Welcoming the new era, wishing for eternal spring — Postprint

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Abstract

Full Text

Preamble

Forty years have passed since the National Science Conference, and those who were twenty years old at that time have now reached retirement age. Few among today's middle-aged and young people likely know much about this event, yet it was indeed a milestone in the history of China's scientific and technological development. This conference marked the moment when, following the downfall of the "Gang of Four," China's scientific and technical personnel and intellectuals were politically and ideologically liberated once again, and the nation's scientific enterprise welcomed a springtime.

The Spring of Science Has Arrived

The conference was initiated by Comrade Hua Guofeng, who placed considerable emphasis on science and technology. During his work in Hunan, the local four-level agricultural science network had been developed with great vitality, representing large-scale scientific popularization and technology extension efforts for scientific farming that exerted significant influence nationwide. More importantly, China's economy had suffered devastating damage during the Cultural Revolution, leaving people's livelihoods in ruins and creating a widespread desire for change. To revive the economy that was on the brink of collapse, the nation needed to rely on science and technology and to unleash the role of scientific and technical personnel. Consequently, Comrade Hua Guofeng proposed convening such a conference, focusing primarily on rewarding a cohort of scientists and technological achievements while simultaneously formulating a long-term plan for scientific and technological development. The directive was to create major momentum nationwide and to mobilize the enthusiasm of scientific and technical personnel.

The Central Committee of the Communist Party of China had never before convened a national science conference, and the scale—exceeding 5,000 participants—was unprecedented. The momentum was indeed tremendous. In every province and municipality, either the first or second party secretaries personally oversaw conference preparations, and post-conference dissemination extended down to the county level, with rallies of thousands or even tens of thousands of people, some even broadcast to audiences of several hundred thousand. One detail that received little attention at the time was that the "Notice of the Central Committee of the Communist Party of China on Preparations for the Science Conference," signed by Comrade Hua Guofeng, had already proposed shifting the focus of the Party's work to economic construction. Unfortunately, this idea did not reappear in his speech at the conference, which instead returned to the line of continuing revolution under the dictatorship of the proletariat.

The conference was genuinely inspiring. For a long time, scientific and technical personnel had stood on criticism platforms; this time, they stood on award podiums. However, without repudiating the ultra-leftist line of the Cultural Revolution, it would have been difficult for scientists to achieve genuine liberation. With shackles still in place and their status unchanged, revolution on one's knees was impossible—how could science be pursued from such a position? This brings us to the profound significance of Comrade Deng Xiaoping's speech at the conference.

Two Foundational Viewpoints

What people remember most vividly and consider most important are the two viewpoints Comrade Deng Xiaoping articulated at the conference: that "intellectuals are part of the working class" and that "science and technology are productive forces." These views are now common knowledge, but at the time they were like spring thunder or timely rain, moving many scientific and technical personnel to tears. The designation of "working-class intellectuals" swept into the dustbin of history numerous "incantations" such as bourgeois intellectuals, "stinking number nines," reactionary academic authorities, revisionist seedlings, foundations for capitalist restoration, feudalist "earth fortresses," and targets of proletarian dictatorship. The humiliating days when intellectuals endured shame and insult could finally come to an end. Meanwhile, the principle that science and technology are productive forces thoroughly repudiated various ignorant fallacies, such as claims that China's science merely copied foreigners, that research institutions were ivory towers needing walls demolished and moats filled, or that past scientific work had been divorced from politics, the masses, and reality.

The notion that "science and technology are productive forces" had been expressed by Marx long ago, and in the 1950s, Chairman Mao was also said to have made such a statement (though he later indicated he did not recall saying this, leaving the matter in doubt). However, from the late 1960s onward, the

emphasis on class struggle as the key link, along with campaigns such as the "Socialist Education Movement" and the "Cultural Revolution," placed political and ideological revolution first, vigorously criticizing "the theory of productive forces." The "Gang of Four" even degraded the role of science and technology to absurd levels, advocating "all-round proletarian dictatorship" over science itself.

Comrade Deng Xiaoping's speech elated scientists. Li Xun, a renowned physical metallurgist elected as an academician of the Chinese Academy of Sciences (CAS) in 1955, remarked that Deng's speech at the conference expressed what he had wanted to say for years but dared not articulate or could not express clearly. Li Xun stated: "Affirming that science and technology are productive forces has far-reaching implications. The 'Gang of Four' promoted the idea that science and technology belong to the superstructure precisely to create ideological confusion, persecute intellectuals, and undermine the alliance between workers and peasants. Affirming that science and technology are productive forces, and that those engaged in scientific and technological work are therefore laborers, is a powerful ideological weapon for eliminating the opposition between intellectuals and workers and peasants created by the 'Gang of Four' and strengthening the unity of working people." Feng Depei, a distinguished neurophysiologist, former Academia Sinica academician, and CAS academician elected in 1955, said: "Clarifying that science and technology are productive forces fundamentally resolves the issue of integrating theory with practice." These sentiments were quite representative at the time.

In fact, both viewpoints had been proposed as early as the 1950s. The idea that "intellectuals are part of the working class" was explicitly articulated by Comrade Zhou Enlai in his 1956 report at the CPC Central Committee's conference on intellectuals, where he stated that the overwhelming majority of intellectuals "have become state employees, are already serving socialism, and are already part of the working class" . However, the subsequent Anti-Rightist Campaign and assessment of the situation repudiated this estimation. Although the idea was raised again at the 1962 Guangzhou Conference and during the Third Session of the Second National People's Congress, when Comrade Zhou Enlai reiterated that the majority of intellectuals "belong to laboring people's intellectuals" and Comrade Chen Yi proposed "removing the cap and crowning" intellectuals , it was once again repudiated. The road to their reemergence at the 1978 National Science Conference was long and arduous, and the price paid was simply too high.

"We Must Exert Genuine Effort and Solve Practical Problems"

Naturally, gaining genuine acceptance of these two viewpoints was no easy task. For a considerable period after the National Science Conference, the phenomenon of "brain vs. brawn wage inversion" persisted—where "those who build missiles earned less than those who sell tea eggs"—and any mention of

improving intellectuals' treatment would prompt concerns about workers' reactions. While large-scale campaigns of criticism and struggle targeting intellectuals ceased—making the "summer situation" following the early spring weather impossible to reproduce—occasional "tinkering" at intellectuals' expense still occurred. Zhongguancun's main street was once ridiculed as "Swindlers' Street" or "Speculators' Street." Regarding scientific work, although the cudgel of being "divorced from production" had been put away, some demanded that research institutions without immediate practical results be "cut off from funding" and their personnel "driven down" to production units in the name of serving production. Income from technology transfer was even labeled economic crime by some. Although science and technology were verbally accorded lofty status, the proportion of research and development expenditure to GDP continued to decline year after year even after the "Revitalizing the Nation through Science and Education" strategy was proposed. (In recent years, we can take pride in the fact that the ratio of R&D expenditure to GDP now ranks among the world's highest, yet the proportion of basic research funding to total R&D expenditure has remained unchanged for decades, still operating at a low level of around 5%.)

Here again, we must mention Comrade Deng Xiaoping's efforts. Without the concrete actions and series of measures he personally undertook before and after the conference, the National Science Conference, though fervent and inspiring, might not have quickly produced a new nationwide situation. As Comrade Deng stated at the conference: "What now lies before our Party organizations at all levels is to exert genuine effort, solve practical problems, and work in a down-to-earth manner. In short, we must get down to brass tacks." He practiced what he preached. For instance, regarding scientists' wages, which CAS alone could not resolve, Comrade Deng proposed subsidies and personally approved the implementation of a research allowance system at CAS. On the issue of spouses living apart, which could not be solved all at once, he proposed addressing key cases first and approved 400 Beijing household registration quotas for CAS in one batch. Concerning housing difficulties, he instructed during a briefing that 20 million yuan be allocated to quickly build a batch of housing to resolve the severe difficulties researchers faced. Later, Comrade Deng repeatedly supported CAS infrastructure projects. When the University of Science and Technology of China's buildings on Beijing's Yuquan Road were occupied by other departments, he instructed relevant departments to handle the matter promptly. To reform the university enrollment system, he personally chaired a science and education work symposium, listened extensively to various opinions, decisively supported the correct ones, and decided to restore the college entrance examination system that had been suspended for ten years. After the meeting, he quickly spoke with education department leaders to do ideological work, thereby greatly accelerating the reform process and concrete implementation of the enrollment system. He also supported and encouraged the University of Science and Technology of China to enroll students directly from recent high school graduates, change its system to five-year programs, recruit graduate students,

and send CAS personnel abroad for advanced studies. Comrade Deng further proposed that academic journals must be well managed, that "the publishing and printing issues in research and education must be resolved and included in the state plan," and noted that "paper shortages exist because too many unnecessary things are being printed." He also decisively approved construction of the Beijing Electron-Positron Collider and, with foresight, instructed implementation of the "863" Program.

Thereafter, successive central Party leaderships have followed the correct line of emancipating the mind and seeking truth from facts, implemented the principles of respecting knowledge and respecting talent, and comprehensively reformed the science and technology system. They have proposed building a national scientific and technological innovation system, implementing the Knowledge Innovation Program, the Revitalizing the Nation through Science and Education strategy, building an innovative country, and building a world science and technology power—along with a series of strategic guidelines and concrete measures. China now ranks among the world's leaders in scientific and technological funding, talent, papers, and patents, and occupies an important position in several key scientific and technological fields, including high-tech sectors. We can now see that the dream of becoming a science and technology power is within reach.

The Curtain Rises on Science and Technology System Reform

The National Science Conference, particularly Comrade Deng Xiaoping's speech, broke the long-standing shackles of "leftist" lines on the scientific community and ideologically liberated scientific and technical personnel. This ideological liberation inevitably stimulated their enthusiasm for developing science and technology and created demands for policy adjustment and systemic reform. Consequently, CAS was able to pilot a series of innovative measures to enliven research institutions and scientific personnel, such as implementing a two-part funding system; establishing a director responsibility system that expanded institute autonomy; allowing free assembly of research group personnel; taking the lead in establishing scientific and technological cooperation relations with the United States, Europe, and Japan; sending the first batch of students abroad after the Cultural Revolution; restoring the graduate student training system; piloting a postdoctoral system; proposing paid technology transfer; establishing the National Natural Science Foundation of China; implementing an open laboratory system characterized by "openness, collaboration, and mobility"; encouraging scientific and technical personnel to start companies; and later proposing the Knowledge Innovation Program pilot scheme for building a national innovation system. All these measures were pioneering in the national context.

Of course, without the national reform climate and the state's decision on science and technology system reform, CAS's reform measures would have been difficult to advance smoothly. Scientific development knows no bounds, and reform has no end. Thinking and concepts require continuous improvement and

renewal. Today, we must recognize that science is not only a productive force but also an important spiritual and ideological force, a powerful driver of socioeconomic progress. Those who ignore or neglect this force will become laggards in the new era, and outdated conventions that hinder this force will ultimately be transformed. Scientific and technical personnel are not only part of the working class but also masters of advanced productive forces and advanced culture. Regarding scientists, we can no longer limit ourselves to improving their social status, living conditions, and necessary working conditions; we must also value and give play to their independent spirit, critical spirit, innovative spirit, and free thinking, reforming all obstacles.

Today, China has entered a new era of socialism with Chinese characteristics and is moving toward building an innovative country and a world science and technology power. On the 40th anniversary of the "Spring of Science," we revisit these matters only to cherish this valuable historical experience and this hard-won new era. We commemorate the National Science Conference of 1978 for its major historical role, and we celebrate even more the new period of scientific and technological development it inaugurated. We must learn from the line of emancipating the mind and seeking truth from facts embodied in Comrade Deng Xiaoping's speech at the conference, and even more, we must carry forward the spirit of continuous advancement and development along this line, continue to eliminate the influence of the Cultural Revolution and ultra-leftist lines, keep pace with the times, and achieve even greater victories under the leadership of the Party Central Committee with Comrade Xi Jinping at its core.

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Selected Works of Zhou Enlai, Volume 2, p. 162.

See Bo Yibo's "Recollections of Several Major Decisions and Events," Volume 2, Section 34.

Note: Figure translations are in progress. See original paper for figures.