



Lofty aspirations born of sacrifice

-- In remembrance of Y.S. Ma, China's first female geologist, and her two colleagues who were murdered at the same time

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Abstract

As China's first truly scientific education and research institution, the Geological Survey of China (GSC) achieved tremendous success within just a few years of its establishment, creating many firsts in Chinese geological education, research, and mineral exploration, and even some world firsts. However, this came at a heavy price; many geologists died young for various reasons. Especially during World War II, with the Japanese occupation of most of eastern and central China, almost all universities and research institutions in these developed regions had to relocate to the western rear areas of the war effort to continue geological surveys and research. At that time, bandits roamed freely in China, especially in the southwestern border regions, posing a significant threat and causing immense losses to the developing GSC. Following the tragic murder of the brilliant Chinese geologist Y.T. Chao by bandits in Zhaotong, Yunnan Province in 1929, 15 years later, in April 1944 during the War of Resistance against Japan, three more young geologists were killed by bandits in Guizhou Province, bordering eastern Yunnan. Among the three were Ms. Y.S. Ma, the only female geologist in China at the time, a young geologist fluent in five foreign languages despite never having been abroad, and Mr. T.Y. Hsu and Mr. K. Chen, both budding and accomplished geologists. They were killed on the same day, at the ages of 25, 36, and 28 respectively. This year marks the 82nd anniversary of their tragic deaths. This article is dedicated to these three young scholars who died before achieving their goals, leaving future generations deeply saddened.

Key words: Died young; murdered; bandits; April 1944; eternal remembrance; GSC

1. Introduction

On April 24, 1944, a momentous event that shocked the entire nation occurred. Y.S. Ma (Ms. Ma), China's first and, at the time, only female geologist, along with two of her colleagues and mentors, T.Y. Hsu (Mr. Hsu) and K. Chen (Mr. Chen), were tortured and ultimately murdered by local bandits while conducting a field geological survey in Guizhou Province in southwest China. This incident, once revealed, shocked the nation and quickly reached the highest levels of government. The reasons were as follows: First, the general level of education among the Chinese people at that time was extremely low, and those with a university education were extremely rare. The sudden murder of three highly educated intellectuals naturally shocked and was unacceptable to the public. Second, the research institution where the three worked, the Geological Survey of China (GSC), was not only China's leading modern scientific and technological research institution at the time, but also the only research institution actively



38 supporting China's war of resistance against Japan. They organized the development of China's
39 unique tungsten and other mineral products, selling them overseas to earn foreign exchange to
40 support China's just actions against the invaders, or directly exchanging tungsten ore for urgently
41 needed weapons and ammunition for the war effort. Thirdly, Dr. Wen-hao Wong (Dr. Wong),
42 the former director of the GSC at the time, had risen to a high-ranking position in the Chinese
43 government and could directly communicate with Chiang Kai-shek, the then-leader of China.
44 This then-Minister of Economic Affairs, Dr. Wong, a geologist, rose to the highest position of
45 Premier of the Executive Yuan of the Kuomintang (Executive Council of the Central Authorities
46 throughout China before 1949 and in Taiwan afterwards) approximately 3 years later. Fourthly,
47 one of the deceased, Ms. Ma, was China's first and only female geologist at the time. This was
48 her first real fieldwork after graduating from university, and later events proved it to be her only
49 field geological survey and research in her lifetime. Following the poem by the great Tang
50 Dynasty poet Du Fu mourning Zhuge Liang, a famous figure from the Three Kingdoms period,
51 Ms. Ma also "died before her mission was accomplished, leaving heroes to weep with sorrow."
52 Even more tragically, unlike the two male companions who were also murdered, Ms. Ma
53 suffered immense torture and humiliation before her death, a fate too painful to recall.

54 2. Biography and Deeds

55 Ms. Ma was only 25 years old when she was murdered. She was in the prime of her life, just as a
56 flower bud was about to bloom (Fig. 1). How could this not break one's heart and cause one
57 unbearable grief?





Figure 1. Photos of Ms. Y.S. Ma during her lifetime (Editorial Department, *Geological Review*, 1944)

Shortly after the devastating tragedy, *Geological Review*, one of the most renowned journals in the Chinese geological community, which had only been published for eight years, published a special article entitled "A Brief Biography of Ms. Y.S. Ma" in its combined issue of Volume 9, Issues 5-6 of 1944, the same year the incident occurred, to introduce her short but brilliant life and express its deepest condolences.

This short, one-page article describes Ms. Ma as follows (Editorial Department of *Geological Review*, 1944): Ms. Ma was originally from Chengdu, Sichuan, China. Her ancestors settled in the northeastern border region by running gold mines. She was born on October 25, 1919 in Heilongjiang. She was intelligent and achieved considerable success in learning Japanese in her childhood. After the September 18 Incident¹, her father, Mr. Boyan Ma, moved inland with his family and temporarily resided at Jinan Municipal Middle School. They moved to Shanghai and studied at Tongji High School, where she was able to learn German. When the War of Resistance against Japan broke out, Shanghai became uninhabitable. At that time, Mr. Boyan had passed away, and her four brothers had died one after the other. Ms. Ma brought her mother, Madam Yang, back to Sichuan and lived with her elder sister, Yihui, and her brother-in-law, Mr. Jingzhi Yang, in Longchang. The orphaned girl and her widowed mother faced great hardship, but Ms. Ma was determined to make progress and never gave up. She entered Hechuan National Second Middle School and graduated in the spring of 1929. She then entered a pre-university program and, due to her outstanding academic performance, was recommended for admission to National Central University after six months, entering the Department of Geology, College of Science. Her academic performance was excellent, ranking first in his class, and she received the Shanghai Bank Scholarship and the Chairman Lin Sen Scholarship. Having already established a foundation in German, he studied French as his second foreign language while in school. Through diligence and hard work, she became proficient. She graduated in the summer of 1943 and, with top marks, entered the GSC of the Ministry of Economic Affairs as an assistant engineer. Under the tutelage of Professors Tsan-Hsbun Yin and Mr. Hsu, she studied palaeontology and meticulously organized fossil specimens. During her studies, she attended a night class in Russian and was able to read it within six months. In March 1944, she went to Guiyang, provincial capital of Guizhou Province of China to attend the 20th Annual Meeting of the Geological Society of China. After the meeting, she went to Western Guizhou with Mr. Hsu and Mr. Chen to investigate geology and collect data. On April 24, she was attacked by bandits near Huangchang, which belongs to Qinglong (Annan) County. She was killed along with Mr. Hsu and Mr. Chen. She was only 25 years old at the time. She had just graduated from school and was fluent in six languages: Chinese, English, German, French, Russian and Japanese. She had been ranked first in school examinations 28 times (she had been ranked first in all primary,

¹The "September 18 Incident", also known as the "Fengtian Incident" or the "Liutiaohu Incident", was an incident on September 18, 1931, in which the Japanese Kwantung Army stationed in Northeast China suddenly attacked Fengtian (now Shenyang) and occupied Northeast China by force.



95 secondary and tertiary school examinations 28 times) (Liao, 2015 and 2020; Li, 2020), which
96 was rare in the China. She studied diligently and strived for excellence; she was born to be a
97 great scholar and had a bright future ahead of her, but tragically her life was ruined!

98 In fact, due to the dangers and hardships of the field at that time, GSC had an unwritten rule that
99 female scholars were generally not recruited. However, Ms. Ma was exceptionally recruited by
100 GSC because of her outstanding talent and excellent grades. Unexpectedly, the result was so
101 unexpected.

102 Her graduation thesis, "*The Lower Triassic Fauna of Tongzi County, Northern Guizhou*", was the
103 first study and naming of ostracod fossils in the area. After entering GSC, she followed Mr. Hsu
104 to carry out paleontological research and sorted out the fossil specimens of GSC, which was
105 "well-organized and made great achievements". She was the first female geologist recruited by
106 GSC. This trip to Guizhou with Mr. Hsu was also her first field work after joining GSC, but she
107 unexpectedly suffered this tragedy (Li, 2020).

108 **3. One after another**

109 Based on the above biography, modern researchers of the history of geological science in
110 mainland China have added the following details about Ms. Ma (Li, 2020; Liao, 2020): Y.S. Ma
111 (October 25, 1919 - April 24, 1944), a Hui nationality, whose ancestral home was Chengdu,
112 Sichuan, China, was born in Qiqihar, Heilongjiang Province. In 1939, she was recommended to
113 the Department of Geology of Central University and became the first female student in the
114 department. After graduating in 1943, she was admitted to GSC of the Ministry of Economic
115 Affairs as an assistant engineer. She was the first female geologist in GSC and studied
116 palaeontology with Mr. Hsu, specializing in Triassic strata fossils. In 1944, after attending the
117 20th Annual Meeting of GSC, she went to western Guizhou to conduct geological surveys. On
118 April 24 of the same year, she was attacked and killed by bandits near Huangchang, Qinglong
119 County, Guizhou Province, at the age of 25. Her graduation thesis, "*The Lower Triassic Fauna of
120 Tongzi County, Northern Guizhou*", named the ostracod fossils in the area for the first time. In
121 1945, GSC established the Y.S. MA Science Memorial Award. Seven of the award recipients
122 were later elected as academicians of the Chinese Academy of Sciences.

123 In early 1929, V.K. Ting (Ting) and Dr. Wong, the two founders of Chinese geology and the two
124 former directors of GSC, discussed selecting some outstanding young scholars from the GSC to
125 form a team to conduct geological surveys in the southwestern provinces of China (Zhang and
126 Shang, 2022). In a letter to his friend Hu Shihhh (Suh Hu), a famous Chinese scholar, social
127 activist and diplomat, Ting explained the purpose and significance of this southwestern
128 geological survey as follows (Hu, 1993): First, to connect the work in Guangxi and Yunnan... To
129 completely solve all kinds of problems, we must go to Guizhou, which is located at the junction
130 of the two provinces... The road to Yunnan and Guizhou is the most difficult to travel. Bringing
131 them here to set an example and temper they can serve as models for future generations. The



132 selected people included H.C. T'an, Y.T. Chao, deputy director of the Palaeontology Laboratory,
 133 Y.L. Wang, who had recently been transferred from Shanxi University, and T.K. Huang and C.Y.
 134 Lee, who had graduated from university less than a year ago. In order to train the geologists in
 135 topographic mapping, Shiying Zeng, who studied surveying and mapping, also accompanied the
 136 team to provide guidance. Ting specifically mentioned: "The place we are going to has always
 137 been a den of bandits, not to mention now."



138

139 **Figure 2.** In 1937, T. Fang (left), Shiying Zeng (center), and C.Y. Lee (right) answered questions from
 140 visiting experts from the Museum of Fine Arts, Boston, in front of a sample map of China's topography compiled by
 141 the GCS at a scale of 1:3,000,000 (Zhang and Shang, 2022)

142 In early March 1929, Y.T. Chao and T.K. Huang of the Southwest Geological Survey Team
 143 departed from Beiping (Peking), crossed the Qinling Mountains in Shaanxi, and entered Sichuan.
 144 They split up in Hsufu to conduct their surveys. In early October of the same year, Ting led
 145 Shiying Zeng, Y.L. Wang, and others from Chongqing into Guizhou. Tragically, on November
 146 15th of the same year, Y.T. Chao, while working in the field in Zhaotong, Yunnan, was
 147 murdered by bandits in a village inn. Upon hearing this devastating news, everyone was struck
 148 by lightning and filled with grief! Ting, then in the wilderness of Dading, Guizhou, wrote
 149 tearfully to his friend Hu Shih: "At that time, my heart felt like a red-hot coal doused with cold
 150 water, and I was almost driven mad. I have not encountered such a heartbreaking thing since my
 151 mother died. I remember telling you about Y.T. Chao's character. He is exceptionally talented,
 152 diligent in his work, faithful in his research, upright in character, and gentle in temperament.
 153 Those who are not his colleagues and have not spent time with him cannot fully understand his
 154 excellent qualities. My affection for him and the great hopes I place on him far exceed those for
 155 my six brothers. He is a student who has never been abroad, yet he can give speeches in fluent
 156 English and understand books in German and French. He is only thirty-one years old this year,
 157 and his works are already quite impressive. Where else can we find such a talent?" (Hu, 1993;
 158 Zhang and Shang, 2022)



159 Dr. Wong was equally saddened by Y.T. Chao's untimely death, and had hoped that Zhao would
 160 become the director of GSC. T.K. Huang, who later also served as the director of GSC, said, "Mr.
 161 Zhao was the first Chinese geologist to confirm the existence of Alpine-type structures within
 162 China." The Carboniferous Benxi Formation section at Niumaoling in Benxi, Liaoning, China,
 163 was first studied and established by Y.T. Chao in 1926. Academician L.T. Yeh, who graduated
 164 from the Department of Geology at Peking University in 1937, later recalled: "When I was
 165 studying at Peking University, Mr. A.W. Graban taught us palaeontology. At that time, Y.T.
 166 Chao had already passed away for several years, but Mr. Graban would cry whenever Zhao was
 167 mentioned. It's such a pity! Whether in the past, present, or future, Y.T. Chao is a role model."

168 Y.T. Chao (1898-1929, Fig. 3), a brilliant but untimely geologist, graduated from the Department
 169 of Geology at Peking University in 1923. In just six years after starting his career, he published
 170 18 papers and monographs, totalling over one million Chinese characters. While conducting
 171 geological surveys in Southwest China as a lecturer in palaeontology at Peking University, he
 172 essentially clarified the geology of Mount Emei. During his investigations in Peng County,
 173 Sichuan, and other areas, he confirmed that the Longmenshan structure is an Alpine thrust
 174 structure. A separate article will be dedicated to the remembrance and mourning of Y.T. Chao
 175 and other early Chinese geologists who died young.



176

177 **Figure 3.** The brilliant geologist Y.T. Chao (1898-1929) was murdered by bandits (Zhang and Shang,
 178 2022)

179 From the late 1930s, due to the severe impact of the Japanese invasion of China, GSC had to
 180 focus its fieldwork on the extremely underdeveloped southwestern region of China. At that time,
 181 this area was plagued by extremely poor public security, rife with bandits and robbers who
 182 would stop at nothing to stop them. The remote, deep forests that geologists had to personally
 183 venture into were, in effect, havens, even paradises, for these outlaws. In other words, the places
 184 where Chinese geologists worked were precisely the dens of wolves and tigers. But how could
 185 they catch tiger cubs without venturing into the tiger's den? This was the harsh reality that
 186 Chinese geologists of that era had to face.



187 Due to GSC's enormous influence both domestically and internationally, and the fact that its
 188 founders, Ting and Dr. Wong, had direct access to the highest levels of government, coupled
 189 with their own significant social influence, geologists were often escorted by military and police
 190 escorts from various county governments along their field expeditions (Fig. 4), ranging from 2-3
 191 people to 7-8 people. However, due to funding constraints or other complex reasons, some
 192 scholars were unable to obtain adequate protection from local military and police during their
 193 field expeditions.



194

195 **Figure 4.** A group photo of Chinese geologist C. Li (second from right) and others with their guards during a
 196 geological field survey in the 1920s (Zhang and Shang, 2022)

197 In April 1944, fifteen years after Mr. Y.T. Chao was murdered by bandits, a similar tragedy
 198 befell geologists at GSC. This time, three outstanding young geologists were killed. One of them
 199 was a woman, an extremely rare find in the field at the time. The other two were Mr. Hsu, a
 200 researcher at GSC, and Mr. Chen, an engineer. This unprecedented tragedy in the history of
 201 modern Chinese science shocked the nation and the public.



Figure 5. The only surviving photograph of T.Y. Hsu (left) during his field geological survey (Ai, 2018)

T.Y. Hsu (1908-1944), a native of Danyang, Jiangsu, China, graduated from Chengzhong Middle School in Shanghai in 1927 and entered the Department of Foreign Languages and Literature at Fudan University, while also studying social sciences. In 1928, he transferred to the Department of Political Science (Editorial Department of *Geological Review*, 1944; Li, 2020; Liao, 2020). During his university years, Mr. Hsu participated in the Southern Art Academy, founded the magazine "Modern", and was enthusiastic about literary and theatrical activities. In 1930, he went to France to study, and in 1931, he entered the Department of Geology at the University of Montpellier. During his studies abroad, he continued to publish articles in newspapers and magazines such as "Fiction Monthly" and "Eastern Miscellany" introducing European films, dramas, and international politics, such as "The French Theatre Movement Today," "The Film Art of the Latin Nation," and "A Review of the Foreign Policies of the Two Countries Amidst the Sound of Franco-Italian Friendship." After obtaining his master's degree in the spring of 1935, he conducted research on Cretaceous crustaceans and Carboniferous coral fossils at the Palaeontology Research Laboratory of the University of Paris, and soon joined the French Geological Society. He returned to China in the summer of 1935, and in November of the same year, he joined the Palaeontology Research Laboratory of GSC as an associate researcher. After the outbreak of the War of Resistance against Japan, he moved westward with GSC to Changsha, and later to Beibei, Chongqing. In 1942, he was promoted to researcher and concurrently served as the director of the Invertebrate Group of the Palaeontology Research Center. GSC described him as "courageous and responsible, and approachable." From the time he joined GSC until his death, he went to the field 21 times in ten years, and published 29 palaeontology papers in Chinese and foreign languages. "He was especially renowned as a leading expert in Triassic strata and fossils, and his name was known to colleagues abroad." In 1940, he received a



227 research grant from GSC in memory of Mr. Y.T. Chao, and in 1944, he received the second V.K.
 228 Ting Memorial Scholarship from the Academia Sinica. He was only 36 years old when he was
 229 brutally murdered on April 24, 1944. Mr. Hsu was another genius geologist, no less than Y.T.
 230 Chao. By the time of his death, he had completed as many as 74 works in just nine years, with
 231 five more unfinished. In 1949, after identification by Paleontologist Enzhi Mu, the crinoid fossil
 232 discovered by Mr. Hsu in Guanling, Guizhou, China in 1944, the last year of his life, was named
 233 "Traumatocrinus hsui Mu". Mr. Hsu, who mainly engaged in the study of bivalve fossils and
 234 Triassic stratigraphy, was the founder of Triassic stratigraphy research in China (Unnamed,
 235 2018). In 1942, he also served as a professor in the Department of History and Geography at
 236 Fudan University. During his Triassic geological survey in Hubei and Southwest China, he
 237 established the biostratigraphic sequence of bivalve biota in China and proposed the foundational
 238 theory of Triassic division and correlation. His book "*Triassic in Southwest Guizhou*", co-
 239 authored with Mr. Chen, systematically expounded the characteristics of Triassic strata in the
 240 region. Before his death, he served as the editor of "*Bulletin of the Geological Society of China*"
 241 and wrote many popular science articles on geology, promoting public understanding of geology.

242 K. Chen (1916-1944), courtesy name Kuangzhi, was a native of Panyu, Guangdong, China. He
 243 attended Xiangqin Middle School in Guangzhou and in 1937 was admitted to the Department of
 244 Natural History at Xiangqin University of Guangdong Province (later renamed Guangdong
 245 College of Arts and Sciences), which was founded by Jitang Chen in memory of Yingfen Gu
 246 (courtesy name Xiangqin), a Kuomintang elder. Because he was particularly fond of geology, he
 247 conducted in-depth research on the geology of the Lianxian area of Guangdong while he was in
 248 school, and wrote an article entitled "A General Survey of the Geology along the Lianshan
 249 Dazhangling in the Eastern Slope of Lianxian County" (Editorial Department of *Geological Review*,
 250 1944; Li, 2020; Liao, 2020). After graduating in the summer of 1941, he first joined the Geological
 251 Survey of Guangdong and Guangxi Provinces of China, where he co-authored "Geological and
 252 Mineral Resources of Jiufeng in Lechang" with K.S. Mo and Lianjie Liu. When his graduation
 253 thesis, "Geology of the Eastern Slope of Lianxian County, Guangdong Province", was submitted
 254 by the school to the Ministry of Education of China for review, the reviewers were C.C. Young,
 255 a Paleontologist, and T.K. Huang, a geologist, of GSC. They "deeply appreciated" K. Chen's
 256 thesis and recommended him to work at GSC. K. Chen joined GSC in September 1942 as an
 257 assistant engineer and was promoted to a fifth-level engineer in September 1943. After joining
 258 GSC, K. Chen worked with T.Y. Hsu on paleontological research and accompanied him on
 259 investigations of the Triassic geology in Anshun, Pingba, and other areas of southwestern
 260 Guizhou. He also organized fossil specimens transferred from Nanjing to Chongqing. The two
 261 co-authored papers including "Triassic in Southwestern Guizhou" (*Geological Review*, Vol. 9,
 262 Nos. 1-2, 1943) and "Revision of the Chingyen Triassic Fauna" (*Bulletin of the Geological*
 263 *Society of China*, Vol. 23, 1943). Although his specialty was Triassic palaeontology, Chen also
 264 devoted considerable time to mineral resource surveys and wrote and published reports such as
 265 "A Brief Geological Report on the Xiangxi Coalfield in Zigui County, Hubei" (*Brief Report of*



266 GSC, No. 19), "Aluminum Deposits in Yunnan," and "Phosphate Deposits in Yunnan"
 267 (*Quarterly Journal of the China Resources Commission*, Vol. 1, No. 2). GSC described him as
 268 "hardworking and skilled in drawing." Chen himself drew most of the fossils collected by Mr.
 269 Hsu. He was only 28 years old when he was tragically murdered by bandits during a geological
 270 survey in western Guizhou in 1944, after working at the Geological Survey of China for just two
 271 years.



272

273 **Figure 6.** Hand-drawn portrait of Mr. K. Chen (China Geological Survey, 1944)

274

275 At the time, Ma, Hsu, and Chen had just attended the 20th Annual Meeting of GSC held in
 276 Guiyang from April 1st to 8th. As arranged by GSC, they were heading to western Guizhou to
 277 map a 1:200,000 geological map and conduct paleontological surveys and specimen collection.
 278 The three arrived in Panxian County, Guizhou on April 17th and worked there for three days
 279 before arriving at Yangsongchang in the county on the evening of the 20th to stay overnight. The
 280 next day, they walked 30 kilometers to Guanziyao in Xingzhong Township, Puan County, where
 281 they worked for a day on the 22nd. On the morning of the 23rd, they traveled approximately 13
 282 kilometers to Wuliping and stayed overnight at the home of the village head, Yongchang Ye. On
 283 the 24th, they planned to travel 30 kilometers from Wuliping towards Maokou, but unfortunately,
 284 they were robbed and killed by bandits near Huangchang in Qinglong County.

285 **4. The course of the tragedy**

286 Subsequent interrogation of the perpetrators revealed the details of the three persons' deaths (Hou,
 287 1944). On the 22nd, while at the market in Guanziyao, the three were inadvertently targeted by a
 288 pair of greedy eyes. This man, named Zhongsan Yi (ZS Yi), lived in Meihuaqing, approximately
 289 1.5 kilometers from Guanziyao. ZS Yi noticed that these three outsiders had "quite a few bags



290 and used new banknotes for shopping." Seeing the potential for wealth, he conspired with
291 Zhanhong Long, a notorious bandit from Wuliping, to rob them.

292 At that time, large groups of bandits who ruled the mountains were rare in Guizhou Province.
293 However, small groups of scattered bandits, who were farmers in ordinary times but would
294 gather to rob travelers, were "everywhere." ZS Yi, driven by greed, was such a bandit leader,
295 known as "Boss" by the other bandits. He had previously served in the army of a local warlord,
296 and was called "Commander Yi" by the locals. He was also the cousin of Rongqian Yi, a
297 prominent local figure and the chairman of the Qinglong County Provisional Council. Under ZS
298 Yi's command, the habitual bandit Zhanhong Long "gathered more than 20 bandits from Puan
299 and Qinglong counties" and "each took on the roles of spy, lookout, porter, and robbery
300 operative, and waited in several groups" to prepare for the robbery. Because these small groups
301 of scattered bandits did not have their own firearms, ZS Yi "sent his subordinates overnight to
302 deliver three rifles and two semi-automatic rifles to each bandit."

303 Although Hsu and his two companions were unaware that they were being targeted by bandits,
304 they were aware of and wary of the poor security situation in the area. Because of the tragic case
305 of Y.T. Chao, the former director of the palaeontology research Center and a senior scientist
306 from GSC, who was robbed and murdered by bandits during a field survey in Yunnan in 1929,
307 Hsu inquired about the security situation in Xingzhong Township from the township head,
308 Shaoqian Yan, while they were staying there. Before setting off on the 23rd, Hsu specifically
309 requested the township head to send able-bodied men to accompany and protect them. However,
310 the township head assured them that his jurisdiction was absolutely safe and that he could take
311 full responsibility, resolutely refusing their request.

312 The bandits led by Long had originally laid ambushes on the Huangchang and Huagong roads on
313 the 23rd, but Hsu and his companions, conducting geological surveys along the way, stayed
314 overnight at the home of the village head, Yongchang Ye, in Wuliping, thus preventing the
315 bandits from immediately carrying out their plan. Early on the 24th, the three set off from
316 Wuliping to continue their journey. Before departing, Village Head Yongchang Ye specially
317 hired three porters to carry their luggage and act as guides to lead the way. Around 11 a.m.,
318 guided by bandits disguised as porters, they arrived at a secluded spot near Huangchang in
319 Qinglong County, about 8 kilometers from Wuliping—an ambush set up by the bandits. Nine
320 bandits, already lying in wait in the roadside woods, rushed out. Hsu, walking in front and about
321 2 meters behind the porters, was suddenly shot by a bandit; the bullet pierced his waist and
322 abdomen, killing him instantly. Ma and Chen, walking behind, heard the gunshot and
323 "immediately tried to run away," but were blocked by the bandits who "fired warning shots,
324 making escape impossible, and were captured." Having succeeded, the bandits dragged Ma and
325 Chen for more than 10 kilometers, and around 6 p.m., shot Chen and dumped his body in the
326 Maluhe Forest in Qinglong County. Although Ma righteously warned the bandits, "I am a
327 university graduate and a government official. You all have sisters. Please kill me, do not defile



me," the more than ten ferocious bandits ignored her and, utterly devoid of conscience, gang-raped and murdered Ma. The robbers robbed the three of their belongings, including 53,000 yuan in cash, luggage, clothes, and geological instruments. Ms. Ma was shot in the back and out of the chest, while Mr. Chen was shot through both chests and died a gruesome death (Hou, 1944; China Geological Survey, 1944).

When Hsu was the first to be killed, one of the porters, named Liegou An, fled the scene and reported the incident to the local headmen and village heads of Qinglong and Puan counties. The location where Hsu was murdered was only about 10 kilometers from the Datian Township Office in Qinglong County. If the local headmen and village heads had immediately organized a pursuit, Ma and Chen might still have been rescued. However, it wasn't until the next day that the local government sent personnel to investigate. ZS Yi brazenly went to Wuliping on the 25th, retrieved the five guns, and received 18,000 yuan in stolen money.

5. This sorrow will last forever

While Hsu and his two companions were conducting field geological surveys in Pu'an and Qinglong, their colleague, H.Y. Hou, an investigator at GSC, was conducting research on the relationship between plants and soil in nearby Panxian (Hou, 1944). On the morning of the 27th, upon hearing the news of the murders of Hsu and his two companions in Zhenfeng, H.Y. Hou immediately rushed back to Panxian County. He contacted the governments of Pu'an and Qinglong counties by phone to verify the information and discuss matters related to apprehending the perpetrators and rescuing them. Hou then called the Guizhou Provincial Government to report, "but the provincial government authorities were unaware of the matter." On the 28th, he "sent an urgent telegram to Chairman Wu of the provincial government, formally reporting the incident." In a report to C.Y. Lee, director of GSC, in Chongqing that same day, Hou wrote: "My heart is filled with indescribable sorrow. Amidst my grief, I can only do my best to handle the aftermath, hoping to alleviate some of the regret." "I have decided to bring a carpenter and a painter to the scene of the incident to personally oversee the burial and supervise the painting," and "to investigate the circumstances of the robbery in detail before reporting back."

At that time, the anti-Japanese war was in full swing. The location of the incident was mountainous and the roads were dangerous and the transportation was inconvenient. The colleagues of GSC, who were thousands of miles away, were anxious but could not help. Hou, a scholar who was not familiar with the place, rushed to the scene of the incident and took on the heavy responsibility of finding the murderer and handling the aftermath. Although Huangchang, where the incident occurred, was under the jurisdiction of Qinglong County, it was about 100 kilometers away from Qinglong County and 50 kilometers away from Puan County. Hou arrived in Puan County on the 28th and "departed from Puan County on the morning of the 29th and arrived at the scene of the incident at 5 pm that day (Hou, 1944)".



365 Hou insisted on arresting the three porters first and "personally participated in the interrogation."
 366 "Initially, they dared not reveal the name of the main bandit leader," so Hou claimed: "I am
 367 acting on strict orders from the central government to investigate this case; if you do not confess,
 368 you will be executed immediately." The porters still refused to speak, so Hou used a clever trick,
 369 ordering soldiers to drag one porter out and fire two shots, then repeating the same method to
 370 "execute" the other porter. Only after being intimidated did the porters confess the truth: the
 371 mastermind behind the case was "ZS Yi of Meihuaqing, Xingzhong Township, Pu'an," whom the
 372 bandits called "Boss" and the locals called "Commander Yi." Furthermore, ZS Yi "knew that Mr.
 373 Hsu was a civil servant when he was at the Guanziyao and intended to kill them all to prevent the
 374 case from being solved." What shocked Hou even more was that robbery and murder were
 375 commonplace for these bandits. "These bandits had killed numerous passers-by, dumping the
 376 bodies in caves or by the river, making it impossible for their families to find them. This spring,
 377 a sugarcane seller had only two hundred yuan; they killed him too. Each bandit could confess to
 378 several murders." A total of 29 bandits participated in the robbery and shooting of Hsu and two
 379 others.

380 Although GSC had submitted a report to its superior authority, the Ministry of Economic Affairs,
 381 requesting security protection from the local government when the scientists were out conducting
 382 research, Hou's investigation report stated that "the provincial government simply transferred it
 383 to the local government below; there was no special attention from Chairman Wu." What
 384 particularly angered Hou was that while several petty bandits had been captured, the mastermind,
 385 ZS Yi, remained at large, hiding in the countryside. Therefore, he advised Director C.Y. Lee:
 386 "The only way is to ask Minister Wong to convey to Chairman Wu a strict order for the county
 387 to apprehend the suspect." "To prevent future incidents, it would be best to ask Minister Wong to
 388 specifically request Chairman Wu to handle the matter strictly. If we are lenient with the
 389 provincial government this time, the same thing may happen again in the future."

390 In fact, upon receiving Hou's initial report, Director C. Y. Lee immediately reported to Dr. Wong,
 391 the Minister of Economic Affairs and former director of GSC, who was also the institute's
 392 superior. Upon receiving the report, Dr. Wong personally drafted a telegram to inform
 393 Dingchang Wu, the Chairman of Guizhou Province. To strengthen the handling of the aftermath
 394 and prevent Hou from fighting alone in Guizhou, C.Y. Lee specially dispatched Y. Hsiung, a soil
 395 scientist from Guizhou, to Guizhou to assist. Dr. Wong also wrote a special letter to Yichun
 396 Zhou, then the Director of the Guizhou Provincial Finance Department and Acting Chairman,
 397 requesting "generous assistance." At the same time, Dr. Wong telegraphed C.Y. Hsieh, the
 398 director of the Mineral Exploration Bureau and a researcher at GSC, the Resources Commission
 399 of the Ministry of Economic Affairs, in Guiyang, ordering him to provide assistance; and
 400 instructed the Transportation Department of the Resources Commission in Guiyang to provide Y.
 401 Hsiung and others with "advance payments of up to 100,000 yuan" to support their handling of
 402 the aftermath.



403 On May 9th, Dr. Wong telegraphed Chairman Wu again, criticizing the local officials' report to
 404 Chairman Wu as "incomplete," and demanding that "the provincial government send another
 405 commissioner to verify the facts on-site." To increase pressure on the Guizhou provincial
 406 authorities, Wong telegraphed C.Y. Hsieh on May 13th, ordering him to meet with Chairman Wu
 407 and urging the provincial authorities to "swiftly arrest and punish" ZS Yi. On the same day,
 408 Wong and C.Y. Lee jointly telegraphed H.Y. Hou, praising him for "handling all matters very
 409 appropriately" and requesting that he meet with Chairman Wu along with C.Y. Hsieh. On May
 410 19th, Wong telegraphed the Guizhou provincial government again: "Requesting an investigation
 411 and strict arrest of the perpetrators to ensure they are punished according to the law, leaving no
 412 one unpunished."

413 Due to the high mountains, treacherous roads, and inconvenient transportation and
 414 communication (Guizhou is a typical karst landscape), Chongqing authorities only received
 415 Hou's letter dated May 13th on the 21st. The main culprit, ZS Yi, had been shot and killed on
 416 May 12th while resisting arrest during his escape. This was excellent news.

417 Hsu and others were described as having "impoverished families, desolate after their deaths, or
 418 orphaned and destitute, their livelihoods disrupted, and lacking the means to raise them; or
 419 elderly parents, devastated by the loss of their care and support." Hsu's case was particularly
 420 poignant, as "his widowed wife and orphaned child, now living in exile, are truly pitiful. His
 421 youngest son, Beisheng, is only four years old and will need financial support in the future."
 422 Providing for the deceased's family and funding for the orphan's education were very real and
 423 daunting problems. Therefore, while urging the Guizhou local authorities to actively apprehend
 424 the perpetrators, Dr. Wong and C. Y. Lee were also actively promoting matters of compensation
 425 and commendation.

426 On May 19th, the Ministry of Economic Affairs submitted a petition to the Executive Yuan of
 427 the Republic of China government, requesting that pressure be placed on the Guizhou Provincial
 428 Government to severely punish the perpetrators, provide generous compensation to the families
 429 of the victims, and give them high-profile commendation, so that future geologists could focus
 430 on scientific research without worrying about a lack of successors and the resulting significant
 431 loss to the nation.

432 Finally, a fundraising campaign was jointly initiated by renowned Chinese geologists including
 433 Chia-Hua Chu, Dr. Wong, J.S. Lee, Y.C. Sun, C.Y. Hsieh, L.F. Yeh, H.T. Lee, T.C. Chou, C.C.
 434 Young, C.C. Yu, T.H. Hou, K. Chang, S.S. Yoh, H.S. Wang, T.K. Huang, Tsan-Hsbun Yin, and
 435 C.Y. Lee to raise funds for the survivors' care of Hsu, Chen, and Ma, as well as for the education
 436 of Hsu's orphans. To permanently commemorate the three scholars who sacrificed their lives, a
 437 portion of the donations was used by GSC to establish the Y.S. Ma Memorial Prize, the T.Y. Hsu
 438 Memorial Prize, and the K. Chen Memorial Prize. The three awards mentioned above have been
 439 reviewed since 1945 and are granted to relevant scholars. The Y.S. Ma Award is mainly awarded



440 to female geologists, while the K. Chen Award is mainly awarded to young scholars. These
 441 awards ceased to exist after 1949.

442 Under pressure, the Guizhou Provincial Government, through the Yunnan-Guizhou Pacification
 443 Deputy Directorate, ordered the Qinglong County Government and its security forces to
 444 rigorously apprehend the bandits who murdered the three geologists. After obtaining the exact
 445 location of the bandits hiding within Qinglong County, the county government dispatched armed
 446 forces to capture them. In the ensuing firefight, three were killed on the spot, and the remaining
 447 thirteen, led by Xiaoni Xu, were captured. After interrogation and verification of the facts, the
 448 thirteen bandits involved in the murder of the three geologists were executed by firing squad in
 449 Puan County on June 4, 1944.

450 On June 11, the Geological Society of China and GSC jointly held a memorial service for Ma,
 451 Hsu, and Chen in the auditorium of GSC in Beibei, Chongqing. The venue displayed portraits of
 452 the three (as shown in Fig. 6), over fifty manuscripts, and more than ten photographs of the scene
 453 of the tragedy. More than 200 people attended. The hall was also adorned with over three
 454 hundred eulogies and memorial texts presented by prominent figures in the Nationalist
 455 government's military and political circles, including Yingqin He, Chongxi Bai, and Chia-Hua
 456 Chu, as well as renowned educators and foreign scholars such as Joseph Needham. Leading
 457 figures in the Chinese geological community were present. Director C.Y. Lee presided over the
 458 ceremony and read the eulogy. Tsan-Hsbun Yin introduced the lives of the three individuals,
 459 particularly praising T.Y. Hsu for his "significant contributions to the study of Triassic strata
 460 nationwide."

461 On June 16, Dr. Wong wrote again to Chairman Wu, requesting that Guizhou continue its serious
 462 pursuit of the murderers and outlining five specific demands regarding the aftermath. In his reply
 463 on the 18th, Chairman Wu accepted all five demands. With the efforts of all parties, the coffins
 464 of the three scientists, Ma, Hsu, and Chen, were transported to Guiyang. They were buried in
 465 Huaxi on June 21, and a monument was erected in their memory. By the end of June, 24 of the
 466 bandits who murdered Ma, Hsu, and Chen had been apprehended or brought to justice.

467 On August 5, the Executive Yuan notified the Ministry of Economic Affairs that, "based on the
 468 resolution of the 670th meeting of this Yuan, we request the National Government to issue an
 469 official commendation and grant T.Y. Hsu 5,000 yuan, and K. Chen and Y.S. Ma 3,000 yuan
 470 each." Soon after, the National Government approved the Executive Yuan's request and officially
 471 issued a commendation order for Ma, Hsu, and Chen:

472 *Order of the Nationalist Government, August 30th, 1944*

473 *The Executive Yuan reports: According to a report from the Ministry of Economic Affairs, three researchers from*
 474 *the Geological Survey of China—T.Y. Hsu, K. Chen, and Y.S. Ma—were dispatched to western Guizhou to*
 475 *investigate geology and mineral resources. They were tragically killed by bandits. The Ministry requests that an*
 476 *official commendation be issued. It is understood that T.Y. Hsu and the others possessed specialized knowledge and*



477 *performed their duties with courage and bravery. Their deaths in the line of duty are deeply mourned. An official*
 478 *commendation should be issued to show respect and remembrance.*

479 *Chairman: Chiang Kai-shek*

480 *Premier: Chiang Kai-shek*

481 **6. Immortal Glory**

482 After the crime, to bring the perpetrator to justice and ensure the well-being of the surviving
 483 family and orphans, Dr. Wong and the geological community mobilized almost all available
 484 social resources. Soil scientist H.Y. Hou painstakingly obtained a confession from the bandits,
 485 ultimately leading to the case's resolution and the perpetrator's capture. In the end, the surviving
 486 family and orphans received compensation, and T.Y. Hsu and others were commended by the
 487 Nationalist government. Wu Dingchang, the chairman of Guizhou Province, and the county
 488 magistrate of the county where the incident occurred resigned in disgrace.

489 The following year, Dr. Wong, the Minister of Economic Affairs and former director of GSC,
 490 was elected a member of the Kuomintang Central Committee and appointed Vice Premier of the
 491 Executive Yuan of the Nationalist government. Around two years later, he rose further,
 492 becoming the last Premier of the Executive Yuan before the Republic of China withdrew from
 493 mainland China.

494 Following the devastating tragedy, M.S. Chen, a 27-year-old geologist and colleague at GSC,
 495 who was then working at the Northwest Branch in Lanzhou, was overcome with grief. Together
 496 with his colleague T.L. Hsu, they wrote four elegiac couplets in tiny characters on a letter. One
 497 couplet, jointly mourning the three victims, reads:

498 *Heaven and earth have forsaken your talent, your bones remain forever by the Huaxi River;*

499 *A deep sorrow lingers during our travels, our grief constantly lingers around the Longshan Mountains.*

500 In addition, one elegy was sent to each of the three deceased. The couplets were sent to GSC in
 501 Beibei, Chongqing.

502 M.S. Chen, who later became an academician of the Chinese Academy of Sciences, came from a
 503 family with a rather legendary history. His father, Jinyong Chen, was a close friend and like-
 504 minded friend of John Leighton Stuart, who was also a professor at Jinling Theological Seminary.
 505 The Chen family had ten siblings in total, five daughters and five sons. M.S. Chen was the fourth
 506 of his brothers, and the eighth in his family. His third brother was Mengjia Chen (1911-1966), a
 507 renowned modern Chinese palaeographer, archaeologist, poet, and a leading collector of classical
 508 Chinese furniture. Mengjia Chen was extremely famous as a poet in the 1930s, and was
 509 considered one of the "Four Great Poets of the Crescent Moon School" along with Yiduo Wen,
 510 Chang Hsu Hamilton Hsu (Tsu-mo Hsu/Tseu-mou Hsu), and Xiang Zhu. He committed suicide
 511 during the Cultural Revolution.



512 GSC was founded in Beijing (Peking) in 1913, initially named the Geological Survey Institute of
 513 the Mining Administration Department of the Ministry of Industry and Commerce. Due to
 514 repeated changes in the name of its supervising agency, the institute was successively renamed
 515 the Geological Survey Institute of the Ministry of Agriculture and Commerce, the Geological
 516 Survey Institute of the Ministry of Agriculture and Mining, the Geological Survey Institute of the
 517 Ministry of Industry, and the Geological Survey Institute of the Ministry of Economic Affairs. In
 518 1944, it was named the Geological Survey of China (GSC) under the Ministry of Economic
 519 Affairs. Its location was moved from Beiping (Peking) to Nanjing in 1935, and during the War of
 520 Resistance against Japan, it was forced to relocate again to Changsha and Chongqing. However,
 521 its physical existence remained uninterrupted. Renowned geologists V.K. Ting, Dr. Wong, T.K.
 522 Huang, and Tsan-Hsbun Yin successively served as directors or acting directors. In 1944, the
 523 director was C.Y. Lee. The institute was praised by Tsai Yuanpei, a prominent contemporary
 524 Chinese educator, as "China's first truly scientific research institution." GSC has made
 525 pioneering contributions to many disciplines, including geology, geography, mineral resources,
 526 palaeontology, paleoanthropology, seismology, soil science, cartography, and archaeology,
 527 achieving a series of major scientific research results with global influence, such as the
 528 excavation and research of "Peking Man" at Zhoukoudian. "In the years before 1949, GSC was a
 529 source of great pride for the Chinese people (Li, 2020)."

530 After the outbreak of the War of Resistance against Japan, Dr. Wong, then director of GSC,
 531 twice published "Letters to Colleagues of GSC," reminding everyone that while scientific truth
 532 knows no borders, scientists have a motherland, and "scientific pursuits should never be used as
 533 a pretext to abandon the nation." He also urged everyone to use their professional knowledge to
 534 serve the war effort, to conduct "rapid and detailed investigations of urgently needed mineral
 535 resources, and to compile illustrated guides."

536 After GSC was forced to relocate with the Nationalist government, scientists not only continued
 537 scientific research and field investigations, but also devoted more energy to geological and
 538 mineral resource surveys in the rear areas, directly contributing to the development of industry
 539 and mining in the rear and to the defense of the country. For example, T.Y. Hsu not only
 540 continued his paleontological research, writing scientific papers and giving academic lectures,
 541 but also served as assistant secretary of the Geological Society of China and editor of its journal,
 542 participated in the annual meeting of the Geological Society of China, edited and proofread the
 543 "*Journal of the Geological Society of China*", compiled a secondary school natural history
 544 textbook (general geology and geological history section) on behalf of the National Compilation
 545 and Translation Bureau, and actively mentored young scholars.

546 Years later, according to T.K. Huang, a colleague of T.Y. Hsu and former director of GSC: T.Y.
 547 Hsu, who was physically weak and relied on meat to maintain his strength and energy, could no
 548 longer afford meat due to soaring prices after the outbreak of the War of Resistance against
 549 Japan and the relocation of GSC to Beibei, Chongqing. He was often bedridden! To make a



550 living, he had to reluctantly sell his books, selling off all his accumulated books in two or three
 551 years! Because he couldn't afford a maid, he and his wife had to fend for themselves. He
 552 painstakingly washed rice by the pond and personally went to the market to buy vegetables.

553 At the memorial service for the three persons on June 11, Dr. Wong delivered a deeply moving
 554 and indignant speech: "I am particularly saddened by two things today. First, 14 percent of our
 555 geological community has died tragically in the line of duty, one after another, yet this has not
 556 received sufficient attention from society. This is truly insufficient to inspire the future. Second,
 557 when someone is killed by bandits, there is little sympathy shown. The deaths of such important
 558 scholars are considered commonplace. While we ourselves should constantly strive to improve,
 559 the local authorities should also feel ashamed." Dr. Wong even likened Chinese science to the
 560 dark ages of the 16th century: "Today is like the 16th century; scientists must make continuous
 561 sacrifices to break through the darkness."

562 On the other hand, within his authority, Dr. Wong secured as much financial compensation as
 563 possible for the families of Hsu and the others. He ultimately increased the original special
 564 allowance of 5,000 yuan for T.Y. Hsu and 3,000 yuan each for K. Chen and Y.S. Ma tenfold,
 565 thus achieving the effect of "comforting the dead and comforting himself."

566 Following the murder of the three young geologists, major newspapers and other news media
 567 reported and mourned their deaths. Even after the change of regime in mainland China, and
 568 especially after the Reform and Opening Up, numerous articles and books continue to express
 569 deep remembrance and mourning.

570 Since the establishment of GSC, many outstanding geologists have made significant
 571 contributions. Among them, many Chinese geologists who died young are particularly
 572 regrettable and will forever live in people's hearts. They are Y.T. Chao, S. Chu, Y.S. Chi, T.Y.
 573 Hsu, K. Chen, Y.S. Ma, and the founder V.K. Ting, among others.

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