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The China crisis

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Abstract. The so-called *China crisis*, well documented in *History of the IAU* by Adriaan Blaauw and in *Under the Same Starry Sky: History of the IAU* by Chengqi Fu and Shuhua Ye, refers to the withdrawal in 1960 of the People's Republic of China (PRC) from the Union. The crisis stemmed from the admission by the IAU, amidst strong protest from PRC and some other member countries, of the Republic of China (ROC) to the Union, creating the so-called "*Two Chinas*" – or "*One China, one Taiwan*" problem. The crisis directly led to the absence of mainland Chinese astronomers from the stage of international collaborations and exchanges, and was only solved two decades later. The solution, accepted by all the parties involved, is that China is to have two adhering organizations, with mainland China astronomers represented by the Chinese Astronomical Society located in Nanjing (China Nanjing) and China Taiwan astronomers represented by the Academia Sinica located in Taipei (China Taipei). The denominations "*China Nanjing*" and "*China Taipei*" represent the IAU official resolution and should be used in all IAU events.

The China crisis, probably the most serious one in IAU history, was a painful lesson in the 100-year development of the Union. Yet, with its eventual solution, the Union has emerged stronger, upholding its spirit of promoting astronomical development through international collaboration of astronomers from all regions and countries, regardless of the political systems, religion, ethnicity, gender or level of astronomical development.

Keywords. IAU, national membership, P.R. China

1. The entry and early involvement of China with the Union

China has a rich tradition in astronomical observations and studies and boasts the longest and most comprehensive ancient records of astronomical phenomena dating back to the Shang dynasty. In its 5000-year continuous civilization, China has nurtured world-class astronomers including Heng Zhang (78–139 AD), Shoujing Guo (1231–1316 AD) and Guangqi Xu (1562–1633 AD).

The works of Euclid of Alexandria, Claudius Ptolemy, Nicolas Copernicus and Tycho Brahé were translated, and introduced to and practised by Chinese astronomers in the late Ming dynasty, following the arrival of Jesuit priests (Matteo Ricci, Nicolaus Longobardi, Giacomo Rho, Johann Schreck, Johann Adam Schall von Bell). In 1644, Johann Adam Schall von Bell (1592–1666 AD) was appointed Director of the Imperial Observatory, the first time the position was held by a foreigner.

From the *First Opium War* in 1840, China was forced to open up ports under the weapons of the rising Western powers, and was reduced gradually to a semi-colonial, semi-feudal country which ushered in a warlord era. In 1912, the last feudal dynasty Qing fell and the Republic of China (ROC) was founded. The Lugou (Marco Polo) Bridge Incident on July 7, 1937 marked the beginning of full-out invasion of China by Imperial Japan and the Eight-year Chinese War of Resistance which followed, and which ended in 1945 along with the World War II. This was followed by a bitter period of

civil war between the ruling Nationalist Party (Kuomingtang – KMT) of Jieshi Jiang (Kai-shek Chiang) and the Communist Party of China (CPC) led by Zedong Mao (Tse-tung Mao). The war ended in 1949 with the founding of the People's Republic of China (PRC) and the retreat of KMT from mainland China to the Chinese island of Taiwan.

The World War II ended with the emergence of two political blocs, the Western Bloc led by the United States of America (to which the provincial KMT government in Taipei belonged) and the Eastern Bloc (with which the PRC was associated) led by the Soviet Union, which fought between them the Cold War that only ended decades later in 1992. In 1950, the Korean War broke out between the Eastern Bloc North Korea (the Democratic People's Republic of Korea – DPRK) and the Western Bloc South Korea (the Republic of Korea – ROK). The war evolved rapidly into one involving PRC forces on the DPRK side and U.S. forces fighting for the ROK. The War ended with the *Korean Armistice Agreement* signed in 1953.

Several astronomical observatories were built in China by foreign Jesuit priests in the late nineteenth century, including Shanghai Xujiahui (1873) and Sheshan (1901) Observatories by the French, Hongkong Observatory (1882) by the British and Qingdao Observatory (1898) by Germans. In 1922, Qingdao Observatory was reclaimed by China. Chinese meteorologist and astronomer returning from the Université Libre de Bruxelles, Bingran Jiang (1883–1966), became Director, commencing modern Chinese astronomical observation and research.

Meanwhile, more Chinese intellectuals studying abroad returned back to China. These included Lu Gao (1877–1947), inspired by French astronomer Camille Flammarion (1842–1925), Qingsong Yu (1897–1978) returning from the Lick Observatory, University of California and Yuzhe Zhang (Yu-Cheh Chang; 1902–1986) from the Yerkes Observatory, University of Chicago. In 1926, the Mathematics Department of Sun Yat-sen University (SYSU) was renamed the Mathematics and Astronomy Department and began to offer astronomical courses, marking the beginning of astronomical higher education in China. In 1929, Yun Zhang (1896–1958) who studied astronomy at the University of Lyon built the SYSU Observatory and became its first Director. In 1928, the Institute of Astronomy, Academia Sinica was founded. On October 30, 1922, the Chinese Astronomical Society (CAS) was founded with 47 members at the Beijing Ancient Observatory (constructed in 1442 during the Ming Dynasty on the original site first built by Shoujing Guo in 1279 of the Yuan Dynasty). Lu Gao became its first President. By 1947, the CAS had 688 individual and 6 institutional members.

Initiated by Yuanpei Cai (1868–1940), the first Director (1928–1940) of Academia Sinica and President (1916–1927) of Peking University, Purple Mountain Observatory (PMO), the best astronomical observatory at the time in the Far East, was inaugurated in 1934. Since its establishment, the CAS took liaison with the Union and collaboration with the international community was one of its vital tasks. CAS member Yun Zhang attended in 1925 the 2nd IAU General Assembly (GA) in Cambridge as an observer, and members Qingsong Yu and Jinyi Zhao participated in 1928 in the 3rd GA in Leiden. All these individuals paved the way for China joining the IAU. In 1935, at the 5th GA in Paris, China was formally admitted to the Union as its 26th National Member, with the CAS located at PMO in Nanjing as the adhering organization. Four initial individual members, Qingsong Yu, Lu Gao, Bingran Jiang and a Japanese astronomer Shinjo Shinzo (1873–1938) were also admitted. At the 6th GA in 1938 in Stockholm, China's individual members increased to 11.

In spite of the War, Chinese astronomers did their best to engage with the Union and paid the arrears in 1947. After the civil war and the establishment of PRC in 1949, a delegation of four astronomers from mainland China, invited by President Otto Struve

(1897–1963), and including Yuzhe Zhang, attended in 1955 the Dublin GA. The PRC resumed its legitimate National Membership in the Union and cleared the arrears.

2. The conflict and the withdrawal of China from the Union

The "application" for Union membership from the ROC, submitted in late April and early May 1958, just two months before the Moscow GA, was not initiated by astronomers from the island (there were few if any at the time), but was orchestrated by the US government in order to further isolate the PRC after the Korean War, at the height of the Cold War.† It came at a time when the US National Committee for Astronomy (NCA) was about to submit their invitation to the EC to host the 1961 GA in Berkeley, after the 1958 GA in Moscow. The plot by the US Department of State, using visas to the US as a threat, was deliberately designed to (one stone, three birds): 1) Block astronomers from the "communist" mainland China; 2) Promote the status of "Free China (Taiwan)"; and 3) Create the so-called "*Two Chinas*" or "*One China, one Taiwan*" problem.

The plot was opposed by Leo Goldberg (US NCA), Otto Struve (former IAU President and still consultant to the EC), and Detlev Wulf Bronk (President, National Academy of Sciences), worrying that this would tarnish the US scientific reputation. In spite of the pressure from the US government, the EC decided to postpone any decision until after the Moscow GA, in recognition of "*the serious implications*" that "*acceptance of the Taiwan application during the Moscow meetings might have had: immediate withdrawal of mainland China from the IAU, and possibly also that of USSR, the host*" (Blaauw 1994, p. 193).

Goldberg contacted his representative in the U.S. Congress, George Meader, a conservative and fair-minded Republican, who presented the case to John Foster Dulles (the US Secretary of State), who referred it to his science advisor, Wallace Brode. Brode promptly demanded that Taiwan be invited to the IAU.

> "*The fact that Taiwan then had no astronomers and would have to qualify for IAU membership in the approved way meant nothing to the militant anti-Communist Brode. Brode wanted Goldberg to go to the 1958 Moscow meeting and submit the 1961 invitation but with the condition that Taiwan be admitted at once. Such a demand could well wreck the IAU. From Brode's point of view, if the astronomers would not go along with his orders, so much the worse for them.*" [Biographical Memoirs, U.S. National Academy of Sciences, 1997; (cited from Fu and Ye 2009, p. 154)].

Unfortunately, after the Moscow GA, the attitude of the EC made a U-turn. In spite of opposition by the IAU Vice-Presidents from the USSR and Czechoslovakia, who stated that admission should be judged solely on scientific grounds, that the astronomical activity in this applicant's country was too low, and that the admission of Taiwan might risk the withdrawal of mainland China, the EC pushed through the admission by the ballot, with five votes for and two against.

Yuzhe Zhang, President of the CAS in Nanjing, in his letter to J.H. Oort, serving President of the IAU, expressed surprise and indignation:

> "*... Taiwan is an inseparable part of Chinese territory, it is a province of China... Should the report be authentic, I, on behalf of the Astronomical Society of the People's Republic China, hereby lodge our strong protest with you and insist that the Executive Council of IAU rescind the illegal decision... Otherwise, the Astronomical Society... will resolutely and definitely withdraw from the IAU*" (Blaauw 1994, p. 193).

† The "Chinese Astronomical Society" in Taipei was only established in July 1958, two months after the application submission.

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IAU *Information Bulletin* (IB) No. 2 of November 1959 announced the adherence of Taiwan as a member of the IAU. The withdrawal of mainland China was announced in IB No. 3 of May 1960. The rapid announcements underscored the acceptance as a "*fait accompli*".

The EC further brushed aside letters of protest from the Polish and Bulgarian Academies sent in March 1960, as well as concerns raised by Vice-President O. Heckmann during the 1961 GA. Also during the Assembly, President Oort, in an unusual move, before the vote, asked representatives to vote against a combined motion submitted by the USSR and Czechoslovakia Academies of Sciences requesting the decision of the EC to admit Taiwan be revoked.

The decision of the EC, succumbed to the political pressure from the US government, led to the two-decade absence of astronomers of mainland China from the international stage of astronomical collaboration and exchange. Squeezed between the demands of the then two superpowers, the United States of America and the Soviet Union, the IAU survived, but unfortunately was clearly damaged.

3. The return of China

In the following two decades, in spite of the growing dissatisfaction and concern, restrained by the then prevailing political environment, both international and domestic, little progress was made on the restoration of the legitimate position of China in the IAU until the 1979 Montreal Assembly. Several events before then eased the way forwards from the prevailing deadlock:

1. In 1971, UN Resolution No. 2758 restored the membership of the PRC and expelled the ROC from the UN;
2. In 1972, Richard Nixon visited China. The joint communiqué recognized Taiwan as a part of China, thereby ushering in a new era of Sino-American relations;
3. In 1976, the ten-year Cultural Revolution in mainland China ended; and
4. In 1978, China started the economic reforms and opening up.

All these paved the political way for China rejoining the Union.

The key was to find "*a way acceptable to the Chinese of reinstating their membership in the IAU without expelling Taiwan, an action that would violate the statutes of the Union*" (Goldberg 1977, see p.20).

Initiated by President Adriaan Blaauw, under the invitation of the EC, a six-member delegation from mainland China, including Yuzhe Zhang, Shuhua Ye (Vice President of the IAU 1988–1994) and Zhaohua Yi, and a single-member delegation from Taiwan represented by C.S. Shen, President of the Taiwan NCA, arrived in Montreal to discuss the matter prior to the GA on August 13–24 1979, and to explore the possibility of "dual membership", that, on the one hand, expresses the indivisibility of China (emphasized and agreed by both parties across the Straight), and, on the other hand, reinstates the membership of PRC without blocking China Taiwan's further adherence.

The negotiations resulted in a proposal communicated to the GA at its closing session, that was presented in the form of an exchange of letters dated Montreal, August 22, 1979, between the President of the CAS, Yuzhe Zhang, and the outgoing President of the IAU, Adriaan Blaauw. The two letters were reproduced in full in IAU *Transactions* Vol. XVII (Bappu 1979, pp 48–50; Fig. 1). The only problem left was the name of the adhering organization in Taiwan.

The problem was shortly solved in 1980. The arrangements were ratified at the 1982 Patras GA XVIII. The solution, accepted by all the parties involved, is that China is to have two adhering organizations, with mainland Chinese astronomers represented by the Chinese Astronomical Society located in Nanjing (*China Nanjing*; since 1935) and

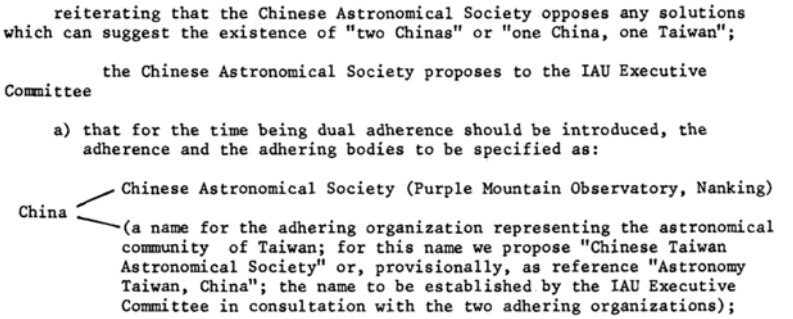

Figure 1. Parts of the letter from Yuzhe Zhang, President of the Chinese Astronomical Society (1943–1982), to Adriaan Blaauw, President of the IAU (Zhang & Blauuw 1979, pp. 525–527)

China Taiwan astronomers represented by the Academia Sinica located in Taipei (China Taipei; since 1959). The denominations, "*China Nanjing*" and "*China Taipei*" represent the IAU official resolution and should be used in all IAU events. At the time of this writing (August, 2018), "*China Nanjing*" and "*China Taipei*" have respectively 666 and 74 IAU individual members.†

> "*The Union had succeeded in overcoming political schism and in restoring harmony again among its membership for its prime purpose: the unhampered pursuit of scientific research and intercourse*" (Blaauw 1994, p. 204).

Shouguan Wang (President of the CAS 1985–1989), on behalf of the CAS, gave a warm speech after the ratification of the membership of China by the GA (Wang 1983, p. 26):

> *Dear friends & colleagues,*
> *The Chinese Astronomical Society celebrates its 60th anniversary this year. Its reunion with this international community today is an event that is highly appreciated by all its 900 members. I and my colleagues here are very glad to have this opportunity of speaking on behalf of our Society and its members to express our most cordial greetings and most sincere thanks to you all. Thank you!*

Zdeněk Kopal, writing on *The IAU – the first 60 years. Reminiscences and Reflections*, published in *Astrocosmos*, the newspaper of the Patras GA, wrote,

> "*. . . the Union has really never been free of political interference from many directions ever since. Perhaps the most conspicuous example of such an interference in recent years was the technical expulsion of the (People's) Republic of China, which was eased out of our midst in 1955 (1960) by the United States (during the enlightened era of John Foster Dulles), in collaboration with certain astronomers from Western Europe. Only God knows what good should have come to the science of astronomy and to the International Astronomical Union from severing (albeit temporarily) its official ties with the most populous nation of the Earth; but such acts did happen, and will continue to happen as long as the present structure of the IAU remains unchanged*" (Kopal 1982).

The resolution of the China crisis, combined with the continued improvement of relation across the Taiwan Straight, has benefited astronomers on both sides, stimulated and facilitated collaborations amongst them as well as with the international community at large. Astronomy in both mainland China and in the Island has entered an era of rapid

† www.iau.org/administration/membership/national

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development. Four decades after the crisis, China is poised to make major contributions to the world astronomy research and education development.

In 2012, the IAU GA XXVIII was held in Beijing, being the first time in China in the Union's nearly hundred-year history. In his opening ceremony speech, Vice-President Jinping Xi remarked:

> "*The development of science and technology requires extensive international cooperation. Science and technology have no nationality! The vast expanse of space is the common home of all humankind; to explore this vast universe is the common goal of all humankind; astronomy in fast development is the shared fortune of all humankind*" (Xi 2012).

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