LOUIS CAPITAN

LOUIS CAPITAN, for twenty-one years the Loubat professor of American archeology at the Collège de France, died in Paris on September 1. Dr. Capitan, who sometimes wrote his name Joseph-Louis, was born, also in Paris, on April 19, 1854. His career was remarkable in that although he held a medical diploma, was a member of the Academy of Medicine and an officer of the Legion of Honor with military title for war service, he occupied himself from early youth largely with problems of prehistory, including those of the two Americas. In 1910 he visited Mexico and the United States, and he was one of the few Europeans who continued to write affirmatively about Paleolithic man in America.

According to his own statement, Capitan began his public career as archeologist by exhibiting his collections at the Paris Exposition of 1878. He remained an indefatigable collector almost to the end, and was consequently the possessor of a really considerable amount of material, mostly of French origin but including typical data for nearly all parts of the explored world. The bulk of these collections, it should be added, has been left as a legacy to the French National Museum at St. Germain, where a hall is especially reserved for its display.

As a field investigator Capitan took a leading part, from 1893 onward, with his pupils Breuil, Peyrony and others, in the investigation of the French caverns. Among other things he helped to institute the stratigraphic method of débris excavation and a similarly refined technique for deciphering and copying the remarkable engravings and paintings preserved on the cave walls. As a result, we may assume, he was later elected a really functioning member of several different scientific organizations, as well as of a number of civic commissions for the preservation of monuments, historic and prehistoric, holding various offices in both groups, including that of president. In 1922, when the writer last saw him, Capitan was still acting for the Paris Municipal Committee in charge of studying the antiquities recovered from the subsoil of the old city. In this way he came to have much to do with the conservation of French antiquities and with bringing many of them under permanent state control.

As a teacher Capitan was equally active. In 1899 he succeeded Gabriel de Mortillet in the chair of prehistoric anthropology at the Ecole d'Anthropologie. Later, in 1908, he was also made Loubat professor of American archeology at the Collège de France. This last phase of his work, while he obviously took considerable interest in it, probably gave him the least satisfaction, for he can scarcely be said to have enjoyed first-hand contact with the field. The truth undoubtedly was that Capitan was too old when his American opportunity came.

Concerning Capitan's literary output none but his pupils or intimate colleagues can tell. A man so conspicuously active can scarcely have had much time—even if he possessed the inclination—for protracted writing on any given subject. There is available a nearly complete bibliography of about 150 titles, but of these at least 110 appear to be merely brief summaries (often with illustrations) mainly of lecture and seminar topics. In addition, there are also his recent small handbook, "La Préhistoire," in the Payot series, and about twenty-five original articles (including prefaces and biographical notes) which appeared for the most part in the *Revue Anthropologique*. Finally, Capitan collaborated on about ten original articles and three books, two of which are the Combarelles and Font-de-Gaume Memoirs of the famous series issued by the great patron of prehistoric studies, the Prince of Monaco. A hasty analysis of the titles gives the following: general treatises, eight; topical essays, thirty-seven; European (mainly French) items, thirty; African items, five; North American (chiefly Maya and Mexican) items, forty-one; South American (mostly Peruvian), twenty-four; the Americas in general, four or more, and the Pacific Islands, one. The writings pertaining to the Old World relate, as would be expected, mainly to the Paleolithic arts and industries, while the American papers deal with both Paleolithic and Neolithic topics and touch on almost every imaginable phase of archeology, but seemingly never in any exhaustive fashion.

No superficial survey, such as this, justifies more than a provisional estimate of the worth of Capitan's labors. In any case, judgment on his Old World studies, the fruit of his best years, must be left to Europeans. When we come to consider his contribution as an Americanist, the most that can be said is that he has written clearly and suggestively on a great variety of topics, but as a rule only in a detached and fragmentary way. Even so, the results are valuable, and they are perhaps all that could be expected of the first Frenchman to give his attention to so wide a field.

Capitan wrote vigorously almost to the last, and he lectured until past seventy. Little more than a year ago, on the occasion of the Americanist Congress in New York, he sent another brief article on one of his favored themes, this time entitled "Recent Ideas on the Peopling of America." Whatever we may choose to think of these last efforts to stir our interest, or of his recent second change of mind with respect to European eoliths, in his day he performed valiant ser-

vice. It was the author's privilege to hear him lecture as late as 1922, as well as to travel and work with him for a number of weeks in Belgium, Holland and England. With Capitan may be said to have passed the last of the distinguished group of men who first made us properly acquainted with the physique and culture of Paleolithic man.

N. C. NELSON

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ALEXANDER VASILIEVITCH VASILIEV

(JULY 2, 1853–OCTOBER 6, 1929)

IN the passing of A. V. Vasiliev in Moscow, Russia, the world has lost one of its great scientists, great teachers, great men.

To be a great scientist is one thing; to be a great scientist and a great teacher is quite another. A great teacher must ingest, digest and evaluate the works of others in many lines in order to give broad, judicial and interesting selections to students. To be at once a great scientist, a great teacher and a great man is still different—it is all too rare a combination. Besides the requisites for the first two, individual synthesis, a broad human vision and interest, effective and energetic enough to be an inspiration and guide for living and acting, are essential.

A unique combination of these characteristics made the life of Vasiliev a memorable and most useful one. Not satisfied with his own achievements, he devoted much of his energies to foster, elucidate, coordinate and apply the great works of Lobachevski, Tschebytschev, Weierstrass, Kronecker, Hermite, Sophus Lie, Peano, Whitehead, Russell, Keyser, Einstein, Minkowski and others, and just before his end, the works of De Broglie, Schrödinger and Heisenberg.

Vasiliev was born in the city of Kazan, made famous by Lobachevski. His background was scientific, his father being a noted Sinologue, his grandfather a well-known astronomer and rector of the University of Kazan.

In 1874 he graduated from the University of Petrograd with a gold medal and lectured at the University of Kazan on the theory of function, the theory of numbers and the theory of probability. He was sent abroad in 1879 to prepare for a professorship. In Berlin he studied under Kronecker and Weierstrass, and in Paris under Hermite. In 1884 he was awarded the title of doctor of pure mathematics for his work on the theory of roots of algebraic equations. He became professor emeritus in 1899, and until 1907 he lectured at the University of Kazan. During this period, among other activities he organized the Physicomathematical Circle, was instrumental in the establishment by the Physicomathematical Society of the Lobachevski international prize and initiated the building of a monument to Lobachevski.

In 1907 he was transferred to Leningrad, where he lectured at the university and other institutions of higher learning on the theory of groups, being the first in Russia to emphasize its importance, the theory of numbers, applied mathematics, mathematical philosophy, foundations of mathematics, etc.

In 1923 Vasiliev moved to Moscow and became an active member in the editorial commission of the Mathematical Institute for the full edition of the works of N. I. Lobachevski. He prepared also a biography for the first volume.

His lectures were always brilliant, broad and synthetic, full of freshness and new ideas. An accomplished linguist, at home in Russian, French, German, English, Italian, he read very widely and introduced to his Russian audiences the latest points of view and methods in science. His exceptional erudition outside of mathematics and physics included biology, psychology, history and philosophy, allowing him to make his lectures not only intensely interesting but also simple. His auditoriums were always packed. He approached his students as an equal and inspired them to independent creative thinking. He was to them an ideal of what a scientific man ought to be.

In the international field his influence was also far reaching. He was active with the late Cantor in the organization of mathematical congresses. In his papers and lectures he made Europe acquainted with the works of Russian mathematicians like Lobachevski and Tschebytschev. The Lobachevski International Prizes for works on non-Euclidean geometry and mechanics, in establishing which he was instrumental, have been awarded to men like Hilbert, Sophus Lie; Klein, Poincaré; Coolidge, Whitehead, etc. His international influence was so pronounced that the French scientists induced the French government to award Vasiliev the title of "Officier de l'instruction publique."

Outside of technical papers he was the author of several fine text-books on the theory of function, the theory of numbers, the theory of probability, etc. His beautiful lecture on Lobachevski has been translated into English, German, French, Spanish and Bohemian. Always keeping abreast of his time, he wrote an excellent historical introduction to the Einstein general theory under the title of "Space Time Motion," with an introduction by Bertrand Russell. His broad paper on "The Acquisitions and Enigmas of the Philosophy of Nature," sent to the International Philosophical Congress at Harvard (1926), has been published in book form. A few hours before his death he was working at a historical and methodological introduction to the new quantum mechanics.