

CLARENCE KING.

Of the many rapid advances in various branches of science during the last quarter of the past century none has been more remarkable than that of geology. The fundamental cause of this advance is to be ascribed less to the brilliant discoveries and generalizations of individual investigators, of which, however, there has been no want, than to the systematic organization of geological work, which has given a sounder basis for generalization and rendered the work of the individual more effective.

In the earlier days, when only State geological surveys were carried on, and those without adequate maps, no satisfactory correlation of their results was possible; hence much time was often wasted in polemical discussions that might better have been employed in more systematic field observation. A few leading minds like Dana, Hall, Rogers, and others had made brilliant generalizations that left their impress upon the science of geology, but in cases of conflict of opinion the array of facts that could be cited to confirm or deny a given hypothesis was insufficient to produce final conviction.

It was not until the truth, that geological studies cannot profitably be confined within State lines or other artificial boundaries, had been proved by practical demonstration, that the aid of the general government was freely and permanently enlisted, and thereby geological science in America raised to its present high position.

To the accomplishment of this result the late Clarence King was the foremost and one of the most active contributors. It was he whose personal efforts created the 40th Parallel Survey, which was the first government exploration primarily devoted to geological investigation, the first geological survey in the country to make and publish topographical maps as a basis for its geology, the first to employ microscopical petrography in the study of its rocks, and the first to institute systematic geological examinations of mining districts with a view of establishing a more satisfactory theory of vein formation.

The organization of the United States Geological Survey as a permanent bureau of the Government, which naturally resulted from the work of this and succeeding government explorations, was in great measure due to his personal efforts.

It was, however, not as an organizer alone that King contributed to the advance of geological science; his writings have been of the very highest order, not only in their matter but in their manner of presentment; while his personal influence upon fellow geologists and his suggestiveness have

had an effect in raising the standard of geological work in this country, which, while less susceptible of direct estimation, has been none the less real and permanent.

He was a man of remarkable intellectual versatility, and has been probably as widely known and appreciated for his literary as for his scientific ability, though his published literary writings have been singularly few in number. The recollection of his consummate art as a conversationalist and raconteur, of the delicate wit and irrepressible humor that showed itself at times even in his scientific writings, of the kindly spirit and refined courtesy that characterized his every action, and of his irresistibly attractive smile, has left behind a mingled feeling of pleasure and regret among all who had the privilege of knowing him.

Clarence King was born at Newport, Rhode Island, on the 6th day of January, 1842. He was the only son of James Rivers and Florence Little King. His ancestors were among the early settlers of New England, and all, as far as known, of English extraction. Among them were an unusual number of cultivated men, graduates of colleges, or distinguished in the learned professions, in whom can be found traces of the many and varied accomplishments in science, literature and the arts that were so happily combined in their brilliant descendant.

Daniel King, the emigrant, who came to Lynn, Massachusetts, in 1637, was a younger son of Ralphe Kinge of Watford, Hertfordshire, England. His great-grandson, Benjamin, moved from Salem, Massachusetts, to Newport, Rhode Island, and, according to family tradition, was a man of scientific tastes, who occupied himself with philosophical instruments and assisted Benjamin Franklin in his early experiments in electricity. Samuel King of Newport, son of the latter and great-grandfather of Clarence, was a portrait painter of merit, who numbered among his pupils Washington Allston, and Malbone, the miniaturist. On his mother's side, one of King's great-grandfathers, William Little, was a graduate of Yale in 1777, and received an honorary degree from Harvard in 1786. Another, Ashur Robbins, graduated from Yale in 1772, was United States Senator from Rhode Island 1825-39, and received the degree of LL.D. from Brown in 1835. His grandfather, William Little, Jr., who died early in life, was noted as a linguist and a scholar. His grandmother, Mrs. Sophia Little, poet and philanthropist, was a woman of remarkable public spirit, energy, and decision of character, who retained her mental and physical vigor in most remarkable degree up to the time of her death in 1893, in her 95th year.

His immediate King ancestors were pioneer merchants in the then highly remunerative China trade, his grandfather,

Samuel Vernon King, having been as early as 1803 a partner in the commercial house of Talbot, Olyphant & King. Four of the latter's sons succeeded him in that business, the house later becoming known as King & Company. James, the second son, married at the early age of 21, and was obliged to leave his young wife before the birth of his first child, Clarence, in order to take the place of his elder brother in China. By a singular fatality, three out of the four brothers died in the far East, and the house of King & Company became bankrupt during the crisis of 1857 through the loss of one of the company's steamers, which, under the charge of a confidential English clerk (also named King) was carrying a large amount of specie to meet their liabilities at another port. In this disaster was involved the property of James, which had remained in the firm since his death at Amoy, China, in 1848.

The young mother, left a widow at 22, devoted herself to the education of her only son, learning with an inherited facility both classical and modern languages that she might teach them in turn to him, and thus was founded a close, intellectual companionship which lasted until his death.

King's early boyhood days were spent at Newport, but he received his principal school education in the endowed high-school at Hartford.

As a very young child he showed symptoms of a decided bent toward the study of natural phenomena, which was further developed during long summer vacations, spent in fishing, hunting and botanizing in the Green Mountains.

In 1859 he became a member of the Sheffield Scientific School, and during the two following years acquired a systematic grounding in the sciences of geology and mineralogy under the inspiring teachings of James D. Dana and George J. Brush, at that time their foremost exponents. Among his fellow students who have since become eminent in their respective professions were O. C. Marsh, Arnold Hague and Samuel Parsons. He graduated in 1862 with the degree of B.S., being among the first students of the Scientific School to receive a degree from the faculty of Yale College.

During his college course, he was a leader among his mates in athletic sports, as well as in study of nature, being captain of a base-ball team and stroke oar of a racing crew.

During the winter following his graduation, he was, for a time, a student of glaciology under Agassiz, and later became a devotee of the Ruskinian schools of art study under the leadership of Russell Sturgis.

In May, 1863, in company with his life-long friend, James T. Gardiner, whose health had broken down under too close devotion to his studies, King started on a horseback trip across the

Continent. Upon reaching St. Joe, Missouri, then the western limit of railroad communications, they were invited to join the party of a well-to-do emigrant family, whose favor King had unconsciously gained by his characteristically tender care for their children during the latter part of the railroad journey. Their line of march followed, in general, what was known as the Old Fremont route, up the North Platte river and down the Humboldt river in Nevada. The rate of travel of such a party was necessarily very slow, and the young explorers, being mounted on good horses of their own, were able to make excursions into the neighboring mountains for the purposes of exploration and study, which, owing to the hostility of the Indians, were not always without danger.

After having crossed the deserts of Nevada, they left the party to visit the then famous Comstock Lode. On the night of their arrival in Virginia City, the house in which they were staying caught fire and all their belongings were lost. Nothing daunted, King went to work at days' wages in a quartz mill to earn sufficient funds to enable them to continue their journey. In a few weeks they started again, crossing the Sierra Nevada on foot, and proceeding by boat from Sacramento to San Francisco. On this trip an incident which led to their making the acquaintance of Prof. William M. Brewer, then assistant on the Geological Survey of California, proved to be the turning point in their careers.

King's professional work as a geologist may be said to have commenced with his acceptance of the position of volunteer assistant geologist on the Geological Survey of California under Prof. J. D. Whitney. During the three years that this connection lasted the work was largely exploratory, for as yet even the geography of the country was but imperfectly known. It thus gave full scope to the enterprise, energy and powers of endurance that characterized him during his whole life. In spite of his youth, he soon became a leader, especially in the exploration of the high mountain mass of the southern Sierras discovered by him, whose highest peak, Mt. Whitney, still holds the palm as the highest point within the United States (excluding Alaska). During the winter of 1865-6 he also made an exploration of the desert regions of southern California and Arizona as scientific aide to General McDowell, which involved much hardship and no little danger.

Of even more importance for his future work was the familiar knowledge of the different varieties of volcanic rocks, acquired during field studies around the extinct volcanoes of the northern Sierras and in association with his friend Baron von Richthofen, and in which for many years he stood preëminent among geologists of his time.

King's earliest scientific achievement on the Survey was the discovery, during the study of the gold mines of the Mariposa estate in 1863, of fossils in the highly metamorphosed slates of the gold belt of California, a discovery that solved the problem of their age which had long puzzled western geologists.

In the autumn of 1866, after his return to the east, he judged that political conditions were then most favorable for the realization of a plan that had gradually been shaping itself in his mind ever since he first crossed the continent, viz: that of connecting the geology of the east with that of the west by making, under government auspices, a survey across the whole Cordilleran system at its widest point.

There had been considerable apprehension during the dark days of the Civil War lest California, physically isolated as she was at that time, should separate from the other states and set up an independent government. The subsidizing of the Transcontinental railroads was the first step towards overcoming this isolation and binding her more closely to the East. In King's judgment a second, hardly less important one, would be the development of the mineral resources of the country thus to be opened up; and this could best be accomplished by making a thorough geological survey of that region.

During the winter of 1866-7, which he spent at Washington, he was so successful in impressing this view upon Congress, that not only was a generous appropriation voted for the geological exploration planned, but King himself was placed in absolute charge of it, subject only to the administrative control of General A. A. Humphreys, Chief of Engineers.

In these days, when the West is covered by a network of railroads, it is difficult to conceive the obstacles that had to be encountered at that time in carrying out so ambitious and, as some then thought, so chimerical a plan as that which King had conceived. Of the Transcontinental roads, but a few miles at either end had yet been constructed. The territories of Utah and Nevada were represented on most maps of the day as one broad desert, and it was doubted whether sufficient water and grass could be found there to support a camping party. Everything had to be specially created for the purpose, and, after the party had reached California over the Panama route, it took three months to prepare the necessary camp outfit and to carry them to their field of work. Even after this work was well under way there were times when it seemed that obstacles ahead were almost too great to be overcome, but King's energy and resourcefulness were equal to every emergency, and he soon succeeded in inspiring all of the members of his party with such confidence in his leadership and in imparting to them such measure of his own enthusiasm that they never faltered in their devotion to the work, even though

the three years originally planned were subsequently extended, by the unsolicited action of Congress, to seven.

In recognition of the legitimacy of the public demand for a direct application of the results of government geological work, King pushed first to completion a scientific study of the ore deposits of the region surveyed; more particularly of the great Comstock Lode, whose enormous silver product was then disturbing the monetary system of the country. This work, written conjointly by himself and James D. Hague, appeared as early as 1870 under the title of "Mining Industry." It was described by one of its most capable critics as "by itself a scientific manual of American precious metal mining and metallurgy." It is considered classic among works in its line and has served as a model for similar monographs which have since been published under government auspices and done so much to raise the mining industry of America to its present high position.

In 1870 he discovered on the slopes of Mt. Shasta the first actual glaciers known to exist in the United States; and in their study made observations that are credited with first suggesting the true origin of the kettle-holes and kames of New England. His later discovery in the summer of 1874, that a line of islands along the southern coast of New England were a part of its terminal moraine, had much influence in inducing the later systematic studies of the Continental glacier.

The field work of the Survey was completed in 1873, but it was 1877 before the respective specialists had been able to work up the amount of material gathered, for it was one of King's fundamental principles that abundant collections should be made in the field to illustrate all the natural phenomena observed, and the lithological collections alone numbered about five thousand specimens.

In 1874, he sent one member of his corps to Europe to study the methods of European geological surveys and to obtain the best and latest geological literature with which at that time American libraries were but scantily provided. He, also, instructed him to confer with Prof. Zirkel, then the greatest microscopical petrographer of the day, and to induce him, if possible, to visit America and study in the presence of the collectors their collection of rock specimens, for at that time no American geologist had any practical knowledge of this new branch of geology. From this visit resulted Zirkel's volume on microscopical petrography, which marked the opening of a new era in geological study in the United States.

King reserved for himself the final summarizing of the work of his assistants and the drawing of general conclusions and theoretical deductions therefrom. This he wrote in the

winter of 1877-8, and published in a quarto volume of more than 800 pages under the title of "Systematic Geology." It has been characterized as the most masterly summary of a great piece of geological field work that has ever been written, and is used to this day by university professors of geology as a model for their advanced students.

King's crowning service to geological science in America followed shortly after the completion of the 40th Parallel work. After two of his field seasons had demonstrated the practicability of geological map-making in the west, the Wheeler Survey was inaugurated under the Engineer Department of the Army, and the already existing Hayden Survey later adopted his example in making topographical maps as a basis for its geology, employing for this purpose the 40th Parallel topographers after their term of service in the latter Survey had expired. The work of these two organizations became so popular that each desired to cover the whole of the unsurveyed area in the west, and their rivalry in time became so intense that the influence of either party with Congress was used to curtail the appropriation allotted to the other. As a final result of this rivalry the time came when there was serious danger that all government aid for geological work would be cut off. It was mainly through King's influence among the leading scientific men of the country and his tactful management of affairs in Congress that this crisis was averted. The question was referred to the National Academy of Sciences, and their recommendations, which were on lines laid down by him, were finally adopted by Congress, and on March 3, 1879, a law was passed establishing the United States Geological Survey as a bureau of the Interior Department. President Hayes, after consultation with the best scientists of the country, appointed Clarence King as the first director of the new Bureau. King accepted the appointment with the distinct understanding that he should remain at its head only long enough to appoint its staff, organize its work, and guide its forces into full activity. At the close of Hayes' term, he offered his resignation, but at the President's request, he held over until after the inauguration of Garfield. The latter accepted it, on March 12th, 1881, in an autograph letter, expressing in the warmest terms his appreciation of the efficiency of King's service and his regret that he did not find it possible to remain longer in charge of the Geological Bureau.

Brief as was the duration of his administration, his influence, being exercised at the critical period of the Survey's existence, left a lasting impress upon it. He outlined the broad, general principles upon which its work should be conducted and its subsequent success has been in a great measure dependent upon

the faithfulness with which these principles have been followed by his successors.

Foreseeing the important part that the development of its mineral resources was destined to play in the future progress of the country, he judged that, while not neglecting the more purely scientific side, its work should be primarily devoted to the direct application of geological results to the development of these resources. It has been because the people at large have realized its practical success in this line that the Survey has been more richly endowed, and thus better able to carry on its purely scientific work, than any organization of its kind in the world.

King set the very highest standard for its work, and showed remarkable judgment and knowledge of character in his selection of the men who, in their respective branches, were best fitted to keep it up, as nearly as possible, to this standard. In his establishment of a physical laboratory for the determination of the physical constants of rocks, he took a step in the direction of the application of methods of exact science to geological problems so far in advance of the average standards of the day that its importance was not generally realized until long after.

In all his after life, he maintained a lively interest in the work of the Survey, and kept closely in touch with his successors in office, who frequently consulted him on important questions of policy.

After his retirement from government service, he came much less frequently into personal contact with scientific men, for he had little sympathy with that phase of scientific activity which is represented by academies and societies.

He had been elected a fellow of the Geological Society of London in 1874, and of the National Academy of Sciences in 1876. He was, also, a life member of the American Institute of Mining Engineers, but he rarely attended the meetings of any of these associations and never contributed to their proceedings. He found his recreation from business occupations rather in social intercourse with his many friends and admirers in the literary and artistic world, yet he was not forgetful of his chosen profession, and through all the varied occupations of an intensely busy life he still continued his investigations into the deeper problems of geology, to carry on which had been one of his motives for giving up administrative duties on the Geological Survey.

In his financial affairs, King had difficulties to contend with that few of his friends realized, and which would have completely discouraged a man of less sanguine and buoyant temperament.

At two successive periods in his youth, those to whom he would naturally have looked for financial support were overwhelmed by commercial disaster, leaving him to provide not only for his own wants but for those of other members of his family. In his later life circumstances entirely beyond his control more than once baffled or annulled the efforts he was making to establish himself on such a financial basis that he would feel justified in applying his entire time to his chosen pursuits in science and literature. He was consequently obliged to devote more of his time and energy to the directly remunerative side of his profession—that of the mining engineer—than he otherwise would have done. This was especially true of his later years, though even in earlier life his services had been not infrequently sought in cases of great moment.

He owed his prominent position in this profession not alone to his ability and experience as a geologist, which exceeded that of most of his fellow workers, but to his high standard of personal integrity and the rapidity and acuteness of his judgment. These qualities were early illustrated in an incident which gave him perhaps greater prominence in the financial world than any act of his life—his exposure of the diamond fraud of 1872. An apparently well authenticated discovery had been made of diamonds in sufficient quantity to affect the diamond markets of the world. Although its position was kept carefully concealed, through the intimate knowledge of the country possessed by his assistants, King was enabled to determine that it must be located in an area already surveyed by them, and at once fitted out a party to examine it. When this examination, undertaken primarily in the interest of science, had proved that the alleged discovery was an elaborate and skilfully planned fraud, it was his prompt action and unshakable integrity alone that averted a financial disaster which threatened to rival that of the Mississippi Bubble of Law.

In the many important mining suits in which he served as scientific adviser, and which involved most difficult and complicated problems of geological structure, combined with their still more difficult interpretation under the terms of the United States mining laws, he was generally intrusted with the legal as well as the scientific management of the case. As he made it a practice to never trust the eye of another, but to verify every fact by his own personal observation, he obtained such a thorough knowledge of his subject that the most skillful lawyers were unable to shake his testimony by their cross-examination.

In his examination of mines, he visited almost every part of the American continent, and thus acquired a personal familiarity with deep-seated phenomena that it seldom falls to the lot of a geologist to obtain. Hence he was exceptionally well

equipped in this, as in other respects, to carry on the investigations he had undertaken into the problems of the interior of the earth.

In 1890, Brown University conferred upon him the honorary degree of LL.D. That he received no public recognition of his later scientific work may perhaps be ascribed to its peculiarly unobtrusive character, which gave rise to the erroneous impression that he had abandoned science altogether.

It is difficult to fairly judge King's scientific publications in the light of the present day, for they were written just before the opening of an era of great change in the methods of geological investigation, a change which has thus far proved destructive rather than constructive in its results. Many of the fundamental theories of geology which prevailed at that time have been disproved or abandoned, while as yet there is no general acceptance of those which have been put forward to replace them.

In June, 1877, he delivered the address at the 31st anniversary of the Sheffield Scientific School on "Catastrophism and the Evolution of Environment." It was a protest against the extreme uniformitarianism of that day, based largely on the geological history of the Cordilleran System as developed during the work of the 40th Parallel Survey. This uniformitarianism he characteristically described as "the harmless undestructive rate (of geological change) of to-day, prolonged backward into the deep past." He contended that while the old belief in catastrophic changes had properly disappeared, yet geological history, as he read it, showed that the rate of change had not been so uniform as was claimed by the later school. While a given amount of energy must evidently be expended, he reasoned, to produce a given effect, yet the expenditure of this energy might be extended over a very long time, or crowded into a comparatively short one; and his observations showed him that at certain periods in geological history, the rate of change was accelerated to such a degree that the effect upon life produced was somewhat catastrophic in its nature.

Of his great work upon systematic geology, the larger part—that which outlines the geological history of the Cordilleran System—stands as firmly to-day as it did when written, as a correct and authoritative exposition. In view of the circumstances under which the field work was originally done, its essential correctness, even in matters of minor detail, is considered surprising by those who have since had occasion to make detailed studies of portions of the area covered.

In the more theoretical sections, while he necessarily did not take into account the great number of new facts which have

been established by more recent work, especially in the domain of microscopic petrography, he showed such grasp of his subjects, and such originality and power of thought, that his views constituted not only an important advance over those of the day, but they were suggestive of the lines of investigation that have been most fruitful in the modern advance of geological science.

For instance, in his discussion of the reason for the changes from acid to basic eruptives within the individual groups, which he proposed as a variation from the natural order in age of volcanic rocks, as laid down by Richthofen, he advanced views very suggestive of the modern conception of differentiation in eruptive magmas.

Again, in endeavoring to account for the formation of those types of granite that pass into gneiss and crystalline schists of essentially the same chemical composition, but which show no evidence of having been subjected to such excessive heat as would produce actual liquefaction, he called in the agency of the immense pressure to which such rocks would necessarily have been subjected. While the long years of combined field work and microscopic study of modern petrographers, made since King's theory was enunciated, have proved that the structure of crystalline schists *is* due to pressure, they do not go so far as he did in assuming that the end product of such mechanical pressure might be granite.

Perhaps his most enduring theoretical discussion of that time was that on hypogeal fusion, in which, accepting the validity of the physical arguments against the fluid interior of the earth, he discusses and rejects Hopkins' theory of residual lakes and Mallet's conception of local lakes produced by mechanical crushing. He then advances an hypothesis of his own which may be called that of a critical shell, or *couche*, between the permanently solid interior and the outer crust of the earth, which is above the temperature of fusion but restrained from fusion by pressure. In this, therefore, the opposing forces of pressure and temperature hold themselves reciprocally in equilibrium, but when this equilibrium is disturbed, as for instance, by a sudden change of the relative position of isobars and isotherms—say by local erosion and rapid transfer of load within limited areas—local lakes of fusion would be created. Iddings, in his "Origin of Igneous Rocks," says of King's treatment of this subject: "By the breadth of his treatment and by better and fuller data he advanced the problem of the origin of the various kinds of volcanic rocks far beyond the point reached by any of his predecessors."

In his chapter on Orography, King says, in speaking of the causes of crust motion: "I can plainly see that were the critical shell established its reactions might thread the tangled

maze of phenomena successfully, but I prefer to build no farther until the underlying physics are worked out." He was at that time already very strongly impressed with the imperfection of the then existing knowledge of terrestrial thermo-dynamics and the indispensability of more exact data in this branch of science for a rational discussion of the fundamental problems of geology.

This idea found a practical outcome a few years later in the establishment of a physical laboratory, immediately after his assumption of the Directorship of the United States Geological Survey. His earnestness and energy is shown by the fact that instead of waiting for the slow action of Congress, he defrayed the cost of the delicate apparatus necessary for this work out of his own pocket. The credit of the brilliant physical investigations carried on in that laboratory is naturally due to Professors Barus and Hallock, who conducted them, but it was King's acumen and good judgment that was responsible for their selection, and his action that made it possible for them to carry on their work. To himself, as he says ten years later in his paper on the Age of the Earth (this Journal, vol. xlv, Jan. 1893), he reserved the privilege of "making geological applications of the laboratory results." The experiments on the physical constants of rocks contemplated were to be directed to the determination (a) of the phenomena of fusion, (b) of those of elasticity and viscosity, and (c) of those of heat conductivity, each considered with special reference to their dependence on temperature and pressure.

The paper on the Age of the Earth, mentioned above, is his only published result, and was but an earnest of what he had planned to do. This was an attempt to advance to new precision Kelvin's estimate of the earth's age deduced from terrestrial refrigeration. It consists mainly of a mathematical discussion of the earth's thermal age as determined from various postulates presented by Laplace, Geo. H. Darwin, and Lord Kelvin, and based on Barus' determinations of the latent heat of fusion, specific heat, melted and solid, and volume of expansion between the solid and melted state, of the rock diabase. This is followed by a critical examination of other methods of determining the earth's age—by tidal retardation, by sun-age, and by variations of eccentricity. After a careful scrutiny of all the data on the effect of pressure on the temperature of consolidation, King concluded that, without further experimental data, "we have no warrant for extending the earth's age beyond 24 millions of years," an estimate which, as the result of a somewhat more extended discussion, was afterwards confirmed by Lord Kelvin himself. (Smithsonian Report, 1897, p. 345.)

His further investigations along the same general lines on the fundamental principles of upheaval and subsidence were in an advanced stage of completion when they were cut off by his untimely death.

It is practically impossible to adequately characterize King's literary work, for the greater part of what he did was never published, and very likely never even written. It was his habit to work out in his head any subject which interested him, even down to its minutest details, before putting a pen to paper; once this was accomplished to his satisfaction, he wrote with such ease and rapidity that the words actually flowed from his pen. Probably one reason that he did not write more was that his own literary taste was so refined and exacting that he was never thoroughly satisfied with his own conceptions. In his scientific writing, there was generally some imperious necessity that made it urgent upon him to give his results to the public in spite of the imperfections he might still see in them, but in literature such necessity rarely appeared. What he did publish he himself held in comparatively light esteem, but in the opinion of the best literary writers of the day, with most of whom he was on terms of friendly and intimate intercourse, his writings, and even more his affluent and delightful talks, disclosed a literary quality that might have given him a foremost place among American men of letters.

His one literary book, "Mountaineering in the Sierra Nevada," went through more editions in England than in this country and was very generally regarded there as far the best book of its kind that had ever been written. It was primarily a series of articles giving an account of his early experiences in California among the mountains that he loved so well and the peculiar people that he met. He undertook it, he once said, as an experiment to see if it were possible to write scenic description in such a way that the general public would read it.

Of his occasional articles in current periodicals, two appeared in the *Century* in 1886, and three in the *Forum*. Of the latter, two on Cuba, published in the years immediately preceding the Spanish War, were written under the impulse of strong feelings of sympathy with the cause of the insurgents, with whom he had come into intimate personal contact during a winter spent on the island at the country house of a friend.

Of his *Century* articles, one was a delicate tribute to his closest friend, John Hay, as one of the biographers of Lincoln; the other, a short sketch of his search for the "Helmet of Mambrino" for a fellow Cervantista, was that which more than anything he ever published disclosed the exquisite deli-

cacy of his literary touch, which rivaled that of Howells or James, and an even rarer quality of wit than Bret Harte's.

King was a man of remarkably robust physique, and showed throughout his physically arduous life powers of endurance that are rarely equaled; yet it was one of the penalties of the highly sensitive and nervous organization, which rendered possible his marvelously acute and delicate perception, that he was subject to sudden and almost unaccountable break-downs in which he suffered intensely. His last severe illness was an attack of pneumonia in the early part of 1901, which followed an examination of a mining property during very inclement weather. From this he recovered, but tuberculosis, the seeds of which were supposed to have been sown during a trip to the Klondike during the previous summer, made such rapid progress during the following months that, after several changes of climate in the vain hope of ameliorating his condition, he finally passed away, quietly and without suffering, on the 24th day of December in the year 1901.

It was part of his characteristic unselfishness that he effectually discouraged all offers on the part of friends and relations to visit him—visits which might have cheered his last lonely days in that far distant region.

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