

Dialogue

An Inspiration Beyond Borders

By BI Weizi & LONG Yun

Professor Therese Hesketh is both deputy director of the Global Health Center at Zhejiang University and a researcher of the Institute of Global Health at University College London. Hesketh graduated from medical school in 1983 and received her PhD in 2001. She came to China in 1986 as a clinician and manager for NGOs, WHO and UNICEF, leading the establishment of the first pediatric and neonatal intensive care units (NICU) in the cities of Shanghai, Hangzhou, and Xi'an. In 2016, she was invited to establish a Center for Global Health at Zhejiang University to provide constructive advice in the field of health for cooperation between China and other countries.

She spoke to *Science and Technology Daily* recently about her decades of first-hand experience of the amazing progress that has taken place in China, especially in maternal, newborn, child and adolescent health, and described how a combination of economic growth and sci-tech development has led to this progress.

China's first NICU center

The fact that many children were dying from conditions that could have been treated, motivated Hesketh to come to China with an NGO and lead a team to build the first-ever neonatal intensive care unit. Over the next several years, despite the challenges of the difficult living and working conditions, she was actively involved in developing basic neonatal care protocols for eleven of China's provinces, as well as other programs such as immunization, malaria



Professor Therese Hesketh. (COURTESY PHOTO)

control, and safe motherhood. Her team's hard work paid off, as Hangzhou's maternal and infant mortality rates dropped significantly, even below many U.S. cities.

"As a foreigner in my early days, children were actually quite afraid of me in children's hospital, because they had never heard someone speaking a foreign language before," she recalled. Today foreigners are a common sight in China.

The biggest change she has seen in the health of the population is the survival rate of newborn babies. "When I first came to China, many babies died prematurely. But now the survival rate has improved tremendously," she said, adding that China has been a leader in developing cost-effective solutions to problems like keeping babies warm.

Sixty years of Chinese medical aid teams abroad

With the rapid development of its economy, China began to take the lead in helping developing countries and regions.

Hesketh said that 2023 marks the 60th anniversary of China sending medical teams to support health services abroad. "In the UK, we would almost never do long projects, like a 50-year project, whereas the Chinese projects have been going on for many decades," said Hesketh, adding that this program is popular with local people because it is reliable and they know that Chinese doctors won't just disappear.

She has previously been to Mali with a Chinese medical team trying to improve two things: children's health and women's access to contraception.

The harsh living conditions and difficult political situation there posed a serious risk to the team's security, but they persevered in their efforts to save lives, treat disease, make new friends, and promote goodwill throughout the country. Hesketh is deeply impressed by the Chinese doctors' unwavering dedication, sense of duty and exemplary expertise.

International cooperation key to solving global problems

As the world faces common crises, from pandemics to pollution, the answer is to come together despite differences. "The biggest challenges we face as a planet have to be addressed through international cooperation. There's no question about that," said Hesketh, citing COVID-19 and carbon emissions as examples. International cooperation is key to tackling public health crises and strengthening health systems by emphasizing universal health coverage for sustainable and equitable development.

She also praised China's active role in mitigating climate change, saying, "The global community is not meeting carbon emission targets. But China is on track to meet the clean energy target five years ahead of schedule."

Hesketh was awarded the title of "2018 Honorary Citizen of Hangzhou" in recognition of her contributions to the city's economic and social development, which has motivated her to continue contributing to the health of Chinese people. "I really like working in China. So I would definitely be staying in China in the future," she said.

This article is also contributed by WU Yeping from Zhejiang University.

Congratulations to the English Edition of S&T Daily on Its 100th Issue

Letter to the Editor

Dear Editorial Office of English Edition of *Science and Technology Daily (S&T Daily)*,

I am writing to extend my heartfelt congratulations to the entire team at *S&T Daily* on the momentous occasion of your 100th issue. This incredible milestone is a testament to your unwavering dedication and commitment to providing invaluable scientific and technological insights to readers across China and the world.

*S&T Daily* has emerged as an indispensable source of information and inspiration for both foreign and Chinese talents. By publishing in English, your newspaper has played a pivotal role in bridging the gap between different cultures and fostering a global dialogue on groundbreaking advancements in science and technology. This has not only enriched the understanding of your readers but has also fostered collaboration and exchange among researchers, academics and innovators worldwide.

Through your thought-provoking articles, insightful interviews, and comprehensive coverage of scientific breakthroughs, *S&T Daily* has empowered foreign talents seeking to understand China's scientific landscape. Your commitment to highlighting the accomplishments of Chinese scientists, entrepreneurs and innovators has not only celebrated their achievements but also provided a platform for them to share their knowledge and expertise with a global audience.

Moreover, the English-speaking readership of *S&T Daily* has greatly benefited Chinese talents who aspire to engage with the international scientific community. By showcasing the latest research, technological advancements, and industry trends from around the world, your newspaper has nurtured an environment of curiosity and innovation, enabling Chinese talents to stay at the forefront of the rapidly evolving scientific landscape.

The consistent quality and accuracy of your reporting have earned *S&T Daily* a well-deserved reputation for being a reliable source of information in the scientific community. Your dedication to upholding journalistic integrity while disseminating complex scientific concepts in an accessible manner is commendable. Your efforts have made *S&T Daily* an invaluable resource for researchers, students and professionals across various scientific disciplines.

I would like to extend my heartfelt congratulations once again on this significant milestone. The tireless work of your team has not only educated and enlightened readers but has also contributed to the progress of science and technology in China and beyond. I eagerly anticipate the continued success and impact of *S&T Daily* in the years to come.

Wishing you all the best for future endeavors.

Sincerely,  
Professor Rami Khalil

Dr. Rami Khalil has served as a professor in Sichuan International Studies University.

Traditional Eastern Wisdom

Percussion Drill: A Revolution in Salt Mining

By BI Weizi

The percussion drill, a large type of rotary drill with an impact mechanism

that produces a hammering motion, was invented by Chinese during the Eastern Han Dynasty.

Its invention is closely related to



the mining of well salt. About 5,000 years ago, people in coastal China produced salt by boiling seawater. As high-density human settlements moved inland and became increasingly dependent on agriculture, salt -- essential to human survival as an important food supplement and preservative -- became a valuable commodity. With government funding and the profits of the salt industry, mining technologies improved over time.

About 2,000 years ago, instead of digging water wells by hand with shovels, people began to use percussion drilling systems. By the beginning of the third century, wells had been drilled to a depth of 140 meters. Using the lever principle, a few men stand on a plank lever that lifts the drill pipe about one me-

ter. The drill pipe is lowered and the drill bit is driven into the rock, breaking it up. Centimeter by centimeter, the drilling progresses slowly.

In the third year of Daoguang (1835) in the Qing dynasty, a 1,001.42-meter deep well was drilled in Zigong, the "Salt Capital," which was the deepest drilled well in the world at that time. The technical advantages of deep percussion drilling not only promoted the formation of resources and industrial advantages in Sichuan, Yunnan and other places, but also directly expanded people's understanding and utilization of salt resources in other parts of the world. This technology then spread to the West, and was later combined with the steam engine for mineral exploration worldwide in the 19th century.

▲A relatively complete set of ancient percussion drill tools are on display at the Zigong Salt History Museum, Zigong, Sichuan province. (PHOTO: VCG)

Service Info

Preventing Heat Strokes During This Scorching Summer

Edited by LIANG Yilian

Last week was the hottest global week on record, including July 7 was the world recorded hottest day ever, with a global average temperature of 17.24℃, 0.3℃ higher than the previous record, according to a report released by the World Meteorological Organization.

In this summer, temperatures in China have soared with many national stations seeing their daily maximum temperatures break record highsEnvironment

mental temperatures of 40℃ can make it difficult to keep the body at its ideal 37℃, according to BBC. Heat waves may cause heat-related illnesses, such as exhaustion and heat stroke.

With incidents of heat-related illnesses, such as exhaustion and heat strokes, rising, the Chinese Center for Disease Control and Prevention has released a guideline with measures for protection against heat strokes.

• Keep the indoor environment cool using a cooling device, dehumidifier or humidifier. Close the windows facing the

sun or use shades or curtains to block direct sunlight.

• Avoid exposing yourself to outdoor heat. If you need to go out, try to avoid doing so when the temperature is high. Wear light, loose and light-colored clothes and use sunscreen when going out. Try to stay in the shade as much as possible and avoid excessive physical exertion outdoors.

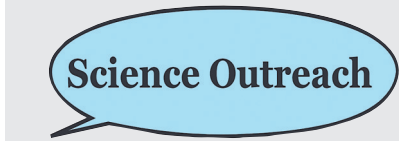
• Keep anti-heat medicine ready. Stay hydrated by drinking lots of water and heat-cooling beverages. Avoid excessive consumption of beverages contain-

ing alcohol, caffeine and a lot of sugar. Maintain a light diet that is easily digestible.

• If your body temperature goes above normal, use cold water, ice cubes, ice towels and other cooling agents to cool down. Take a shower if you can.

There are four stages of heat strokes: premonitory, mild, moderate and severe. They can be avoided if timely precautions are taken, assures Chi Cheng, deputy chief physician at the emergency department of Peking University People's Hospital.

Siestas Good for Your Health



Edited by LIANG Yilian

To nap or not to nap? That is a question for many foreigners living in China. Many Chinese love to take a nap during their lunch break, but daytime napping is not a common occurrence in Western countries.

Napping is often frowned upon in many Western countries, Ji Xiaopeng, the assistant professor at the University of Delaware told *South China Morning Post*. In these countries, the monophasic sleep pattern -- sleeping once a day, usually for eight hours at a stretch -- would be considered a sign of mental maturity, said Ji.

A new study shows that a daytime snooze may be good for our brains, and the result has been published in the journal *Sleep Health* on June 19. In the study, researchers from the University College London (UCL) and the University of the Republic of Uruguay adopted a technique called Mendelian randomization to analyze DNA samples and brain scans from 35,080 people aged 40 to 69 involved in the UK Biobank study, a large biomedical database and research resource that followed UK residents from 2006 to 2010.

"In line with these studies, we found an association between habitual daytime napping and larger total brain volume, which could suggest that napping regularly provides some protection against neurodegeneration through compensating for poor sleep," the researchers told *The Guardian*.

The team showed nappers' brains were 15 cubic centimeters larger -- equivalent to delaying aging by between three and six years. However, the scientists recommend keeping naps to less than half an hour.

Although a little snooze is good for our brain, researchers think daytime sleep was hard in many careers, with work culture often frowning on the practice, according to BBC.

In China, it is not a problem. Napping is an office culture across the country, where a lunch break could last two hours. Employees are encouraged to take a 30-minute nap after lunch because it is believed that a power nap boosts productivity, according to the *Global Times*.

"We are suggesting that everybody could potentially experience some benefit from napping," Victoria Garfield, the co-author of the study told BBC. She described the findings as "quite novel and quite exciting."

If you can't resist the temptation of doughnuts and are not a fan of exercise, taking a half-hour nap every day might be an easier way to start a healthy habit.



Taking a nap during lunch break is good for your health. (PHOTO: VCG)