Memorial to George Brown Barbour
1890–1977

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Best loved as a teacher, sensitive and skilled as an administrator, artist, and musician, George Brown Barbour of Edinburgh, Peking, and Cincinnati was best known among geologists for his work on land forms and stratigraphy in north China. Notably, he dated the Choukoutien deposits containing *Sinanthropus* (Peking man). He served for twenty war and postwar years as Dean of the College of Arts and Sciences at the University of Cincinnati, close to which he remained for most of his retirement years until his death of a massive heart attack early on July 12, 1977.

Born on August 22, 1890, into a Scottish family of wide interests, he was named for his mother's father, George Brown, a prime minister of Canada and "Father of Confederation," as well as founding editor of *The Globe* of Toronto. His mother, Margaret Nelson Brown, was the first woman graduate of the University of Toronto. Her husband, Dr. Alexander Hugh Freeland Barbour, was a gynecologist and surgeon, president of the Royal Scottish College of Physicians and founder of the Royal Victoria Nurses in the Highlands. Their home in the stately "New Town" area of Edinburgh was a center for religious and political as well as medical leaders. George Barbour's three younger sisters and brother later moved to homes in England. Only the latter, Dr. Robert F. Barbour of Bristol, has survived him.

After attending a private Montessori school at home for the clan of Barbour cousins, he went through Merchiston Castle School and completed a classics M.A. at the University of Edinburgh in 1911. Vacations were spent rock climbing in the Highlands, sailing off the coast of Skye, riding, or fishing. He spent the year before university studying piano and organ at Marburg. The year he graduated, he took a trip around the world via Canada and China, finding it in the midst of the revolution that overthrew the emperors. On a seashore weekend near New York, he was entertained by his future wife Dorothy, whose own father, Dr. Robert L. Dickinson, was also a pioneer in gynecology. Two years later he entertained the Dickinsons in his rooms at St. John's College, Cambridge, where he was undertaking a science degree. He was remembered as shy, courteous, and keen on birds. His close friends were Ian Bartholomew of Edinburgh and at Cambridge, Thomas Lindsay, later Master of Balliol, Geoffrey Hoyland of the Downs School, and Stuart Hibberd of the British Broadcasting Company.

That golden age of Anglo-American culture ended with the First World War. Barbour served with the Friends Ambulance Unit in Flanders from the autumn of 1914 until 1915, when the unit was transferred to Italy. Near Ypres he rescued the first victims of the German gas attack and shared in the chemical analysis of the poison gas. At Christmas there he played the cathedral organ later destroyed by shelling. Driving

an ambulance in the Italian mountain campaigns above Gorizia was an exhausting adventure for Barbour, but so many of his friends, including half of his Merchiston class, had fallen in the trenches, that he himself enlisted in the artillery in the final months.

Demobilized in 1919, he worked for some months in the Student Christian Movement in America, under John R. Mott and Robert Wilder, and added graduate studies in geology at Columbia University to his wartime Cambridge science degree. He was to complete his Ph.D. there under Charles P. Berkey on a later return in 1927. After his marriage in May 1920, he and his wife, who had been teaching religious education at Hartford Theological Seminary, prepared themselves for service in China. Both were commissioned by the London Missionary Society and taught at Yenching University in Peking, later moving to the new campus near the Summer Palace ten miles outside the city. Their three sons were born in Peking and later kept both their parents' vocations. Hugh Stewart Barbour (born 1921) now teaches in religion at Earlham College; Robert Freeland Barbour (born 1926, died 1953) trained in science and medicine; and the middle son, Ian Graeme Barbour (born 1923), now teaches religion and physics at Carleton College.

Besides founding the geology department at Yenching, during their early months in China George Barbour aided the Famine Relief Commission in locating sites for new wells—eventually 4,997—in the famine-struck Shuntehfu area of southern Chihli (Hopei). He also located a deep artesian well for Yenching, and the water-tower-pagoda there remains a landmark. For most of 1922 and half of 1923, he was loaned to Peiyang University near Tientsin, where he calmed students during the civil war between Chang Tso-Lin and Wu Pei-Fu, as he did Yenching students during antiwestern riots in 1925 and 1926. He helped set up the Christian funeral for Sun Yat-sen and nursed the mother and wife of Yenching's President Leighton Stuart during their final illnesses.

Most vacations he spent in field research. He studied Cretaceous stratigraphy in the Kailan coal mines southeast of Tientsin with Amadeus Grabau in January and March 1921 and studied the Tsinan and Shuntehfu areas in April and again in 1923. In 1922 he helped prepare Charles Berkey and other members of the American Museum of Natural History's Third Asiatic Expedition into Mongolia. Questions raised at Kalgan, the Chinese gateway to Inner Mongolia, took Barbour back in the summers of 1923 and 1924 to explore the stratigraphy of the whole area, its Pleistocene volcanoes, and underlying granite. After an interruption by devastating floods, his companion in August 1924 was the Jesuit paleontologist and philosopher, Pierre Teilhard de Chardin, who became a lifelong friend. They explored the same outcrops westward up the Sangkanho valley. The northern data formed Barbour's thesis and most massive publication, *The Geology of the Kalgan Area.* Other areas he covered in 42 "Contributions of the Yenching University Department of Geology," published mainly in the *Bulletin of the Geological Society of China.* After a two-year furlough in New York, teaching in Berkey's place at Columbia, Barbour returned to find the center of excitement to be W. C. Pei's excavations of hominid and associated bones from cave deposits at Choukoutien near Peking, under the Chinese Geological Survey headed by V. K. Ting and Wong Wen-Hao, and later under the Cenozoic Laboratory of Davidson Black at Peking Union Medical College. Thus Barbour's field work from 1929 to 1931, except for five days in the Nanking area, was mainly in Shansi and Shensi, attempting to work out the Pliocene and Pleistocene history of the Yellow River basin, which would help to establish the dates of the "Peking man" finds. With Teilhard he was at

Niangtzekuan in 1929 and on the Sangkanho again in March 1931. In December 1930 he solved a geological problem when his train was stuck near Chinghsing in a snowstorm, and the next month he was back at Yutaoho in the Shansi mountains. Around Taiku he showed that the "fault-scarp" was due to differential erosion of an upthrust, and he tried to tie in the Malan period of loess formation with the Riss-Würm glaciation period in Europe. He took another leave for his son's health from January 1932 until the spring of 1934, during which time he had a fellowship at the California Institute of Technology and taught at Cincinnati and Columbia Universities. He was invited back to Peking by Black to undertake with Teilhard and their Chinese colleagues, Young and Bien, a major exploration of central China to correlate all Chinese Pliocene and Pleistocene formations. Black's death as the group was gathering also made it their final effort. During delays, they explored and questioned supposed glaciation on Lushan and explored the lower Yangtze terraces. Then they set out to study formations along the Yangtze from Hankow up the Ichang gorges to Chungking, and from the Huangho they went over the eastern Tsinling mountains.

Barbour returned to a lectureship at the University of London, with talks on geography for the BBC and a summer session of teaching at Stanford University in 1935; in 1937 he gave the Gill Memorial Lecture of the Royal Geographical Society. In 1947 he was made an honorary member of the Royal Geographical Society of Belgium. He was also elected to the Royal Society of Edinburgh, the London, French, Finnish, and South African geological societies, and later was made an honorary member of Phi Beta Kappa and Sigma Xi. In 1955 he became one of only half a dozen Americans elected to be a Corresponding Fellow of the Italian Institute of Human Palaeontology in Rome.

His field work during these years consisted mainly of short studies, mostly published in the *Geographical Journal* in England, of American hydroelectric sites: Boulder Dam, Tennessee Valley, Grand Coulee, and later Kitimat in British Columbia. He attended the International Geological Congresses and their radiating field trips, at Washington (1933), Moscow (1937), London (1948), Algiers (1952), Mexico City (1956), and Copenhagen (1960). He also attended the Pan-African Congresses on Pre-History at Algiers (1952), Livingstone (1955), and Leopoldville (1959), and the Pan-Pacific Science Congresses of 1926 (Tokyo) and 1939 (Berkeley), reading papers at many of these gatherings. He was at many sessions of the American and British Associations for the Advancement of Science, and the Ohio Academy of Sciences, of which he was President in 1949.

He had in 1937 been recalled to the University of Cincinnati, where he had taught during Nevin Fenneman's leave in 1932–1933, and was to teach geology from 1937 to 1960. His students record vivid memories of humor and "blackboardsmanship" in class, and skill in teaching them to "see" landscape on field trips. He was known for inviting every student—even in the massive introductory classes of a hundred a term—to an evening of world-ranging food and movies in his home. After his retirement, his colleagues and former students endowed the $1,000 George B. Barbour Award, given annually to the Cincinnati professor who has contributed most to student-faculty relationships. He had been recalled to Cincinnati primarily, however, to become Dean of the College of Arts and Sciences, serving from 1938 to 1958. He faced first the pains of the recovery from the severe cutbacks of students, faculty, and budget in the Depression, with a disproportionately older, tenured faculty, then the special army and air-force programs and the year-round schedule of the war years, and finally the massive

influx of returning veterans in the late 1940s and 1950s. "Never fooled by petty politics" (to quote a former staff member), he built up a strong, capable, and mutually loyal faculty in a municipal, tax-supported university, which held its head high among state schools. His faculty, too, were frequent home guests, along with old friends such as Hu Shih, Vincent and Raymond Massey, Harold Laski, Ralph von Koenigswald, Arthur Compton, Canon Charles Raven, and Ambassador Leighton Stuart.

In the Cincinnati years, Barbour's field work included three trips to the Florissant basin in Colorado (1938, 1941, 1946) and six to southern Africa, mainly at the invitation of the Wenner Gren Foundation, to aid in dating the finds (which included the first *Australopithecus*) made by Robert Broom, Raymond Dart, and van Riet Lowe out of the University of Witwatersrand. He worked largely in the Transvaal in 1947 and returned to Africa with Teilhard in 1951 and went also into Swaziland, Mozambique, and Botswana. He was with E. J. Wayland and L.S.B. Leakey in Uganda, Tanganyika, and Kenya in 1954, 1955, and 1959. Fourteen summers between 1948 and 1972 found him also in Europe, in the later years often for international conferences on the thought of Teilhard.

After he retired from teaching at Cincinnati, he was called to teach at Duke University in 1961–1962 and the University of Louisville in 1964–1965. Accidents in 1964 and 1967, femoral or cerebrovascular, slowed his mobility in later years. In 1970 George and Dorothy Barbour celebrated their fiftieth anniversary in their home of thirty years at 3521 Cornell Place and two years later they moved into an apartment in a retirement center a mile away. There they continued to visit regularly their church, club, and study groups, their sons' families, and their friends.

At a memorial held at the University of Cincinnati on October 16, 1977, George Barbour was remembered by former students and colleagues as scholar and composer, as "my Dean," as the pipe-smoking professor, and he was remembered also for his humor, wise administration, and inspiring teaching.

George Barbour's papers have been distributed to scholarly archives. The University of Cincinnati Library has his university documents, his personal films, papers, sketches, some field books, and copies of the remaining materials. The Smithsonian Institution in Washington has the originals of his Chinese geology field notebooks, copies of all his China publications, and colleagues' geological works on China. The Missions Library at Yale Divinity School has the originals of correspondence on life and Christianity in China, photographs, and typed transcripts of vital items. Woodstock Theological College Library, now at Georgetown University, has his letters to and from Teilhard de Chardin and his collection of books by and about Teilhard. The University of Wisconsin Library has the field notebooks from his six African trips. The Imperial War Museum in London was given his diaries, letters, and photographs from the Friends Ambulance Unit in Flanders and Italy during World War I. The University of Chicago Library has copies of the Teilhard material, and Stanford University's Hoover Institute has copies of the China material given to Yale. Hugh Barbour, at 1840 S.W. E Street, Richmond, Indiana 47374, has incomplete sets of his published papers, available to give to geologists specializing on China.

SELECTED BIBLIOGRAPHY OF G. B. BARBOUR

1923 The Tsinan Intrusive: Geol. Soc. China Bull., v. 2, no. 1–2, p. 35–78.
1924 Deep Wells in the Peking Area: Geol. Soc. China Bull., v. 3, no. 2, p. 127–138.
1925 The Springs of Tsinanfu: North China Branch Royal Asiatic Soc. Jour., v. 56, p. 70–75.
—— The Loess of China: China Jour. Arts & Sci., v. 3, nos. 8, 9, p. 454–463 and 509–519, reprinted with minor additions as Smithsonian Rept. 1926, p. 279–295; rewritten with new data and emphases: Jour. Assoc. Chinese and American Engineers, v. 6, no. 4, p. 1–10.
1926 (with Licent, E., and Teilhard de Chardin, P.) Geological Study of the Deposits of the Sangkanho Basin: Geol. Soc. China Bull., v. 5, nos. 3, 4, p. 263–278.
—— The Pliocene and Post-Pliocene of North China: 3rd Pan-Pacific Science Cong., Tokyo, Proc., p. 1780ff.
1929 The Geology of the Kalgan Area: Geol. Survey China Mem., Ser. A, no. 6; also privately printed Ph.D. dissertation: Amsterdam, Columbia Univ.
1930 Origin of the Bedford Augen-Gneiss: Am. Jour. Sci., v. 19, p. 351–58.
—— The Taiku Deposits and the Problem of Pleistocene Climates: Geol. Soc. China Bull., v. 10, p. 71–104; also reprinted in Geol. Soc. America Bull. in 1931.
1933 Geomorphology of the Nanking Area: Contr. Natl. Research Inst. of Geology, Academia Sinica, no. 3, p. 81–136.
—— Pleistocene History of the Huangho: Geol. Soc. America Bull., v. 44, p. 1143–1160.
—— Physiographic Stages of Central China: Geol. Soc. China Bull., v. 13, no. 3, p. 456–467.
1935 Physiographic History of the Yangtze: Geol. Survey China Mem., Ser. A, no. 14, 112 p.
—— Physiography of Jehol, North China: Geol. Soc. America Bull., v. 46, no. 10, p. 1483–1492.
—— (with Teilhard de Chardin, P., and Bien, M. N.) A Geological Reconnaissance across the Eastern Tsinling: Geol. Soc. China Bull., no. 25, p. 9–37.
1937 The Tennessee Valley Project: Geog. Jour., v. 89, no. 5, p. 393–408.
1949 Makapansgat [South African sites]: Sci. Monthly, v. 69, no. 3, p. 393–408.
1950 73 articles (32,000 words) on Chinese geography for Chambers Encyclopedia; revised 1955.
1959 Kitimat: Geog. Jour., v. 125, no. 2, p. 216–222.
1965 In the Field with Teilhard de Chardin: New York, Herder & Herder, 160 p.; also in Dutch, German, and French translations, reissued by University Publications of University of Cincinnati, 1975.
1975 (with Barbour, D. D.) In China When . . . : Cincinnati University Publications, University of Cincinnati, 254 p.

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