles 4,000 cargo vessels, fishing boats and passenger ships each day. To guarantee the safety of ships, the height of a bridge must stay above 80 meters and bridge towers 200 meters, but the neighboring Hong Kong International Airport requires nearby buildings to stay lower than 88 meters, dictating the construction of an undersea tunnel. The project required a water obstruction rate of less than 10 percent to prevent mud and sand from accumulating and blocking the waterway, which would result in Lingdingyang becoming a flood plain.

"A 300,000-ton vessel needs to be able to navigate through the bridge alignment, yet airline routes require low buildings and the impact on the environment also needs to be taken into consideration," explains Zhang Jinwen. "So, this section had to go under the water."

### Undersea Tunnel

The design of the western artificial island eases the drop into the 6.7-kilometer undersea tunnel. Along the undersea landform, the

tunnel features two sloped stretches that can hardly be felt while driving. "Inside the tunnel maintains a fixed temperature, and its ventilation system is designed to produce the same conditions as a road tunnel," explains Zhang Jinwen. "The tunnel is illuminated by LED light, which is suitable for driving."

This longest road immersed tunnel in the world is composed of 33 prefabricated immersed elements and a 12-meter closure joint that weighs 6,300 tons. The tunnel is 6,700 meters long in total, with the section under the sea extending 5,664 meters. The deepest reaches 46 meters under water.

China is already home to several crosssea bridges, but the HZMB has the country's largest and deepest immersed tunnel—and in fact, one that immersed the deepest under the seabed in the world.

Workers first dug a groove on the seabed, treated the foundation trench, and then placed the prefabricated immersed elements into the groove before connecting them one by one under the sea. Some projects in other parts of the world have also used such a method, but the tunnel elements for this project were placed far deeper under the seabed. The HZMB project marked the world's first deep-immersed underwater tunnel because of strict environmental requirements and consideration for surrounding transportation.

It was previously considered a technological taboo to bury tunnels deep in the soil under water as deep as 40 meters. So this section presented the greatest challenge

The undersea tunnel under construction.



of the HZMB project. To make sure the tunnel can withstand the pressure of the 30-meter-deep mud, its builders managed to precast concrete structures of a million cubic meters free of cracks, and created a "half-rigid" tunnel structure—neither utterly rigid nor flexible by creating different shear forces at different points with meticulous calculation—which enabled them to make the finished tunnel completely waterproof.

But actually placing and connecting these elements 40 meters under the sea with high precision was excruciatingly difficult and required accurate remote control, calculation and computing comparable to spacecraft docking. The construction team set up a Global Navigation Satellite System (GNSS) base station, collecting data from 20,000 meters above sky to guide the project and control the error range to within seven centimeters when connecting the elements. After the elements were connected, water stops at the elements' ends were sealed under water pressure.

From immersing the first tunnel element in May 2013 to installing the closure joint in May 2017, immersion of the tunnel structure took as long as four years. On June 7, 2017, the undersea tunnel was passable for construction vehicles. "This project features 64 innovations that bridged many technological gaps," notes Lin Ming, chief engineer of the HZMB's island and tunnel project with China Communications Construction Co., Ltd. The tunnel has drawn great attention from engineering institutions around the planet and has been referred to as a "Bridge Marvel."

#### An Industrial Revolution

Out of the eastern artificial island and at the transition part to the undersea tunnel, Hong Kong's Lantau Island can be seen clearly.

Built jointly by Hong Kong, Zhuhai and Macao, the HZMB had to meet the technological and quality standards of all three regions. Accordingly, the HZMB



Authority developed its own design, management and construction methods. The project is designed to last for 120 years and withstand an 8-magnitude earthquake as well as super typhoon. Additionally, both 300,000ton oil tankers and 150,000-ton cargo vessels can pass over the tunnel and under the bridge at any time.

With regard to bridge construction, many have noted that Europe and the United States dominated the 1960s and 70s before Japan took the torch in the 1980s and 90s. Now it's China's turn.

"Many companies considered the HZMB project a historic opportunity, so the project attracted elite global resources and promoted industrial development," says Gao Xinglin.

To protect Chinese white dolphins, environmental protection groups made 300 expeditions and took 300,000 photos which served as reference points for protective measures added to the project.

To prevent workers from falling victim to occupational maladies, the security and environmental protection department provided physical examinations before and after workers' terms of employment.

According to incomplete statistics, the engineering marvel has involved 1,000 research institutions and over 1,000 scientific and technical workers since 2003. Early

participants carried out 300 research missions, invested 500 million yuan, created over 40 new construction methods, won over 100 patents, compiled 63 manuals for technical standards and regulations and published more than 500 essays as well as a dozen technical monographs.

The project marks the heydays of Chinese infrastructure construction. Almost all contractors involved in the HZMB felt lucky to have seized the chance to participate in the historic project.

From a bird's-eye view over the blue Lingdingyang, the rolling bridge appears like a pearl necklace and the two artificial islands like two pieces of jade, giving the bridge the aura of "pearls and jade—a perfect pair." The country just proposed the concept of a Greater Bay Area around Guangdong Province, Hong Kong and Macao, and the HZMB is expected to play an important role in the future development of the region. "Riding China's impressive national development as of late, the economy of the Pearl River Delta continues to grow fast, and both Hong Kong and Macao aspire to reap the rewards of the country's further development," notes Yu Lie, deputy director of the HZMB Authority. "Infrastructure connectivity around the bay area will definitely accelerate the process."

April 13, 2013: The western artificial island under construction. The island is encircled by steel cylinders, which are injected with sand and require a series of treatments such as drainage consolidation by Sun Li

### Builders of the Hong Kong-Zhuhai-Macao Bridge

Behind the engineering marvel, tens of thousands of constructors contributed painstaking efforts to realize this dream.

seemingly impossible mission, the Hong Kong-Zhuhai-Macao Bridge (HZMB) was just a dream 35 years ago, and in 2018 it will begin service. Behind the engineering marvel, tens of thousands of constructors contributed painstaking efforts to realize this dream.





### Zhu Yongling

Director of the HZMB Authority
Joined the project in 2004

Former chairman of Guangdong Provincial Expressway Development Co., Ltd., Zhu Yongling joined the HZMB project as director of the preparatory office before becoming director of the HZMB Authority. Zhu contributed 14 years to the project, devoting a large chunk of his adult life to the bridge.

He considers the bridge a pilot field at the intersection of "One Country, Two Systems" that taps into the advantages of the three regions. And the project embodied the participants' initiative and consolidated strength from all walks of life.

Zhu facilitated sound coordination between governments of the three regions, using both reason and affection. He believes people's hearts are connected. He is adept at discovering able people and placing them in suitable posts and encouraging contractors and employees to innovate. He thinks that his job is to motivate rather than manage personnel. The bridge has now been completed. He gave the credit and honor to his colleagues. "If people still remember that I was the first director of the HZMB Authority a century from now, that would be enough."

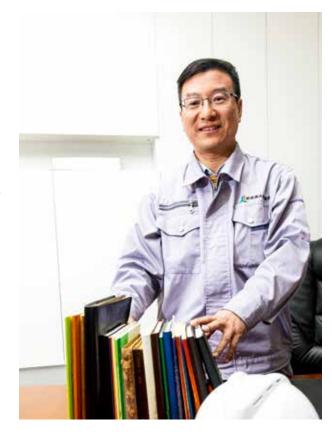
### Yu Lie

Deputy Director of the HZMB Authority Joined the project in 2004

For the first four years, Yu Lie participated in preparatory research, surveying and preparing materials. He was later tasked with managing project construction. For the next eight years, he was responsible for environmental protection. Later, his work involved preparation work for the Health, Safety and Environment (HSE) management system and communication. A gigantic stack of 14 years of working notes, 20,000 documents and over 400 pages of emails testify to his dedication to the project, as well as trace the bridge's incubation to completion.

Yu considers himself and his engineer peers lucky to be able to participate in the great project. "But you would not envy us if you saw the stretches when we were stranded on islands, ships and bridges for seven years," Yu gasps. "We stayed up all night holding our breath through 33 typhoon alerts." Adjectives he used to describe the work include glorious, but also boring, arduous, difficult and even frustrating.

The project is near an end. For the foreseeable future, Yu will continue to manage the bridge's operation. He believes that there is nothing more to say about the bridge, because "it speaks for itself."





### Zhang Jinwen

Director of Engineering of the HZMB Authority Joined the project in 2004

When he arrived at the preparatory office of the HZMB project at the age of 29, Zhang Jinwen left his position as deputy director of the Engineering Department at Guangdong Provincial Expressway Development Co., Ltd., giving up a promising future in the company. At first, many questioned how he, a novice at bridge construction, could be appointed chief engineering supervisor. His actions across years have provided an answer.

Since the construction of the bridge is finished, what will he do next? "I have no idea because I haven't yet found a more challenging project," Zhang grins. He plans to summarize the experience first and to leave it for posterity. "We salute our predecessors with the project and hope it can serve as a 'shoulder' to subsequent generations."

In his opinion, a bridge will be remembered as an icon of the times. The bridge represents the comprehensive strength of the country and serves as a symbol of the achievement of the reform and opening-up policy which has been implemented for 40 years. "What we did is not actually so great—we just did what engineers should do."



### Gao Xinglin

Assistant Director of the HZMB Authority and Director of the Authority's Planning and Contract Department Joined the project in 2008

Before joining the bridge project, Gao Xinglin worked for Guangdong Provincial Department of Transportation. Seeking more challenging work, he led a team to engage in bidding, planning and contracts management, as well as early operation and maintenance management for the bridge. Gao remains director of the Planning and Contract Department, so he is still responsible for overseeing planning for usage of the artificial intelligence technology in the operation of the bridge.

Gao studies English, reads books and works out every day. "Continuous learning motivates our team to keep moving forward," he says. "Reading helps me find inner peace so I can avoid getting flustered."

He attributes the success of the bridge to the team's devotion and good timing. The achievement of both individuals and the project intertwined with the times. "The bridge mirrors the strength of the country in the world," he says. "As an engineer, I contributed everything I could. I feel more honor than pride. It was a responsibility."



### Duan Guoqin

Director of the Safety and Environmental Protection Department of the HZMB Authority

Joined the project in 2005

Duan Guoqin never boasts of the safety and environment protection achievements he spearheaded during construction of the bridge. Unlike technical and on-site construction departments, his job primarily focused on guaranteeing the smooth progress of the project. So Duan's big victories occurred when nothing happened.

However, Duan believes that to do well in safety and environmental protection work, one should be willing to contribute in a supporting role behind the scenes. Since joining the Office of the HZMB Advanced Work Coordination Group in 2005 as one of the 13 pioneers of the project, he spent a total of 13 years safeguarding the smooth progress of the super project.

Over these years, not a single employee left his department. Duan attributed the low turnover to the fact that the other projects were not as attractive as this one, but a harmonious working atmosphere was also a major factor.

Now, as the project receives finishing touches, the Safety and Environmental Protection Department has come to the fore from the wings to permanently become an operation department responsible for further management and maintenance of the bridge.

Actually, it's rare for a single group to be responsible for so many pieces of a project. "But if we delegate bridge operation and maintenance to others, it might affect efficiency," Duan explains. "So it would be quite satisfying for me to manage this bridge well." Hoping for smooth sailing, Duan proposed an operation concept of "big safety and big monitoring."

"The project is huge and unparalleled," says 29-year-old Wang Fang. Some of his classmates have climbed to the position of deputy chief engineer in other projects, but he remains the most admired because he got access to such a super project.

Wang still remembers the teacher of his bridge engineering class stressing that it would be quite meaningful for anyone in his realm to participate in such a mega-project.

When he showed up for work at the HZMB Authority, the 23-year old was the youngest employee of all of the HZMB Authority, which resulted in a fair amount of pressure.

"Whether or not he or she likes to study, everyone in the HZMB Authority continuously learns or he or she will quickly fall behind," he surmises.

As the construction of the bridge progressed, the learning culture and harmonious atmosphere in the HZMB Authority also improved rapidly.



### Wang Fang

Staff of the Planning and Contract Department of the HZMB Authority Joined the project in 2012



#### Dai Xihong

Deputy Director of the Safety and Environmental Protection Department of the HZMB Authority

Joined the project in 2009

Before joining the project in 2009, Dai Xihong was a senior engineer with rich experience in construction. To meet the HZMB Authority's urgent need for elites in safety and environmental protection, he agreed to transfer to the department and handle maritime coordination and navigation management.

It is easy to see results and achievements in technical departments. However, safety and management work requires a lot of time and energy with hardly any big payout in terms of achievement.

"We set up 157 navigation marks including three major parts of central navigation, side navigation and water navigation, just like the traffic lights on the road," Dai explains. The department established a professional navigation mark platform for bridge builders to ensure their safety. His work not only created a precedent in the field of bridge construction, but also represented an important move to practice of the Health, Safety and Environment (HSE) concept.

The traffic engineering project of the HZMB includes 12 subsystems of communication, toll collection, monitoring, power supply and distribution, lighting and more, essentially composing its own mega-system.

Normally, bridge projects would invite separate bids for each item, but the HZMB project opted for packaged bidding for all the items, integrating every subsystem into a management platform. Cai Junfu and his team eventually won the bid, which was a great challenge to them.

Cai has accumulated tremendous experience in management of high-speed rail system integration. In the HZMB project, he promoted the development of a full life-cycle technology platform and service system based on building information model (BIM), which adopt artificial intelligence technology and can provide big data.

Because of his admiration and respect for the bridge, Cai devoted considerable extra effort to the project.



### Cai Junfu

Traffic Engineering Manager for the HZMB Project of China Railway Construction Electrification Bureau Group Co., Ltd.

Joined the project in 2014



Yu Lijun

Staff of the HZMB Transportation Engineering Department of China Railway Construction Electrification Bureau Group Co., Ltd.

Joined the project in 2014

Yu Lijun was nicknamed "island owner" by his colleagues. He coordinated the construction of the western artificial island. His job included coordinating the construction schedule, organizing the construction process, allocating resources and arranging labor. During the busiest days, over 1,000 builders from his department were working at the same time. With over 40 companies participating in the construction of the grand bridge, Yu's team had to start working after the civil engineering was finished. The job of his department was always influenced by other procedures. In August 2017, Severe Typhoon Hato landed in Zhuhai. Workers were evacuated under the coordination of Yu's team.

When the artificial island first took shape, the site had no access to water or electricity. Workers slept in containers. Most of their meals were instant noodles. Some stayed for as long as a month before getting back to land. Yu, however, enjoyed it. "The painstaking work and standards of the project are not matched by any other project."

The HZMB project involves three legal areas, but Liu Gang is the only legal professional in the HZMB Authority. After transferring from Guangdong Provincial Department of Transportation, Liu's first task was to research and hire legal advisers for the project.

Due to the requirements of governments of the three involved regions (Hong Kong, Zhuhai and Macao), an association composed of four law firms from Hong Kong, Zhuhai and Macao won the bid.

"Once, at a meeting attended by the three parties we sorted out over 100 problems, which all needed attention," recalls Liu. After back-and-forth communication with legal experts from all three places, two important documents were finalized including an agreement between the governments of Guangdong, Hong Kong and Macao on construction, operation, maintenance and management



**Liu Gang**Staff of the Planning and Contract

Department of the HZMB Authority
Joined the project in 2009

of the HZMB and the Constitution of the HZMB Authority. Questions about bridge construction, distribution of rights and obligations of the three parties and detailed duty divisions could all be answered by the agreement and the constitution.

The Planning and Contract Department has maintained a good learning atmosphere and created a training club covering multiple subjects and majors to provide internal training courses to improve core professional abilities, global outlook and thinking methods of employees. Liu is the chief planner of the training club.



### Liu Jingguo

Project Manager of the First Prefabricated Factory of Island & Tunnel Project of HZMB Joint Venture of China Communications Construction Co., Ltd. Joined the project in 2011

As a young manager in his 30s, Liu Jingguo worked on construction of the high-speed railway connecting Beijing and Shanghai after graduation. He began working for the bridge project in 2011 and was tasked with overseeing the manufacturing of immersed tubes and the construction of artificial islands. In his opinion, the bridge is both an excellent platform and a good opportunity. He personally witnessed the improvements brought by the project, which sustained his passion for this project.

During his years at the construction site, the schedule was very tight, and he had to work even during the weekends. According to the arrangement, the team got five days off every three months, but Liu missed most of them because he was in charge. The engineering staffers were so dedicated that even when construction was coming to its end, Liu was still reluctant to leave. "No other project has lasted so long with so much persistent effort."



### **Xiong Junming**

Bricklayer for Island & Tunnel Project of HZMB Joint Venture of China Communications Construction Co., Ltd. Joined the project in 2017

"The project has really strict requirements and no slight deviations are allowed," notes Xiong Junming. "Lin Ming, chief engineer of the island and tunnel section of the bridge, stayed at the site every day to make sure that every detail was right. It was such a great project. We're here, so we'd better do a good job." At 56, Xiong joined the project as a skilled bricklayer from Chongqing. He had visited many places with construction teams, but the bridge impressed him most. Even his son worked on it as a welder. When his work was finished, he took his father there.

Competitive pay and a satisfying working atmosphere were the biggest factors in Xiong's positive feelings about the job. Although it was a rare opportunity to see white dolphins from the island where he worked, Xiong saw them many times.

"The undersea tunnel was built with 33 tubes," he gasps. "How wonderful! This is such a huge project and has attracted many foreign visitors. Our work even appeared on TV programs. I felt grateful for the chance to participate in the project."



### Wang Xiaoshuai

Publicity Officer of Island & Tunnel Project of HZMB Joint Venture of China Communications Construction Co., Ltd.

Joined the project in 2017

Wang Xiaoshuai felt lucky when he was informed in the summer of 2017 that he had been hired for the HZMB project after employee onboarding training at China Communications Construction Co., Ltd. In fact, by then, the graduate with a degree in material science "had no idea about engineering, just knew it was a great bridge."

Wang found life at the construction site extremely hard. They ate and lived on the artificial islands. The dormitory shared by four colleagues was less inviting than his dorm in school. At night, they could hear the roar of flights above them and construction noise below. During summers, he wore a "necklace" of mosquito bites. Wang found the weak phone signal especially uncomfortable. He would have to go to the end of the bridge to send a message to his girlfriend. His entertainment was limited to watching planes and ships from a distance.

At the construction site, he met many visitors from home and abroad and learned a lot from them. He lived with workers every day and was impressed by their earnestness and persistence. Engineers taught him hard work and dedication.

### Bay Area 3.0

Text by Duan Wei

In the new era of "One Country, Two Systems," Bay Area 3.0 is gradually emerging as humans continue to blaze trails across waters.

he bridge facilitates travel from one piece of land to another. It is a conduit from the known to the unknown and to the infinite and beyond.

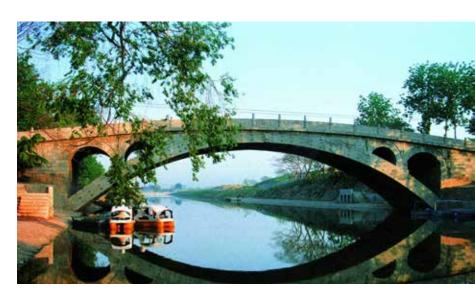
During the earliest stages of human civilization, fallen trees and natural stone arches served as the first bridges, making crossing rivers possible. Human beings are good at learning. They began to build bridges by imitating what nature did, employing a variety of materials. More and more bridges have appeared in the world and humans have conveniently crossed wider and wider streams. Bridges also expand the areas for human activities and their abilities to change the world. Meanwhile, the function of bridges has widened as well, and they have become more beautiful. Building bridges and crossing them bring people satisfaction and happiness. Bridges are embodiments of architectural, aesthetic and philosophical values.

Many bridges have become legendary. An ancient Chinese poem recorded a poignant love story about a shepherd and a weaver girl. It was said that they were separated by the Milky Way as punishment for breaking the rules in heaven. They were only allowed to meet on the 7th day of the 7th lunar month every year. To facilitate their annual reunion, a flock of magpies from many places would form a bridge for the lovers to cross. It was dubbed the "bridge of magpies."

Bridges are witnesses to history. The Zhaozhou Bridge, built by renowned artisan Li Chun of the Sui Dynasty (581-618) in what



October 1957: The Wuhan Yangtze River Bridge opens to traffic. It is the first bridge to cross the Yangtze River. by Li Lanying and Li Jilu



The Zhaozhou Bridge, built by renowned artisan Li Chun of the Sui Dynasty (581-618) in what is now Hebei Province, is the longest and oldest stone bridge of its kind. CFB



The Sutong Yangtze River Bridge has one of the longest main spans of any suspension bridges in the world. Completed in 2008, it spans the Yangtze River between Nantong and Suzhou. by Wu Yingchen

is now Hebei Province, is the longest and oldest stone bridge of its kind. The bridge features two small side arches on either side of the main arch. The side arches have two important functions: They reduce the total weight of the bridge and allow runoff from floods to pass through. The design is as pragmatic as it is beautiful. The Zhaozhou Bridge has stood for over 1,400 years and survived several powerful earthquakes.

Bridges are symbols for China's resistance to foreign invasions. The Lugou Bridge in Beijing was completed in 1192 across the Yongding River. It is a major channel for transportation through southwestern Beijing. The bridge has preserved 501 stone lions carved on 281 balusters. Renowned Italian traveler Marco Polo even mentioned it as a "beautiful stone bridge in Cambaluc (present-day Beijing)" in his writing. The Lugou Bridge once served as a major military stronghold. The Peiping-Hankou Railway that connected China's northern and southern parts stretched over this river. In 1937, the invading Japanese

troops used the Lugou Bridge Incident as pretense for full-fledged invasion of China. It marked the onset of the Chinese People's War of Resistance Against Japanese Aggression nationwide. Fang Dazeng, an eminent war correspondent, once captured the scene of Chinese soldiers fully equipped for battle gazing at the stone lions on the bridge with his camera, illustrating China's resolve to repel



The Lhasa River Bridge is a landmark project of the Qinghai-Tibet Railway. When it was completed in 2005, the bridge won the Lu Ban Prize, the highest prize for a Chinese architectural project. CFB



the Japanese invaders.

Bridges are treasures. Those destroyed are usually rebuilt. Despite being destroyed and rebuilt during wartime, the Qiantang River Bridge has endured for over 80 years. It is as firm as in the past. The bridge holds many records among China's historical bridges. It also weathered battles along the Qiantang River during the Chinese People's War of Resistance Against Japanese Aggression. On December 23, 1937, to stop Japanese troops from heading towards south across the Qiantang River Bridge, the Kuomintang government bombed it. Mao Yisheng, designer of the bridge, wrote in indignation that "China will prevail! The bridge will be recovered!" In 1946, Mao returned to Hangzhou to rebuild the bridge. In May 1953, rails and roads across the bridge were opened to traffic and his dream eventually came true. On September 26, 1987, on the 50th anniversary of construction of the Qiantang River Bridge, Mao, who by then had been wheelchairbound for years, insisted on stepping back on the bridge. Accompanied by his daughter, Mao tottered onto the bridge, supported by the handrail. He lingered on

the bridge in silence, gazing at the surface of the torrent.

Bridges are symbols of the rapid development of the People's Republic of China. The Wuhan Yangtze River Bridge, designed by a group of specialists headed by Mao Yisheng, was the first bridge to span the Yangtze River. It is also the first doubledeck road-rail bridge built since the founding of the People's Republic of China in 1949. Construction began on September 1, 1955 and commenced from both banks (Wuchang and Hanyang, two of the three sections of the city of Wuhan in central China), marching towards the center of the river simultaneously. Construction was completed in October 1957, 15 months ahead of schedule. The bridge connects the three parts of Wuhan City and the Beijing-Guangzhou Railway that passes over the Yangtze River, a major improvement for transportation across the third longest river in the world. "The bridge spans the Yangtze River, converting the natural moat into a thoroughfare," wrote Chairman Mao Zedong.

Bridges not only narrow physical distance, but also promote the development of connected areas. Thanks to bridges, mankind

The Beipan River Bridge linking Duge Town of Liupanshui City in Guizhou Province and Puli Township of Xuanwei City in Yunnan Province, which opened to traffic at the end of 2016. VCG





The Rainbow Bridge is a suspension bridge crossing the northern Tokyo Bay. by Wang Yuncong

can reach across not only streams, but also rivers, lakes and waters as wide as oceans.

Of thousands of famous bays and hundreds of well-known gulf cities across the world, the New York Bay Area, San Francisco Bay Area and Tokyo Bay are most developed.

The first-generation Bay Area featured harbors and ports. It was followed by Bay Area Version 2.0, which falls into three categories: Advanced manufacturing (such as the Tokyo Bay); financial services (represented by the New York Bay Area); scientific and technological innovation (like the San Francisco Bay Area).

Bridges support transportation in those areas, including the Great Seto Bridge and Tokyo Gate Bridge in the Tokyo Bay, the Brooklyn Bridge and George Washington Bridge in the New York Bay Area and the San Francisco-Oakland Bay Bridge and Golden Gate Bridge in the San Francisco Bay Area. Such structures help the integration and connection of infrastructure around the bays and become drivers of regional development.

The innovative Chinese people long for rich bridge narratives.

Cities around the Pearl River Delta were the first to introduce the policy of reform and opening up. With the geographical advantage of proximity to Hong Kong and Macao, this region features the biggest piece of China's exported-oriented economy and the most advanced mechanisms of the market economy, and serves as a platform for China's participation in economic globalization and international division of labor. The concept of a Greater Bay Area is becoming increasingly clear under the framework of "One Country, Two Systems" and due to the fact that Guangdong Province, Hong Kong and Macao have become important partners in the coordinated development of the region.

Since the 1980s, transportation between China's mainland, Hong Kong and Macao, especially the land transportation infrastructure between Hong Kong and the east bank of the Pearl River Delta, has achieved impressive progress. It ensures and drives the coordinated development of Hong Kong and the Pearl River Delta area. However, the connection between Hong Kong and the west bank of the Pearl River Delta has remained weak. After the Asian financial crisis of 1997, the government of the Hong Kong Special Administrative Region found it necessary to build a crosssea channel connecting Hong Kong, Macao and Zhuhai to fully leverage the advantages of the two special administrative regions and boost the economy of Hong Kong. Thus, it proposed construction of the Hong Kong-Zhuhai-Macao Bridge to the central government in 2002.

A decade later, a magnificent bridge finally shimmers over the Lingdingyang Channel. On February 6, 2018, major work on the world's longest cross-sea bridge passed authorities' evaluation. The check proved that the quality of the main structure of the bridge is up to standard and reliable. The bridge is suitable for trial operation.

In the new era of "One Country, Two Systems," Bay Area 3.0 is gradually emerging as humans continue to blaze trails across waters. 47



# **Lives Examined**Ding Yinnan

Text by Wang Zhongyi

Chinese film director Ding Yinnan left an incredible imprint on world film history with soul-touching biographical films about the great figures of China in the past century. His films helped Chinese people follow the ups and downs of days past.

### Editor's Note:

The year 2018 marks the 40th anniversary of China's implementation of reform and opening-up policy. During the past four decades, under the leadership of the Communist Party of China (CPC), the Chinese nation has achieved a tremendous transformation—it has stood up, grown rich and become strong. Riding the tide of the times, the Chinese people are committed to emancipating the mind and pushing forward the reform and opening up, in a bid to seek a better life. In this issue, China Pictorial continues to look back at representative figures during the country's 40-year-long reform and opening-up process in its "People" column to help trace the country's great journey over the past 40 years for readers around the world.

he career of Ding Yinnan, an 80-year-old film director, has unfolded right alongside the reform and opening up of China.

In the decade following the launch of the reform and opening up, he made several pioneering experimental films such as *Spring Drizzle, Back Light, Sun Yat-sen* and *Filmmaker.* Around the turn of the 21st century, he directed *Zhou Enlai* and *Deng Xiaoping*, which are considered milestone Chinese biographical films. Subsequently, Ding shot biopics about cultural titans such as Lu Xun (1881-1936) and Aisin Gioro Qigong (1912-2005).

Ding left an incredible imprint on

world film history with soul-touching biopics about the great figures in China over the past century. His films helped Chinese moviegoers trace the ups and downs of days past. One of his most globally acclaimed films, Zhou Enlai, is widely considered on par with classics such as Gandhi, Patton and Amadeus.

### Attempt and Breakthrough

Born in Tianjin in 1938, Ding struggled in school but fell in love with operas and movies from a young age. In the 1960s, Ding studied at the Beijing Film Academy where Sergei M. Eisenstein's *Battleship Potemkin* and Aleksandr Dovzhenko's poetic films left a deep mark on him.

Immersed in Chinese operas and poetic films from the Soviet Union, Ding developed a solid foundation for his own work.

The launch of the reform and opening up in 1978 opened the door for directors like Ding, who received education before the "cultural revolution" (1966-1976), to exercise their talents with increasing liberty. Those practicing at this time became known as the fourth generation of Chinese film directors.

In 1979, Ding released his directorial debut, *Spring Drizzle*, about the non-violent protests against the Gang of Four in 1976, and Chinese viewers were first introduced to his talent at portraying emotions.





Ding Yinnan directs the actors playing Deng Xiaoping and his wife Zhuo Lin in his film Deng Xiaoping. The film was released in 2003. courtesy of Ding Zhen

Then in 1982, *Back Light* made him a star of the fourth generation of Chinese film directors. The movie is filled with new forms of expression. For instance, in the scene meant to depict a bustling crowd in a shipbuilding factory in Shanghai, he created a more poetic atmosphere by employing montage.

"Back Light is set in the early days of the reform and opening up in Shanghai," Ding explained. "It is composed of love stories in which some young shantytown dwellers fight for a better life while some others sink into depravity. I also grew up in a shantytown, so it was natural for me to focus on those who struggled to change their fate."

In the early 1980s, the works of the fourth generation of Chinese film directors blossomed. Alongside *Back Light*, Yang Yanjin's *Narrow Street*, Zhang Nuanxin's *The Drive to Win* and Huang Jianzhong's *As You Wish* were also hits during the era.

From 1984 on, Ding shifted his focus to biographical movies. When Ding joined the Pearl River Film

Studio, he was encouraged by his bold and open-minded boss to make a Sun Yat-sen biopic however he liked.

"Given so much freedom," Ding remarked, "I made this film with all my knowledge and experience from previous works over the past years. No reservations."

The film was narrated with poetic rhythm and a sense of ritual. Centered around Dr. Sun Yat-sen, it portrayed a group of lively figures who took an active part in the Revolution of 1911. The Revolution led by Dr. Sun Yat-sen led to the collapse of the Qing Dynasty (1644-1911) and brought an end to the imperial rule in China. In the film, the battle between student officers from Whampoa Military Academy and uprising Cantonese merchants was presented with abstract images. No face-to-face fighting was pictured only troops running and disappearing into the heavy smoke of gunpowder. The atmosphere of battle was created by drumbeats similar to those in Peking Opera.

In 1989, Ding filmed the

experimental movie Filmmaker, in which an exhausted director toils to make a living and create art. This was the confusion and anxiety faced by workers in the film industry at that time, especially the fourth generation of Chinese film directors. The movie delves into postmodernism with its pioneering format. Some even regard it as the Chinese version of Eight and a Half.

### From Zhou to Deng

Filmed in 1991, Zhou Enlai is one of Ding's most successful biopics.

Ding aimed to present the image of Dr. Sun Yat-sen from his own perspective, but decided to present Premier Zhou Enlai in the eyes of the Chinese people. Ding set the story in the ten-year "cultural revolution," a period of intense and complicated conflict, to demonstrate Zhou's personality and mind.

In the movie, Zhou tries to protect Chen Yi, a Communist marshal, after he is denounced at a public meeting. He bows seven times at the ceremony to lay He Long's ashes to rest in deep sorrow for the friend who once fought with him. He toasts wine with local officials while discussing how to relieve poverty in Yan'an, one of the cradles of the Chinese revolution. He insists on personally addressing the Great Hall of the People at the 25th anniversary of the founding of the People's Republic of China despite his poor health. All these scenes are linked to

the final sequence, which borrows footage from a documentary to show millions of people in Beijing paying tribute to his passing hearse.

Only due to Ding's courage to look squarely at history with a broad vision did the movie manage to showcase Zhou's charisma and resonate with the Chinese audience. About one hundred million Chinese people have seen the movie.

Complementing Ding's ability to bring out emotion, enormous sets and authentic props added rich flavor to the movie. The film achieved an unprecedented sense of reality because many shots were actually filmed in Zhongnanhai, China's political center. Real props also amplified the sense of reality. "When we filmed the ceremony to lay He Long's ashes to rest, once the actual box of his ashes was brought in after I requested it. Many extras couldn't help but cry on the spot."



The reform and opening up had an enormous influence on Ding's generation. In 1992, it dawned on him to make a biographical film for Deng Xiaoping, the chief designer of the policy. Not until 2000 was the script finally completed with the help of his son Ding Zhen and repeated revisions. And he conquered many unimaginable challenges in filming it. The movie finally hit screens in 2003.

It was filmed in the Great Hall





of the People, Zhongnanhai, Deng's former residence, Chairman Mao Memorial Hall, Forbidden City and the office of the Organization Department of CPC Central Committee and more. The most difficult scene to reenact occurred on the Tian'anmen Rostrum. In the scene, over 200 cars were parked to the north of the Tian'anmen, and over 1,000 actors and actresses stood on the top of the rostrum. All the

A photo of the crew shooting Sun Yat-sen. The film was released in 1986. courtesy of Ding Zhen



A still from the film *Back Light*. The movie, filmed in the 1980s, helped Ding Yinnan emerge as a standout figure from the fourth generation of Chinese film directors. courtesy of Ding Zhen



effort was made to shoot the scene of Deng reviewing a military parade in celebration of the 35th anniversary of the founding of the People's Republic of China.

The scene turned out impressive: Deng walks out of his residence and takes a car down a quiet street to the Tian'anmen Rostrum where hundreds of black Hongqi cars are parked. He climbs to the top of the rostrum and waves to the crowd. The square vibrates with thundering cheers. Silence rises to jubilant excitement, creating a sense of growing magnitude.

The two celebrations, for the 25th and 35th anniversaries of the founding of the People's Republic of China, respectively, are connected by a sense of ritual and rhythms of narration. From 1974 to 1984, from the Great Hall of the People to the Tian'anmen Rostrum, from Zhou Enlai to Deng Xiaoping, Ding linked the two figures together through internal logic of the two scenes in different time and space.

"It was my destiny to film Deng Xiaoping after Zhou Enlai," Ding declared. "As I see it, Zhou's unfinished work was finally completed by Deng."

#### Salute to Cultural Icons

Culture demands more attention in contemporary China. After filming *Deng Xiaoping*, Ding Yinnan and his son turned their eyes from political titans to cultural masters.

Completed in 2005, Ding's Lu Xun represented dual transformations of his work, from political figures to cultural icons and from revolution-centered topic to culture-centered theme. Lu Xun, a figure who combined revolutionary and cultural identities, seemed like a



Ding Yinnan (*left*) and his son Ding Zhen pose for a photo at the launch ceremony of the filming of *The Calligraphy Master*. The film was released in 2015. courtesy of Ding Zhen

natural choice for Ding.

The film focused on the last three years of Lu Xun's life in Shanghai, in which discussion of "death" is persistent. Numerous subjective shots and surreal images took the audience along on the inner struggles of the hero facing death. At the beginning of the film, the director had Lu intricately brush past figures from his novels in his hometown, setting the main tone for the film. Another brilliant scene features snowflakes falling from the sky as Lu falls in sleep after an in-depth talk with his soulmate Qu Qiubai. In the film, after visiting the print exhibition of Kaethe Kollwitz (1867-1945), a German socialist, Lu dreams of standing guard at the gate of darkness, herding young people towards brightness, a scene engineered to echo his call for students from Beijing Normal University to never settle for the status quo and become the intellectuals speaking for the public at every opportunity. It illuminates Lu's spiritual core and vividly presents an elderly sage dedicated to promoting science and democracy.

Another scene showed Lu as a loving father. Haiying, his son,

renews Lu's lust for life. By showing them bathing together and playing around on the floor while speaking the Shanghai dialect, the sequence displayed that Lu, a literary master, was also a man of delicate emotion and passion for family life. In the film, the night before Lu dies, his soul comes to his son's bedside to bid farewell, and then a light leads to the next morning when Haiying comes down stairs. Then many people are surrounding Lu's remains. The scene proved particularly touching with viewers.

In 2017, Ding Yinnan and his son produced *The Calligraphy*Master, the story of Aisin Gioro
Qigong, which was dedicated to
"ordinary but great teachers."

Despite being a famous calligrapher,
Qigong often chose to avoid fame
and official positions in favor of
working as an ordinary teacher.

"During China's ups and downs, educators remained firm and tenacious, serving as the backbone of the Chinese nation," Ding explained on his choice of subject. "Qigong's generation of educators had the will of self-sacrifice for the nation and instructed so many high-caliber

people who served China. I shot Qigong because I wanted to draw attention to dedicated educators, who I consider the hope for the Chinese nation's future."

"China has endured many transformations, and it's time to recognize the strength of traditional Chinese culture and pay attention to cultural inheritance," opined critic Jin Fei. "The Chinese intellectuals of today have lost the past aura and influence. The film about Qigong aims to stimulate the return of a grand ethos."

Ding likened Qigong's life to a history book of modern and contemporary China, covering several important periods in China such as the Revolution of 1911, the War of Resistance against Japanese Aggression, the early days of the People's Republic of China, and the four decades of the reform and opening up. Qigong's teachers as well as his students, generation after generation, contributed to the continuous passing down of Chinese culture.

The film depicts the "cultural revolution" as a break from cultural education, yet calligraphy was such an important part of traditional Chinese culture that it survived the chaos. Liu Yuchen, once a captain of a unit of destructive Red Guards, became a student of Qigong and later an educator. This episode evidenced the strength of Chinese culture as well as the people's confidence in it.

Co-directed by Ding Yinnan and his son Ding Zhen, the film demonstrates senior Ding's mentorship with a grasp on the pulse of the times. The film itself is symbolic for the inheritance of Ding's directing style.



# From a Desert to an Oasis Text by Meng Qi

Addressing the worldwide problem of desert control, people in Youyu County ignited a Chinese miracle with perseverance and contributed Chinese wisdom to the global fight against desertification.

he Mu Us Desert covers 42,200 square kilometers on the border between Shaanxi Province and Inner Mongolia Autonomous Region. Once upon a time, it was a breathtaking pasture with lush plants and beautiful scenery. Due to perennial unsustainable reclamation and war, the vegetation gradually disappeared and the area turned into a desert.

Since 1959, the Chinese government has been vigorously advocating windbreak construction and desert transformation. Through the unswerving ecological rehabilitation efforts of several generations, preliminary success has been achieved. More than 6 million *mu* (400,000 hectares) of quicksand in the Mu Us Desert finally stopped advancing and turned green.

#### **Once Barren Land**

Located on the edge of the Mu Us Desert, Youyu County was known as China's "Desert City" 60 years ago. Situated less than 100 kilometers from the main wind gap of the Mu Us Desert, it was once a "sand sea."







According to official records of Youyu County, in 1949, there were only 8,000 mu (533 hectares) of residual forests on the 3 million mu (200,000 hectares) of land in the county. Forest coverage rate was less than 0.3 percent, desertification ratio was 76 percent, and soil erosion ratio was 73 percent.

This caused a peculiar phenomenon: Doors and gates of local residences were all inwardopening. "Sand piled half a door high after a windstorm," explains Wang Degong, former chairman of the county committee of the Chinese People's Political Consultative Conference (CPPCC), who is now in his 70s. "Doors simply could not be opened outward. People could only pull them from the inside, let the sand flow into the house, and then clean it up."

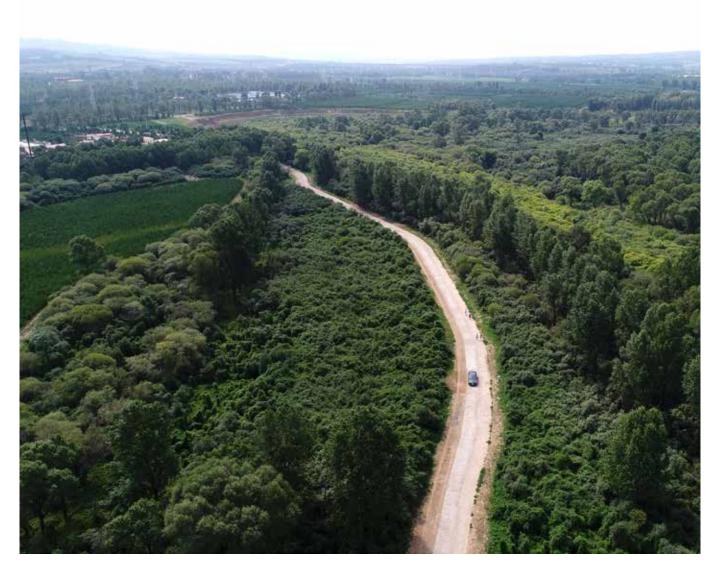
A ballad depicting the state of living in Youyu County still circulates there. "Wind blows throughout the year," it goes. "During the daytime lamps are on; during the night, doors are barricaded by sand. Sand flies high when the wind blows; floods will come when it rains. Men are forced to leave their hometown to earn bread; women stay and live on wild vegetables."

Foreign experts surveying the harsh environment of the county declared the area unfit for human habitation and suggested that the entire population be relocated.

### Miracle Through Perseverance

That proposal was not adopted. People in the county believed that they could change the environment and vowed to "dress the sandy city in green."

Since the 1950s, the promise of "giving green space to the desert"



The Cangtou River Ecological Corridor in Youyu County is covered with lush vegetation. Today, the county features 1.5 million mu (100,000 hectares) of green area. by Zhan Yan/Xinhua

in Youyu County has continued to this day. Over more than 60 years, 20 successive Party secretaries in the county have continued to pursue "contribution to the final success" and led the entire county in efforts against desertification. But since sand moves with the winds, it has not been easy to plant trees.

Now, people are seeing a peculiar phenomenon in Youyu County: Taller tree species grow low, and their branches tightly wrap around the treetops like huge furled umbrellas. However, thanks to unexpected help from this oddity, the county created

an ecological miracle by building a green city in the desert.

"In the first two years, the trees we planted were always blown away by the wind," recalls Yang Xi, a villager in his 80s. After continuous failures, they gradually worked out planting methods which they call "boot wearing," "cap wearing" and "belt tying."

"Boot wearing" is creating shoring forests resembling wild goose wings to prevent dry sand from moving. "Cap wearing" refers to making ditch nets on flowing sand dunes and strengthening saplings

with ropes, to fix sand dunes. "Belt tying" stands for building mid-hill windbreak belts to reduce wind force.

To avoid being uprooted by strong winds, all the trees in Youyu County are planted so deep that almost all the tree trunks stay buried in the sand, exposing only the canopy. This limits the growth of the trees, and the crowns are only one meter high above the ground. Due to winds blowing all year round, the branches grow upward, forming a strange scene. The trees are often referred to as "little old trees" because they stop growing so early.

Thanks to the wisdom of the Youyu people and their tireless efforts for more than 60 years, the forest coverage rate in the county has grown from less than 0.3 percent to 54 percent, 20 percentage points higher than the national average. The barren land has been transformed into an oasis.

Tree species have increased from less than 10 to more than 30 kinds. The number of herbal species has reached 45, and more than 50 species of wildlife live there.

Today, Youyu County features 1.5 million *mu* (100,000 hectares) of green area and an estimated 100 million trees. If the trees were lined up one by one at an interval of one meter, they would extend for 100,000 kilometers, 2.5 times around the equator.

A microclimate has formed due to the good ecology brought about by the vegetation. The average wind speed has decreased by 29.2 percent; its average annual rainfall is 30-40 millimeters higher than the surrounding area. According to statistics of the past five years, the annual average temperature of the county has risen from 3.6 degrees Celsius in the mid-20th century to 5.2 degrees Celsius at present, and the frost-free period has increased from

less than 100 days to 123 days.

### Chinese Answers to Desert Control

In 1977, the Action Plan to Combat Desertification was formulated at a United Nations conference on desertification. Desertification was put onto the international agenda as a global economic, social and environmental issue. In 1992, at a United Nations conference on environment and development, desertification control was included in Agenda 21. In 1994, the United Nations Convention to Combat Desertification (UNCCD) was passed in France. In October of that year, China acceded to the convention.

With a recorded history of 5,000 years and a population equal to one fifth of the world's total, China is among the most severely affected by desertification and water scarcity.

According to the Global Desert Outlook published by the United Nations Environment Programme, the issue of desertification is worsening. More than 40 percent of the earth's land is dry land, and one third of the world's population lives in arid areas. Desertification has become a global environmental and social problem that cannot be ignored.

Addressing the worldwide problem of desert control, people in Youyu County ignited a Chinese miracle with perseverance and contributed Chinese wisdom to the global fight against desertification.

The director-general of the UNCCD once commented: China deserves world tribute for its practice in controlling the Mu Us Desert.

Now, lush woods grow in Youyu, and it is hard to imagine that the county was once a desolate desert. 47

Dating back to the 1960s and 1970s, Youyu County natives planted trees on barren mountains. Xinhua







### **Icy Sports En Vogue**

Text by Zhang Xue

With the Winter Olympics baton being passed to Beijing, Chinese people's enthusiasm for ice and snow sports has been further stimulated.

hen the curtain fell on the Pyeongchang Winter Olympics, the baton was passed to Beijing. China set a goal of attracting 300 million participants to ice and snow sports in its bid for the 2022 Winter Olympics. After a boost in resorts and facilities for skating and skiing, public enthusiasm for ice and snow sports has exploded. Winter sports venues have now become hot during the cold months.

### **Skating Becomes** a New Fashion

In the northeastern Chinese city of Changchun, Jilin Province, the local winter is known for "thousands of miles of ice and snow in the Northland." One of the most popular winter activities in the region now is snowboarding down ski runs through pristine forests.

"Since it opened in 2012, the visitor volume of our ski resort has increased by 50 percent year-on-year. Skiing, once an elite tourist activity, has become a part of life for many local people," notes Chen Yafeng, general manager of the Miaoxiang Mountain Ski Resort in Jiutai

District, Changchun.

A decade ago, a handful of novices falling down were the only people found at the ski resort, but today skilled amateurs equipped with the most expensive equipment available are commonplace.

Ten-year-old Ma Heze from Jiutai District is a VIP member of the ski resort after four years of skiing and snowboarding experience. "It's so fun to take my snowboard down the advanced ski runs," he grins. "Many of my classmates also come here to ski." Schools in northeastern China usually close for about two months during winter vacation, and Ma Heze spent nearly half that time at the ski resort.

To meet the increasing demands of skiers, many resorts now offer night skiing. "Every day after work, I drive here with my friends and spend two hours skiing," says Li Hongbao, a 39-year-old regular. "It is really exciting and quite addictive."

After Beijing's successful bid for the 2022 Winter Olympics, the ski competition venue in Chongli County, over 200 kilometers away from Beijing, in Hebei Province, has become a favorite destination for

Chinese skiers. By early 2017, there were 34 ski resorts in Hebei Province, covering a total of more than 230 million square meters. Most of these resorts are located in Chongli.

Ski camps have been the flagship winter activity of Men's Club, a training institution in Beijing specializing in cultivating boys' interests in sports. Every winter, the club organizes winter camps in Chongli for boy skiers from 6 to 12 years old.

"Although many training institutions are offering ski camps this year, our ski camps still fill up," beams Zhao Xiaohua, a teacher and recruiter for Men's Club. With major ski resorts in Chongli getting increasingly popular, overcrowding has become the norm, making it more difficult to book rooms at local hotels during the busy season. As a result, operators of the ski resorts have become reluctant to work with outside business partners.

### Figure Skating: From Professional to Mainstream

With the popularity of ice and snow sports, some sports once only accessible to the elite are now widely popular with people from all walks of life.

Zhao Yang, a 43-year-old retired figure skater who was formerly a member of the Jilin provincial skating team, is now a coach at Beijing Century Star Skating Club. Under the guidance of Zhao, Chen Hongyi, a trainee in the club, is hoping to one day make the Olympics.

Beijing Century Star Skating Club, located in the Capital Stadium, was China's first skating club. Its founder won several national championships in figure skating. Presently, Zhao Yang teaches more than 30 students from age three to over forty in the club.

Although most of his students are amateurs, some have skill on

par with top-level professionals. For example, Chen Hongyi won a national championship in a junior race. The 16-year-old girl is tall and slim and shows outstanding technique after eight years of coaching by Zhao. In China, skaters of her caliber are usually professional athletes in provincial or municipal teams, but Chen is determined to complete school and keep training on the side. Despite the long hours she devotes to the ice rink, she still ranks in the top 10 of her class in academics.

With Chen's steady improvement, Zhao Yang is hopeful that she will make her way to the 2022 Winter Olympics. "Since Beijing won the bid for the Winter Olympics, more and more children are now learning to skate, and the government has strengthened its support for ice and snow sports," says Zhao. "In honor of Chen's good performance in professional events, the club has reduced her training tuition and waived entry fees for the games good news for her family. We hope she will take this opportunity to continue her progress and eventually qualify for the 2022 Winter Olympics."

"I'm particularly happy to see these children acquire essential techniques little by little and apply what they learn here in competitions," continues Zhao. "Coaching is completely different from being an athlete. Unlike my generation, nowadays children all like skating, and young students show more enthusiasm and savvy

than in days past." Campus Ice and Snow Program

"By 2020, the total size of China's winter sports industry will reach 600 billion yuan," estimated Li Yingchuan, assistant director-general







February 2017: A coach instructs children at a ski camp held by Men's Club in Chongli County, Hebei Province. courtesy of Men's Club

of the General Administration of Sport, in his opening remarks at the 2017 World Winter Sports Exposition (WWSE). "By 2025 it will reach 1 trillion yuan."

In 2016, China's General Administration of Sport issued the Ice and Snow Sports Development Plan (2016-2025). According to the plan, a "Campus Ice and Snow Program" is to be organized to support teaching winter sports involving the following tasks: complete the compilation of the Guide to Ice and Snow Sports Campus Teaching in 2018, complete training of 5,000 full-time or part-time teachers for ice and snow sports by 2020, and increase the number of primary and secondary schools featuring ice and snow sports programs nationwide to 2,000 by 2020 and 5,000 by 2025.

Thanks to the impetus of such national policies, the municipal government of Beijing issued a plan in June 2017 to "promote and popularize winter sports in Beijing primary and secondary schools by 2025," which will be fully carried out across the 16 districts and counties of the capital city. A series of winter sport activities, including inline skating, floor hockey, curling and other ice and snow activities, will be introduced into campus. Additionally, students will attend lectures from Olympic champions and view exhibitions on the Winter Olympics. A total of 52 schools offering ice and snow sports programs have been authorized by the municipal government of Beijing. According to authorities, the number of schools characterized by

ice and snow sports in Beijing will reach 100 by 2020.

Chen Liren, a member of the National Committee of the Chinese People's Political Consultative Conference (CPPCC) and president of the Competitive Sports School Affiliated to Beijing Sports University, once said at a CPPCC meeting: "The cultivation of sport habits among teenagers will increase overall consumption of sport activities, while sporting events will enhance public interest in sports."

When the 2022 Beijing Winter Olympics arrive, the time will come for young athletes now skiing and skating through the snow and ice this winter to prove themselves in the international arena. We are looking forward to 300 million Chinese winter sports lovers cheering for them.



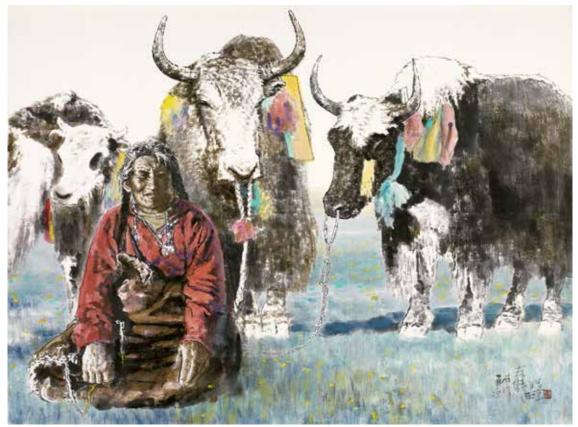
### Portrait of Modern Chinese Painting Wang Xijing's Ink

Text by Shao Dazhen

To create modern Chinese painting art, Wang Xijing has been constantly exploring the infinite possibilities of freehand brushwork in Chinese ink and wash painting.

Wang Xijing, born in Xi'an in China's northwestern province of Shaanxi in 1946, is a member of the China Artists Association (CAA) and the Chinese Painting Art Committee under the CAA. He serves as deputy director of the Chinese Painting Institute and part-time professor at the Chinese National Academy of Arts. He is also a member of the 12th National Committee of the Chinese People's Political Consultative Conference (CPPCC) and a deputy to the 9th and 10th National People's Congress (NPC).

He has held more than 30 exhibitions in Britain, France, Singapore and elsewhere and won numerous honors and awards at home and abroad, including the title of "National Expert with Outstanding Contributions" from the State Council of China and the special award of the annual international Salon exhibition in the Louvre.



Spring in the Air, 170×126cm, 2017

onsidered one of China's most representative figure painters by Liu Dawei, president of the CAA, Wang Xijing and his work have exerted a profound influence on the development of Chinese figure painting.

After studying his ink and wash paintings and following his artistic development path over the decades, it is clear that Wang is a painter with cultural self-consciousness and the ability to advance with the times. His works reflect the

changes of his times from social consciousness to aesthetic ideals. And his personal aesthetic tendency reflects his deep understanding of traditional Chinese art.

Wang Xijing began working after graduating from art school in 1968. By copying ancient figure paintings and comic paintings, he honed his skills, especially in linebased Chinese painting.

From 1969 to 1974, he created two outstanding comic books, The Vietnamese Heroine and Arrows Whistling through the Forest, which raised eyebrows in art and comics circles.

In 1978, he edited and published the book Techniques of Line-Drawing in Chinese Figure Painting, which systematically introduced and detailed line-drawing techniques of traditional figure painting. The work also demonstrates that Wang understood the value of traditional Chinese painting earlier than his peers.

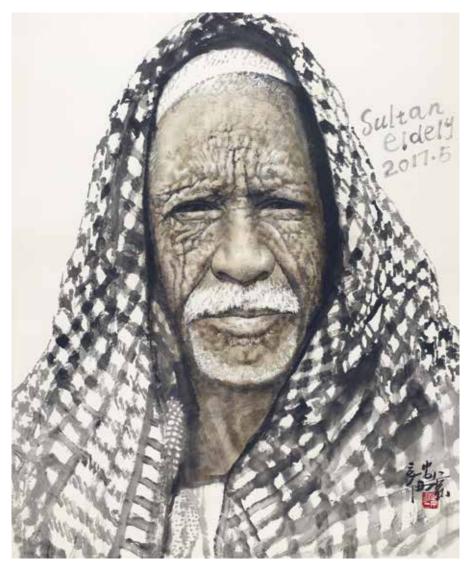
In the 1980s and 1990s, the collision between Chinese and Western arts exerted a profound influence on traditional Chinese art, transforming it into modern art, especially the field of figure painting.

Creating "new-style" ink and wash figure paintings with both strong traditional Chinese style and modern appeal is a difficult but worthwhile art project that requires continuing efforts of artists across generations.

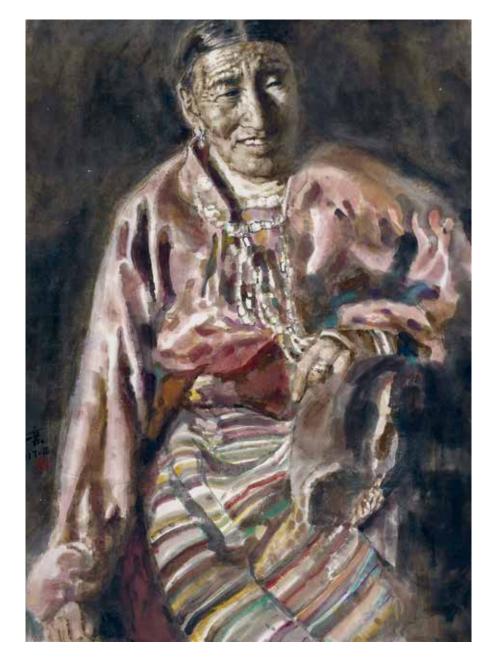
When Wang began exploring the realm of modern figure painting, he recognized this problem. By studying a series of historical figure paintings, he gradually devised a method to solve it. Disappearing Footsteps, a work completed in 1984, most distinctly embodies his achievements during this era.

After the mid-1980s, Wang's understanding of the traditional cultural spirit as well as the unique concepts and skills of Chinese painting deepened exponentially. New artistic pursuits and drastic changes in artistic style can easily be pinpointed in his work during this period of time.

In a series of historical figure paintings represented by China's Revolutionary Leaders and Lu Xun (1881-1936, contemporary Chinese



An Old Sudanese Man, 126×100cm, 2017



Amma, 121×94cm, 2017.

writer and thinker), he placed more focus on increasing the expressive force of the lines and the role of void in the layout, strategies more in line with freehand brushwork and traditional Chinese cultural spirit. He concealed realism while allowing it to still be felt, especially in character-shaping.

Wang Xijing attributes the change in style to the accumulation of practical experiences and a new

understanding of Chinese painting. From a wider perspective, it is the logical evolution of Chinese painting that combines "old" (ancient Chinese painting tradition including literati painting) and "new" (tradition since the May Fourth Movement).

We must face the fact that contemporary Chinese figure paintings are rooted in the profound tradition of Chinese culture and art. However, this does not mean that we should simply cling to the old way, but instead draw important nourishment from profound cultural traditions such as literati painting. New-style realistic figure paintings must reflect the Chinese spirit.

Wang Xijing clearly grasps the essence of the problem and seriously considers the important concepts of "Chinese tradition," "time" and "personality."

This is why the change in his painting style is natural. We can see that many of his figure paintings feature ancient literati or poets and place particular attention on the usage of traditional ink painting techniques. More importantly, these paintings feature the most distinctive characteristics of Wang Xijing: fresh style and elegant, vivid and robust images.

By deeply understanding the philosophy, style and skills of traditional Chinese art while maintaining a broad cultural vision, Wang Xijing has developed the belief that an artist should make efforts to bridge traditional and



Eagle (Kazakhstan), 137×144cm, 2017.

modern arts. To create modern Chinese painting art, he is constantly thinking and creating. Some of his works have transcended the scope of figure painting, showing artistic conception with concise, implicit or even obscure techniques, reflecting his feelings about life, history and

the universe. He is dedicated to exploring the infinite possibilities of freehand brushwork in Chinese ink and wash painting. 47

The author is a contemporary Chinese painting theorist and Chinese ink painter.



## The Tale of Chinese Medicine

Editor-in-Chief Song Yan, Zhonghua Book Company, January 2018

Through The Tale of Chinese Medicine, readers can get to know the profound culture of traditional Chinese Medicine.

raditional Chinese medicine is representative of the profound philosophical wisdom and thousands of years of healthcare practice in China. It is a gem of ancient Chinese science as well as a passport to the wider glimpse of Chinese civilization at large. It has

played a key role in the growth and prosperity of the Chinese nation. "Herbary" is the general name of traditional Chinese medicine in ancient Chinese books. The earliest Chinese medical monograph was Shen Nong's Herbal Classic dating back to the Han Dynasty (202 B.C.-A.D. 220). In the Tang Dynasty (618-907),

Tang's Newly Revised Materia Medica issued by the government became the world's earliest pharmacopoeia. Famous Chinese medical expert Li Shizhen (1518-1593) of the Ming Dynasty (1368-1644) wrote the 52-volume masterpiece titled Compendium of Materia Medica, compiling a comprehensive



Wild ginseng, a rare herb from the Changbai Mountains in northeastern China. According to traditional Chinese medicine, ginseng helps reinforce vital energy.

reference for Chinese medicine before the 16th century and making a significant contribution to the future development of Chinese medicinal pharmacology.

This book was adapted from the first season of the documentary The Tale of Chinese Medicine, a new and moving work illuminating mysterious Chinese medical culture. The documentary was first aired on May 20, 2016. Supported by the Publicity Department of the National Health and Family Planning Commission of China, the film was produced under the supervision of the Chinese Population Culture Promotion Association and under the professional guidance of the General Office of the State Administration of Traditional Chinese Medicine. It has won numerous awards including Special Mention in Anthropological Concern Documentary Category at the 2016 International Gold Panda Documentary Festival and Best Chinese Series Award at the 2017 Beijing International Film Festival. It has become a torchbearer for traditional Chinese medical culture.

The book, *The Tale of Chinese Medicine*, fully narrates the original documentary. Making Chinese

medical providers the soul, it leads readers deep into the mysterious world of traditional Chinese medicine. While exploring authentic Chinese medicine, recording herbal processing skills and introducing medicinal principles, it expounds the profound culture behind traditional Chinese medicine. A new chapter not in the original documentary was added, which records the most often applied medicinal materials in ancient China according to ancient Chinese books, poetry, and anecdotes. The chapter also includes in-depth interpretation of herbal medicine, diet prescriptions and daily healthcare content to fill the

Cui Chang'an, an experienced ginseng hunter in the Changbai Mountains, carefully digs for ginseng with a stick made of deer bone. The root hair of the ginseng is often intertwined with the roots of nearby plants in the ground, making it a tough job to dig out ginseng without hurting its root hair.

#### • CULTURE



Dried pomelo peels, made of rinds of pomelos native to Huazhou, Guangdong Province, are noted for their effectiveness in relieving coughs and reducing sputum. Techniques to make dried pomelo peels can be traced back to the Chenghua reign (1465-1487) of the Ming Dynasty (1368-1644), which have since been passed down from generation to generation. These pictures show the process of making dried pomelo peels.



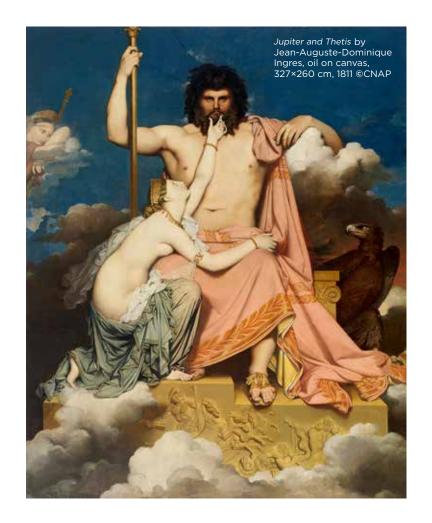
The retired head of Zhejiang Tonglu Pharmaceutical Company makes red yeast. Red yeast is a medicine made from fermented red yeast rice. It can produce lovastatin, used to lower cholesterol.

Yu Botang and his student Cheng Dong make herbal paste at Huichuntang, a time-honored Chinese pharmaceutical company in Hangzhou, Zhejiang Province. Herbal paste is a traditional Chinese medicine rich in nutrition and effective in preventing illness.



book with more valuable knowledge for practical use.

Nearly 800 beautiful pictures were carefully selected for this book, including many in color from the ancient traditional Chinese medicine book Graphics of Medicinal Minerals, Insects and Plants by Ming Dynasty painter Wen Chu. Its illustrations include graphics of herb gathering, images of medicinal herbs and an elaborate medicine map that visualizes the multiple realms and distribution areas of medicinal plants. Through this book, readers can get to know the profound culture of traditional Chinese medicine and soak in the brilliance of timeless Chinese civilization.



# Academy and Salon Exhibition

Text by Yi Mei

From January 30 to May 6, 2018, the Academy and Salon exhibition is running at the National Museum of China, at which 103 academic art works from the French Revolution to the First World War are on display.

upiter and Thetis, a famous painting by French artist Jean-Auguste-Dominique Ingres (1780-1867), was removed from its original frame, placed into a custom-tailored box and flown to China for its first trip away from Europe and inaugural exhibition in China. This is also its first departure from its home museum in the past 40 years.

From January 30 to May 6, 2018, the Academy and Salon exhibition is running at the National Museum of China, at which 103 academic art works from the French Revolution to the First World War are on display. The works are from collections of two important French institutions: Ecole Nationale Supérieure des Beaux-Arts (ENSBA) and

Center National des Arts Plastiques (National Center for Visual Arts, CNAP).

#### Artistic Dialogue

Academic art originated in Italy in the 16th century and became popular throughout Europe, particularly in the UK, France and Russia. It was also a popular subject at various art schools throughout the 18th and 19th centuries. Boasting a long history of over 300 years, ENSBA is an institution that exerts far-reaching influence on European art as well as the 20th-century Chinese works. The first generation of Chinese oil painters and painting masters including Xu Beihong, Lin Fengmian, Chang Shuhong, Fang Junbi and Liu Kaiqu ever studied at the school.

Feverishly Sick by Chang Shuhong, oil on canvas, 58×74.5cm, 1931 ©CNAP



#### CULTURE

ENSBA's academic system has become a model for other art academies. Since its founding in 1648, the school has collected more than 450,000 works and shared them with the public through exhibitions and lending to other institutions.

Some of the exhibits are from CNAP, which is a national art collecting institution bestowed with the right to manage the registration of public collectibles throughout French history. To promote and increase the value of its collection, the center often lends its collections to various museums. The center's widely diverse collection includes works from Chinese artists who studied in France. Chang Shuhong's Feverishly Sick depicting Chang's sick wife is among them and featured at the exhibition.

"The first Chinese work to join the CNAP's collection was a painting depicting Luxembourg in the snow, completed by Liu Haisu (1896-1994) in 1931," reveals Anne-Sophie de Bellegarde, general secretary of CNAP. "We do

not have a regular venue for display but instead loan works to museums and institutions. About 2,000 works from our collection are shown around the world each year, which effectively keeps these works popular and enhances the influence of French culture and art."

#### Sacred Hall of Beauty

The first section of the exhibition is titled "Ecole Nationale Supérieure des Beaux-Arts: Sacred Hall of Beauty."

The rediscovery of Pompeii inspired the rise of neoclassicism in the early 18th century. ENSBA tightly embraced neoclassicism as an academic style in the 19th century, so curators chose the red walls of Pompeii as the background for this section.

This section demonstrates how ENSBA nurtured artists in the 19th century and how contest systems like the Grand Prix de Rome shaped the styles of artists. Students at ENSBA receive strict systemic training

Friday at French Artists' Salon by Jules-Alexandre Grun, oil on canvas, 362×617cm, 1911 ©CNAP



including copying classics, sketching and learning anatomy. Ingres, once the president of the school, stressed on the importance of practicing sketching. "Sketching is the gymnastics of art," Ingres said. That sentence was so impressive to Xu Beihong, who studied at the institution before becoming the president of the Central Academy of Fine Arts of China, that he introduced sketching into China's academic teaching system for art.

ENSBA opened a satellite campus in Rome in 1666 and encouraged promising French artists to stay in Rome to study for three to five years on the state's dime. Only the winners of the Grand Prix de Rome were offered such an opportunity. Consequently, competition in the Grand Prix de Rome during the school year was intense and featured many big names.

"Before they became artists, young students received training and took part in various competitions," explains Philippe Cinquini, the exhibition's French curator. "Winning the most prestigious art award, Grand Prix de Rome, ensured that their works would be shown in the Salon exhibition, the most important art display of that time. This exhibition traces the artist's journey from student to salon artist."

"The exhibition displays the full story of French art in the 19th century," adds Pan Qing, the exhibition's Chinese curator. "This shows how an art student became an art celebrity in the 19th century in France."

#### Mirror of Times

ENSBA's Salon Exhibitions also contributed greatly to the prosperity of French art from the 18th to the 19th century. Since 1737, the school has held an annual Royal Painting and Sculpture Salon Exhibition at the Salon Carre in the Louvre, which later became known as the Salon Exhibition. The exhibition mechanism provided artists with new fans and sponsors, stimulating a more energetic and diverse art circle and new art trends.

Against a Napoleon green background,



The Second Courtyard of the École des Beaux-Arts by Charles-Léon Vinit, oil on canvas, 91×115 cm, 1850 ©ENSBA

the second section of the exhibition, titled "Salon: Stage of Art, Mirror of Times," displays stand-out works from previous Salon Exhibitions including Ingres' Jupiter and Thetis and Jules-Alexandre Grun's Friday at French Artists' Salon. The latter depicts 111 real people including artists, the thenpresident, collectors, reporters, singers, dancers and dramatists. It was finished in 1911, the 30th anniversary of the Salon Exhibition. This painting measures 3.6 meters high and 6 meters wide. Because it was too big to be placed upright on the plane for transportation from France to Beijing, staff had to remove the painting from its original frame and roll it up to transport it. The work was accompanied by a restoration expert throughout the trip.

"We are honored to display works from Chinese artists Chang Shuhong and Fang Junbi, who once studied in France," says Philippe Cinquini. "The 19th century was a century of art for France. Art was a mirror, reflecting advancing science and democracy at that time. And it was also art that connected France and China."

#### **Nation and Times**

#### Xu Beihong Thematic Creation Exhibition

January 25 - March 4, 2018 National Art Museum of China, Beijing

Xu Beihong (1895-1953) was a major painting master in China's art circles. Xu was born in Yixing in southeastern Jiangsu Province and once served as president of the Central Academy of Fine Arts.

By integrating both the precision of sketching and colors of Western oil painting into Chinese painting, Xu created an unprecedented style that exerted a profound influence on Chinese painting—so much so that he is widely recognized as the father of modern Chinese painting.

This exhibition features over 100 pieces of Xu Beihong's paintings that are considered landmarks of the times and maintain great historical value. They are divided into three sections.

Part One is "National Spirit," wherein patrons can find representative masterpieces including When Faith Moves Mountains, The General Assembly for World Peace, and Join Forces in Tokyo. Part Two is titled "Graphic Narrative," and features rough sketches and line drawings of Xu Beihong as he was developing When Faith Moves Mountains and others. Many sketches are being shown to the public for the first time. Part Three is "Woes of the Family and Country," which showcases Xu's works of national symbolic significance such as Horse, Lion, and Eagle, as well as a series of sketches on thematic creations.



Galloping Horse, ink and color on paper, 130×76cm, 1941, collected at Xu Beihong Memorial Museum.

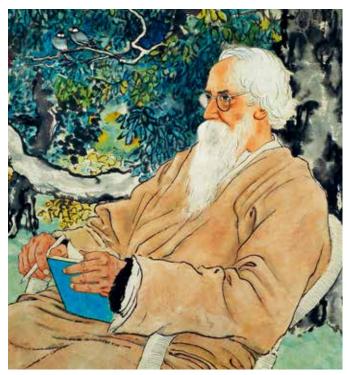
Join Forces in Tokyo, ink and color on paper, 113×217cm, 1943, collected at Xu Beihong Memorial Museum.



Tian Heng and His 500 Retainers, oil painting on canvas, 197×349cm, 1930, collected at Xu Beihong Memorial Museum.



Portrait of Rabindranath Tagore, ink and color on paper, 51×50cm, 1940, collected at Xu Beihong Memorial Museum.





Poster for Today Wall Power—The 3rd Edition of Wallpost Artist Exhibition.

#### **Today Wall Power**

#### The 3rd Edition of Wallpost Artist Exhibition

January 18 - March 11, 2018 Today Art Museum, Beijing

Launched in 2013, the "Wallpost Artist" project is a public art activity aiming to discover and promote contemporary young artists. The project draws hundreds of young artists every year. Since 2016, the project has cooperated with Today Art Museum to present the Today Wall Power—Wallpost Artist Exhibition.

This year, the museum selected a collection of works from 35 artists out of 103 nominees. Featured works cover fields such as conceptual art, multimedia art, installation, video and performance art. The themes focus on various dimensions including new media, time, identity, and more.

#### **Curtain Painting: Tranquilization**

January 19 - March 20, 2018 Between Art Lab, Shanghai

Jin Yangping is a contemporary Chinese artist born in 1971. His works not only demonstrate his concern for, and engagement in, social reality, but also feature multiple perspectives and relatively individual expression.

This exhibition presents a selection of his recent works. By adopting approaches of close-up and magnification, Jin interprets social reality with curtaining painting, demonstrating his intimate sensitivity to reality.

Jin Yangping graduated with a degree in oil painting from the China Academy of Art in 1997, where he now teaches.



Poster for the "Curtain Painting: Tranquilization" exhibition.



Poster for the "What It Meant to Me Will Eventually Be a Memory" exhibition

### What It Meant to Me Will Eventually Be a Memory

December 16, 2017 - March 31, 2018 Times Museum, Guangzhou

This exhibition is the fifth edition of the Banyan Commune Artist Residency Project organized by the Times Museum in Guangzhou, Guangdong Province.

As a community project space, the Banyan Commune was launched and opened to the public in 2016. The project is held twice a year. Each edition is planned by different artists, who designate a specific community as a research sample to explore the deep relationship between the museum and the surrounding neighborhood.

The exhibition was founded by Bangkok-based artist Henry Tan (nicknamed "Ar Liang" in Guangzhou). During his six-week residency, Ar Liang carried out an exploration of the museum's surrounding area, the Huangbian Community, and collected a lot of old items and interesting stories from community residents, which resulted in this exhibition.

Now, artists have drawn a "Huangbian memory map" and invite even wider participation.



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