

丁文江文集



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A COLLECTION OF
WORKS
BY V. K. TING

第二卷

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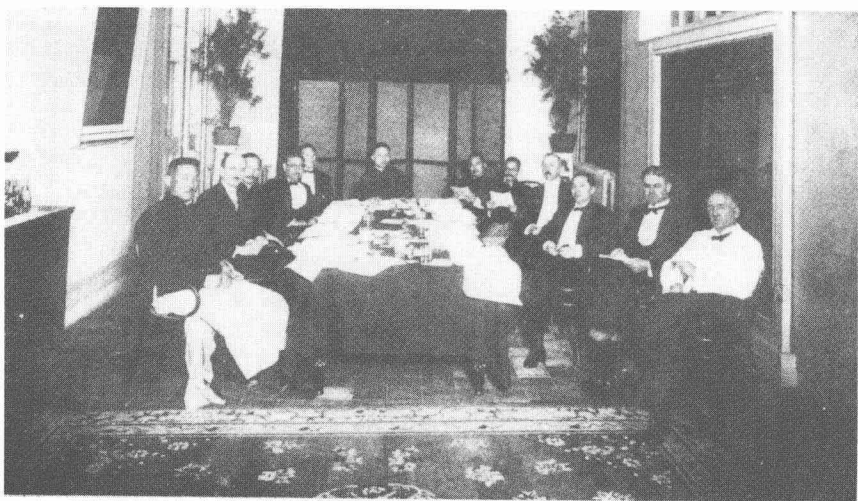
1929 年主持贵州地质调查时的丁文江



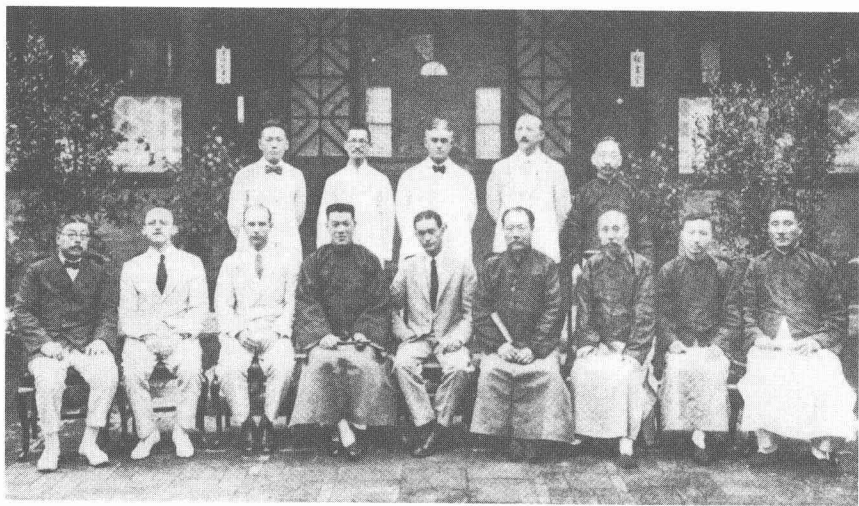
1913年丁文江与梭尔格在井径考察，前排左立者为梭尔格，右立者为丁文江



1916年地质研究所教员与毕业学生合影。前排从左至右：翁文灏、章鸿钊、丁文江



1925年6月2日—4日中基会第一次董事年会。从左至右：张伯苓、顾临 (R.S.Green)、丁文江、颜惠庆、周诒春、范源廉、黄炎培、蒋梦麟、贝诺德 (C.R.Bennett)、顾维钧、贝克 (J.E.Baker)、孟禄 (Paul Monroe)



1925年7月28日中基会于北京正式开幕。二排右一为丁文江



第二卷说明

本卷收入《丁文江先生地质调查报告》 (*Geological Reports of Dr. V. K. Ting*), 该书由南京国民政府经济部中央地质调查所 1947 年 6 月印行, 黄汲清、尹赞勋等先生负责编辑整理, 主要收入民国二年至民国十九年间丁文江先生在冀、晋、鲁、滇、桂、黔、川各省实地考察的报告, 它们大多以英文撰成, 现据该版收入。

原书所附图册仍作附册印装, 收入《丁文江文集·第二卷/第三卷附图》。

Preface

It was already eleven years since Dr. V. K. Ting, formerly director of the Geological Survey of China, passed away after an accidental poisoning by coal gas in Hunan. Dr. Ting was one of the founders of Chinese geology. He had done extensive field observations on geology especially in the southwestern provinces besides his administrative works in the Geological Survey, in the Peipiao Coal Mining Company, in the Academia Sinica, etc.

Accompanied by Prof. F. Solger, a German geologist, Ting investigated the area along the Chengtai Railway (between Shihchiachuang and Taiyuan) in 1913. This was the first field work of Chinese geologists. In the next year he went to Yunnan and southwestern Szechuan (now Sikang) and explored parts of the almost inaccessible Lolo region. After his resignation from the mayorship of Greater Shanghai he made geological investigations in Kuangsi in 1928. One year later he led a party consisting of Messrs. Y. T. Chao, T. K. Huang, Y. L. Wang and S. Y. Tseng to Szechuan, Kueichou and Yunnan to make geological observations. All the materials collected and data recorded by him during these trips are still of scientific and practical value. But owing to the cautiousness of Dr. Ting in publishing his results, he did not complete his reports and left his field notes and sketches unpublished.

Sometime after the death of Ting, it was decided that the Geological Survey should take charge of the compilation work of Ting's manuscripts.

This was, however, not done until 1944 when Dr. W. Y. Ting, brother of V. K. Ting, reminded us again about this matter. The task was then carried on by Drs. T. K. Huang and T. H. Yin with the assistance of Messrs. C. S. Pien, K. Y. Lee and N. Chin. All the sketches and map were redrawn by the draftsmen. A bibliography was compiled by I. W. Shen. The whole work was completed in the spring of 1946.

During the war time the copious manuscripts and illustrations could hardly be printed in Chungking on account of the shortage of paper and the poor printing technique. We contemplated to print them in India, but this plan was changed following the victory of the war over Japan. Dr. T. K. Huang then brought them to Peiping for printing.

Another serious question arisen when the manuscripts were ready for publication was how to raise funds to cover the printing expenses. Fortunately, former friends and colleagues of Dr. Ting came to our aid and in a few months generous donations were received from: Dr. Chu Chia-hua, Minister of Education, and concurrently President of the Academia Sinica; Mr. Chien Chang-chao, then Chairman of the National Resources Commission; Dr. Hu Shih, Chancellor of the National Peking University; Dr. Wong Wen-hao, General Manager of the Chinese Petroleum Corporation; Mr. C. Y. Hsieh, Director of the Mineral Exploration Bureau; Mr. Wang Yun-wu, then Minister of Economic Affairs; Mr. H. H. Ling, Vice Minister of Communications, and Mr. Cheng Wen Hsüen, General Manager of the Hwainan Mining and Railway Company. To all these gentlemen and their respective and related offices and companies we wish to tender our most cordial gratitude. Our indebtedness to Drs. T. K. Huang and T. H. Yin for their editing and printing work with the assistance of Messrs. C. S. Pien, K. Y. Lee, N. Chin, I. W. Shen, T. C. Tseng, and M. L. Chow is also expressed here.

C. Y. Lee,

Director, Geological Survey of China

Nanking, June 14, 1947

Ven-kiang Ting Biographical Note

By Wong Wen-hao

Ven-kiang Ting was born in 1887 at Huangchiao village, Taihsing district, Kiangsu Province^①. His brilliant intelligence was early noticed as he has received excellent marks at the first graduate examination at the age of thirteen years. In the examination paper he wrote eloquently on the accomplishment of Emperor Han Wu-ti (140 AD-87 AD) in developing the southwestern area of China. This special interest in the Southwest region seemed to have been prophetic for his later geological work which was chiefly concentrated in Yunnan, Kueichow and neighbouring provinces.

In the beginning of the twentieth century, the younger generation in China earnestly desired to study abroad with the intention of getting the necessary training for the important work in this country. Ting went to Japan in 1902 and became interested in the revolutionary movement which was being prepared by a group of Chinese residents. He shortly realized, however, that China more seriously needed men of technical knowledge who would help in the intellectual and economical development of the country. He tried hard and succeeded in reaching England in 1904. After diligent and successful work in English language and general education he was admitted in 1907 to the geological department of the University of Glasgow to work with Prof. J. W. Gregory. Before entering Glasgow University he travelled on the continent of Europe in 1906-1907 when he became familiar with French and German languages.

After his graduation from Glasgow in 1911, he returned to China. On his own initiative he landed at Saigon and travelled in Yunnan, Kueichow and Hunan provinces in order to make acquaintance with the geographical and geological features of this area to which he later devoted much more work.

In 1912 Ting taught biology in a middle school in Shanghai and wrote in Chinese a good textbook of zoology. He was soon invited by the Ministry of Industry and Commerce in Peking to be Chief of the Geological Section, a position which he took up in February 1913 under Mr. Chang Yi-ou^②, chief of the

① 江苏泰兴县黄桥。 ② 张铁欧。

Mining Department. In view of the fact that geology was yet a science quite new in China, and there existed too few people who were really able to do any serious work, Ting quickly saw the necessity of training a number of younger men. This work was done jointly with Mr. H. T. Chang^① a geologist graduated from the University of Tokyo, in Japan. Chang became the director of a Geological School started in July 1913 while Ting himself devoted his time chiefly to field work. He made the geological map of the whole area between Shihchiachuang^② and Taiyuan^③ and investigated the coal, iron ore and pyrite resources of several districts of Shansi province. In his geological work of this early period he was helped by Dr. F. Solger, a young German geologist who had taught geology for more than two years in the Imperial University of Peking. The Geological Department of the University was stopped in 1912 and the full equipment was loaned to the new Geological School established by the Ministry of Industry and Commerce. Ting intended to engage Solger as the principal professor in this school, but this plan could not be carried out as Solger was taken prisoner by Japanese troops at Tsingtao in 1914 and his place was taken by Dr. Wong Wen-hao^④ who returned from Belgium early in 1913.

Ting's main work was in Yunnan. He arrived in Kunming^⑤, the capital of the province in February 1914 and started his investigations in Koshiu^⑥ district well known for tin production. At that time, tin at the total value of ten to twenty millions of dollars was produced every year, although the output has been still further increased later. He went back to Kunming in April and soon left again for the eastern and northern parts of the province chiefly covering Fuming^⑦, Wuting,^⑧ Yuanmou,^⑨ Tungchuan^⑩, Chiaochia^⑪ and Chutsing^⑫ districts. He penetrated also in the border of Kueichow province and crossed the River Chinshachiang^⑬ to work in Huili^⑭ district of Szechuan province. In these extensive travels which lasted till the winter of 1914, Ting did his best to make geological maps, collect rich fossils and pay special attention to mineral deposits. He also gathered interesting material on the historical development of the local mining and smelting industry. He profited of the opportunity to make also a number of anthropological measurements of the local tribes.

Ting wrote several short papers on mineral deposits, chiefly the copper mines of Tungchuan. He emphasized the difference between the older and modern mining and metallurgical methods and endeavored to prove the

① 章鸿钊。② 石家庄。③ 太原。④ 翁文灏。⑤ 昆明。⑥ 个旧。⑦ 富民。
⑧ 武定。⑨ 元谋。⑩ 东川。⑪ 巧家。⑫ 曲靖。⑬ 金沙江。⑭ 会理。

necessity of modernization. As China since long years tradition relied on copper or brass coins as main currency, the deposits of Tungchuan were important in the supply of copper for the whole country since the latter part of the seventeenth century, and since then the industry has been controlled by the central or provincial government.

Ting was back in Peking at the end of 1914. He had to teach palaeontology in the Geological School because at that time this subject could be given by nobody else. He worked hard however to increase the time and opportunity for the practical training of the students. The educational program was thus reorganized so that field excursions became necessary and more extensive. In each excursion students were taught to observe, sketch, collect and map. He set a personal example in the work and both professors and students travelled far in several provinces. In the summer of 1916 each student was given a special area to investigate from which a thesis should be submitted. The graduates of this school including C. C. Wang^①, C. Y. Hsieh^②, L. F. Yih^③, C. C. Liu^④, T. H. Chow^⑤ etc. were admitted junior members of the Geological Survey which was then reorganized and practically established at that time as a special department under the Ministry of Agriculture and Commerce. Ting was appointed director of the Survey.

Ting insisted on the necessity of separation of work between survey and education. The Geological School of the Ministry was then stopped while a new department of geology was created in the National University of Peking as a proper center of forming new geologists. H. T. Chang and W. H. Wong entered also in the Geological Survey as divisional chiefs, taking no part in the University teaching.

In the earlier period the Geological Survey's work was concentrated on the mineral resources, chiefly coal, iron ores and incidentally antimony. Some Swedish geologists, specially Messrs. J. G. Andersson and F. R. Tegengren, advisers to the Ministry, contributed important parts to the earlier investigation of iron ores. Field observations on coal and other minerals were also extensively made by Chinese geologists and mining engineers utilizing the Geological Survey as the main center of these activities. A summary of all mineral resources was published by W. H. Wong.

A real mapping was also begun. A sample of special study was the memoir on the geology of the Western Hills of Peking including a geolog-

① 王竹泉。② 谢家荣。③ 叶良辅。④ 刘季辰。⑤ 周赞衡。

ical map on the scale of 1:100,000 published under the authorship of L. F. Yih, but Ting contributed a good part in the preparation and editing. A general mapping of the whole country on the scale of 1:1,000,000 was projected and the first folio entitled the Peking-Tsinan Sheet was issued.

The publication of the Bulletin and Memoirs of the Geological Survey was started in 1920 and continued without interruption to the present. Besides the geological papers, Ting established a special series dealing with the mining industry. The first volume on the general statement of the mineral industry was compiled by Ting and Wong recording events and statistics since the beginning of the Republic.

Ting was an enthusiastic patriot and had wide interest beyond geology. He went to Europe in 1920 together with the well-known scholar Liang Chi-chao^① on the occasion of the peace conference at Versailles. He profited of the occasion to visit the scientific men in different countries and returned to China through the United States of America. Realizing the necessity of more detailed work in palaeontology and stratigraphy in China, he asked Dr. A. W. Grabau, formerly Professor at the Columbia University, to come to Peking in 1920. Grabau was then appointed Palaeontologist of the Geological Survey and Professor at the University of Peking. Ting also recommended Mr. J. S. Lee^② then graduate from England to the University. Thus without being professor himself, Ting engaged for the University two great professors for palaeontology, petrography and related branches. This is a good example of his devotion to geological science both in education and work.

Palaeontological contributions soon became extensive and important. In order to publish these papers at a necessary standard, Ting started a new set of memoirs *Palaeontologia Sinica* which has fast grown to become one of the most important palaeontological series in the world.

Up to 1921, the Geological Survey offices were all located at 3, Fengsheng Hutung, Peking. The space was limited and some extension was necessary. Ting raised necessary fund from private contributions to construct a new building for a Library at 9, Ping-ma-ssu, which became since then the main center of the Geological Survey leaving the old buildings of Fengsheng Hutung, as the center for exhibition. Donations were indeed necessary for new buildings and for new publications such as *Palaeontologia Sinica* as the regular budget of the Survey was very small, scarcely enough

① 梁启超。② 李四光。

to pay the modest salary of the whole staff.

Ting, in spite of the many kinds of work in the organization of the Geological Survey, was never tired of doing field work himself. He studied in great detail the coal field of I-hsien^① in South Shantung and planned the prospecting work for the Chung-hsing^② company which has become now one of the most prosperous coal mines in China. He travelled in South Anhui, Kiangsu and Chekiang and prepared a memoir on the geology of the Lower Yangtze which was published by the Hwangpo Conservancy Board in Shanghai. In this memoir, he tried to explain the various changes of the lower course of the Yangtze and to estimate the rate of advance of the shore line.

In studying the main iron ore deposits of the country an area of oolitic hematite ores was discovered by members of the Geological Survey in Hsuanhua^③ and Lungkuan^④ districts in North Chihli (now considered to be part of Chahar). A company was formed for the development of these ores and a blast furnace established at Shihching-shan^⑤ near Peking in 1920. Ting was one of the directors of this Lungyen^⑥ Company and contributed some work in studying the iron ores and finding the manganese deposits in Changping^⑦.

Ting paid particular attention to the development of natural resources in China. In view of supplying fuel to the Railway between Tientsin and Mukden, in 1921 he accepted the position of general Manager of the Peipiao^⑧ Mining Company for working coal in East Jehol. In order to devote his full energy to this work, he became honorary director of the Geological Survey and asked the Ministry to appoint Wong acting director of the Survey to actually take care of the practical direction. He planned the whole development of the Peipiao mine which produced after two years of preparation almost three thousand tons of coal a day. This is a remarkable example of efficient work when the capacity of production and the modest amount of capital are considered.

Ting was a great admirer of Hsu Hsia-ko^⑨, a Chinese geographer of the seventeenth century who travelled extensively in the country, and left remarkable records of his journeys. Ting specially pointed out that Hsu was the first Chinese who ascertained the true source of the Yangtze River and made surprisingly accurate interpretation of the volcanic phenomena of Yunnan and the karstic topography in Kwangsi. Ting prepared in 1923 a biographical note year by year of the work of Hsu with an atlas of maps showing the main geographical features described by him. A little later Ting obtained also rich data of the recent military affairs and published a book recording the most important military feature of China.^⑩

① 峰县。② 中兴。③ 宣化。④ 龙关。⑤ 石景山。⑥ 龙烟。⑦ 昌平。⑧ 北票。⑨ 徐霞客。⑩ 《民国军事近纪》。

The China Foundation for the Promotion of Education and Culture was established to administer the indemnity fund returned by the United States. Ting was one of the trustees in 1923 and obtained a yearly subvention for the Geological Survey. In 1925 Ting was one of the three Chinese members of the advisory committee for the British part of the indemnity fund. But at that time he was deeply interested in the politics of the country. He felt the necessity of a thorough political reorganisation without which it is even not possible to successively conduct scientific research. He approached General Sun Chuan-fang^① who was chief of Kiangsu and four neighbouring provinces. He became Mayor of Shanghai and Wusung in 1925. In this position he endeavored to obtain for the Chinese government the control of the mixed local court in Shanghai which was largely under the influence of foreign consuls. His strong determination combined with sincere and eloquent talk has well exemplified the best spirit of the younger generation in China. He created the public health department, reorganized the bureau for public utilities and practically laid down the foundation for a modern municipality in Shanghai. It was he who first recognized the necessity of utilizing the lower course of Huangpu River and by this way extending the area of the great port.

In the north the north-eastern troops under Fengtien leaders, were then all strong and certain commanders attempted to occupy Kiangsu and Anhui. Ting was opposed to these less well-disciplined troops suspected of friendship with some foreign country, and he tried hard to persuade his colleagues to establish modern administration in the area under their control.

In 1927 Sun Chuan-fang refused to cooperate with the revolutionary army of Chiang Kai-shek who came from Canton and fought hard against them in Kiangsi. Hsia Chao^②, Governor of Chekiang, suddenly attacked Shanghai with about thirty thousand soldiers. Ting quickly counter-attacked together with General Li Pao-chang commanding less than three thousand men and was completely victorious. After the death of Hsia his troops were entirely disorganized. Sun Chuan-fang was however soon defeated near Kiukiang^③ and went to Tientsin to beg the leaders of the Fengtien army for military help. Ting being dissatisfied with this policy resigned from his position. The same attitude was taken by Chen Tao-yi^④, Governor of Kiangsu province. Chen Tao-yi began his earlier career as a member of the revolutionary party Tung-men-wei under the leadership of Sun Yat-sen and was well known for his highly honest and patriotic character.

① 孙传芳。② 夏超。③ 九江。④ 陈陶遗。

After his resignation from Shanghai Ting had difficulty in providing for the subsistence of his family and had to rely upon loans from friends. After a short time spent in Peking he went in 1928 to Kuangsi province and travelled widely to see tin and coal deposits. In 1929 he together with Wong planned systematic geological observation and mapping in the south-western provinces for which several parties were to be sent by the Geological Survey. Ting himself led a party and went from Chungking^① into Kueichow province supported by a fund from Dr. Sun-fok^② then Minister of Railways who was then much interested in Ting's work. Y. T. Chao^③, the leader of another party who travelled from Suifu^④ into Yunnan was killed by bandits at Hsiasinchang^⑤ in North Yunnan. This was a very serious blow to Ting, specially so as Chao was one of the best younger geologists highly esteemed by Ting. In spite of the irreparable loss however he continued the work in Kueichow and went to the border of Kuangsi province on the south and made detailed stratigraphical observations of Palaeozoic strata with rich palaeontological collections all along the routes he traversed. This was probably the best field work he did in his whole life, because he had become more mature in his methods, better equipped with stratigraphical knowledge available from elsewhere and specially because he had at that time decided to devote his full energy to scientific work again. He was well assisted by Messrs. T. K. Huang^⑥ and Y. L. Wang^⑦, the former extended the observation to a more western area in Kueichow province. For the surveying work he had the help of Mr. S. Y. Tseng^⑧ who determined the latitude and longitude of a number of places.

After almost one year of field work he returned to Peking where he worked hard to study the maps and sections and make stratigraphical correlation with the palaeontological advises of A. W. Grabau, T. K. Huang, T. H. Yin^⑨, C. C. Yu^⑩, and Y. S. Chi^⑪. The discussions led by him were indeed a great stimulus to the other scientists who found thus their work the more interesting. It was the intention of Ting to systematically arrange and revise all the geological and palaeontological data obtained from Yunnan, Kueichow and Kuangsi provinces for publication by the Geological Survey.

Meanwhile Ting continued his interest in several other studies. He wrote his plan of Szechuan-Kuangchow railway and started in collaboration with Wong and Tseng the edition of a new atlas of China in commemoration of the sixtieth anniversary of the establishment of the great daily journal *Shen-pao*^⑫. He attempted to write a systematic history of China

① 重庆。② 孙科。③ 赵亚曾。④ 叙州。⑤ 闸心场。⑥ 黄汲清。⑦ 王曰伦。⑧ 曾世英。⑨ 尹赞勋。⑩ 俞建章。⑪ 计荣森。⑫ 《申报》。