

# Memorial to Louis Dubertret

## 1904–1979

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Louis Dubertret was born in Switzerland in 1904 in the small town of Baden where his father, a French engineer, worked at the Brown-Boveri turbine factory. Louis studied in Swiss-German schools until the age of 14, so he was perfectly bilingual. As a young boy, he often hiked across the Swiss Alps with his friends in a youth group, the Wandervogel. He always said that he owed many of his virtues as a geologist to this experience.

At the end of the First World War, the Dubertret family returned to France, and Louis had to adjust to French education, which he rejoined at the secondary level. In 1923 he entered the School of Mines in Paris, but as he still loved all natural sciences he also went to courses at the Sorbonne—those taught by Professor Lutaud in physical geography and those taught by Professor Lapicque in physiology.

Louis, after having obtained a diploma as civil engineer (mining) from the National School of Mines in Paris (1926), pursued his studies at the Sorbonne. He received, successively, his Bachelor of Science degree (1926), Engineering Doctorate (1934), and Doctor of Natural Science (1952).

In 1927 Louis applied to perform his military service outside of France and was able to leave with a unit of the geographic service of the army for Syria, a country then under French mandate. Thus, he traveled, as a muleteer, to the region south of Damascus, south of Anti-Liban (Anti-Lebanon) and other regions. Fascinated by the country and the geologic problems he glimpsed, Louis, after being demobilized in the field in 1928, was assigned a mission with the High-Commissariat of Beyrouth (Beirut).

He was first sent, alone on horseback, along the Euphrates to find a favorable spot for a future dam. A bit later, the governor of Djebel Druze conferred on him the job of exploring the volcanoes of Djebel Druze. Many of these regions had never been visited by scholars and were not safe following the Druze revolt. Louis published a study of his work in 1929.

With two colleagues, Henri Vautrin and Alexander Keller, Louis spent two summers, 1930 and 1931, ploughing through the desert in a small French convertible, without maps and without trails. A report on paleontological studies was published in the first volumes of the *Notes and Memoirs* of the Geological Service of the High-Commissariat.

In 1935 Rita Heybroek and Louis Dubertret became collaborators in research and marriage, rearing seven children.

His career was essentially dedicated to the geology of the Middle East and most especially of Syria and Lebanon, but his work included Turkey and the Arabian Peninsula. He lived in Beyrouth from 1926 until 1956, when he returned to Paris to the National Center for Scientific Research where he rose to the post of scientific director (1959).

Louis excelled in field studies and in geologic mapping. He was responsible, along with his students, for geologically mapping Lebanon and Syria at 1/1,000,000, 1/200,000, 1/50,000, and 1/20,000, and mapped Turkey at 1/500,000. At the same time he was author, editor, and publisher of the *Notes and Memoirs of the Haut Commissariat of Lebanon and Syria*, a publication covering the Middle East since 1933.

He was an educator to many students, through his classes at the Engineering School and National Agriculture School in Beyrouth and at the University of Damascus. He was in constant contact with engineers and devoted many hours of work to the application of geological principles to surface and subterranean water supplies, the geology of great works of civil engineering, and the exploration of minerals and petroleum. Since 1955, as a geological consultant of the firm Coyne and Bellier, he offered his vast experience for the construction of many great dams of the world.

Louis contributed to hydrogeologic mapping with the establishment of the international legend and the hydrogeologic map of Europe at 1/1,500,000, as well as to a monograph on the hydrogeology of karst terrains. His intimate knowledge of Middle East geology is expressed in the Asian volume of the international stratigraphic dictionary, in a map at 1/500,000 of the Arabian Peninsula, a map of the source of metals in Europe at 1/2,500,000 (page 9, Middle East), an international geologic map of Europe at 1/1,500,000 (oriental Anatolia), a geologic map at 1/2,000,000 of the Middle East, a geologic map of Africa at 1/5,000,000, a structural map of Africa at 1/10,000,000, and a tectonic map of Asia at 1/5,000,000.

His work has been recognized by the Academy of Sciences (the Saintour prize in 1934, the Parkin prize in 1940, and the Paul Doistau—Emile Blutel prize in 1974), and by the Geological Society of France (Fontannes prize, 1951).

Dr. Safadi, Vice Minister of Public Works, Damascus, Syria, reported:

Louis Dubertret paid me a visit at my office at the Ministry of Public Works in the beginning of the year 1952. He invited me to accompany him on a visit to the northwest region of the country where he was coming to the end of drafting the new geologic map of the Antioch. This project was memorable for several reasons: Louis was largely devoted to initiating me into the different stages and geological aspects of Syria; he taught me to overcome the difficulties of the field and to keep my courage and good humor all during the project; to give the field all the attention and the preoccupation necessary; to maintain cordial conduct with those that lived and were powerful where one was locally working; and finally, that one's temperament was important and the best job could be done by adapting oneself to local conditions of life and custom. I quickly understood the reason why our man had succeeded in extracting the best parts from his sojourn in the Middle East. I also understood the affection that his consecutive co-workers had had for him.

Dr. Safadi also stated:

I will never forget August 15, 1965, on which date I met Louis Dubertret on a rendezvous at the Valley of Yarmouk, upstream from Hamme; the temperature was 45° and the humidity 90. We examined the site of a projected great dam and the extractions from borings in progress. Louis passed tranquilly from one corner to another without complaining, in spite of the oppressive atmosphere of the environment, while I suffered and didn't dare to complain, in view of the difference in our ages! In a little nook shaded by citron trees we took a little rest and had lunch. While unpacking our cold repast, he told me that he had saved me a little surprise; he had two fresh bottles of Evian and told me: When leaving Paris, I thought of you, dear Chafic, I offer you fresh Evian water to alleviate the effects of the field! Louis treated his colleagues with nobility and affection; he was a symbol of the great geologist—noble, modest, and humane.

Finally, Dr. Safadi described:

Our last meeting was in Krefeld in the Federal Republic of Germany, in the month of May 1979, in the presence of Professor Dr. Herbert Karrenberg, President of the International Commission of Hydrogeological Maps of the AIH and his assistant, Dr. W. Struckmeier, where Dr. Jean Khouri and myself came to present the proof of the Page F6 (Syrian part) which had been prepared by the ACSAD in the Project Section of the International Geologic Map of Europe. During the instructive commentaries given by prominent hydrogeologists, Louis appeared to lead the discussion with paternal satisfaction at seeing the growth of the child to which he had given so much care. When we left, he shook my hand for a long time, evidencing his intention of undertaking in the autumn of 1979 his annual visit to Syria and Lebanon, where many questions still remain on the suitable environment for higher education, geological mapping, hydrogeology, hydraulic management, etc. And, when I answered that he would be most welcome back among his collaborators and Syrian friends, I perceived a strong emotion in his intimate look, as if he were torn by a strong desire to complete his immense task in the Middle East; it broke my heart.

Louis Dubertret, as secretary general of the International Association of Hydrogeologists (AIH), gave more than a quarter of a century of his professional life to the successful leadership of AIH. In his capacity as secretary, he wrote thousands of letters in his neat script in several different languages urging members to participate and to support the organization. He had a large reservoir of information regarding all aspects of AIH from its very inception. He was a link between members all over the world while he pursued his favorite field of science, hydrogeology, in a most professional manner.

The International Association of Hydrogeologists will never be able to acknowledge adequately his service. He gave devotedly of his time and of his financial resources. He attended every session and technical meeting. Louis was meticulous in detail and spent long hours at home and in the office making certain that the material that he was preparing was specific and correct. The *Bulletins* of the association were among his primary contributions, as recorded through programs of the association over the past 25 years.

During my presidency of AIH, Louis Dubertret maintained a steady stream of communication containing advice and sometimes very objective criticism. He knew the problems of AIH intimately and attempted in every way to solve them.

At the opening of the Vilnius Symposium on July 10, 1979, after the welcoming speech by A. V. Sidorenko, chairman of the Organizing Committee and vice-president of the Soviet Academy of Science, Louis presented one of the acceptance speeches as executive secretary of AIH. On July 11, Louis co-chaired the meeting with the theme, "Prospecting Methods for the Evaluation of Ground Water Resources," an area of his major interest in hydrogeology. On the evening of July 11, at a banquet of state hosted by Vldas Mikalauskas, director of the Geological Board of Lithuania, during Louis's toast to the geologists and their wives, he captivated the group, as he always did, with one of his favorite stories concerning his experiences in the field.

Even though Louis experienced difficult pain in his leg, he participated in all the field trips and meetings in the USSR. Even though feeling unwell, he proceeded to Leningrad, to the Black Sea, and to Moscow on a series of field trips and meetings with his colleagues and fellow Soviet scientists. On Sunday afternoon, July 22, 1979, Louis enjoyed one last dinner together with Vladimir Kovalevsky, Nina Akhmetieva, Alexander Chogoshvili, Galja Semikina, Rita Dubertret, Bunnie LaMoreaux, and me. Louis seemed to be in excellent spirits and feeling better after an illness contracted in the Black Sea area. That evening, at approximately 5:00 p.m., at the hotel of the USSR Academy of Sciences, Dr. Louis Dubertret died of a heart attack.

Louis Dubertret's work in the field of geology was remarkable and prolific. In addition to countless unpublished reports, Louis published a hundred important geologic documents on the Middle East. He chose to publish the results of his work and research in a large selection of bulletins and specialized periodicals, including *Review of Physical Geography and Dynamic Geology*, Paris; Reports of the Academy of Sciences, Paris; Reports of the Geological Society of France, Paris; and *Notes and Memoirs* on the geology of the Middle East, Beyrouth, and Paris.

This Memorial and the following selected bibliography present a picture of the evolution of the activities of Louis Dubertret in the Middle East, connected on the one hand with his professional circumstances and on the other with the evolution of his work plan. With his death, geology lost one of the "Old Masters."

### SELECTED BIBLIOGRAPHY OF LOUIS DUBERTRET

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