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AUGUST, 1929

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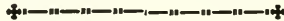
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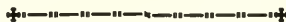
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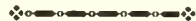
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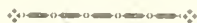
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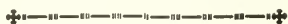
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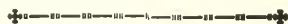
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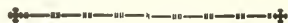


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THE SUNSET OF A GREAT LIFE

BY J. V. NASH

DR. CHARLES W. GILKEY, of the University of Chicago, in his address at the funeral service for Professor T. C. Chamberlin, dean of American scientists and father of the Planetesimal hypothesis,¹ declared that the name of Chamberlin will go down into history in company with those of Galileo, Laplace, and the other great pathfinders in natural science who have preceded him. It is a prediction in which all who knew Professor Chamberlin will heartily concur.

As my relation with Professor Chamberlin during the last months of his life was one of peculiar intimacy, it has been recommended that I should put on record my recollections of the great scientist's interests and activities in those sunset days of his career.

It was my privilege to be a student of geology, in both the residence and the field courses, at the University of Chicago while Professor Chamberlin was the active head of the department. He had been called to Chicago from the presidency of the University of Wisconsin in 1892 by Dr. William Rainey Harper at the founding of the University, to organize and build up a strong department of earth science.

Not until after Professor Chamberlin's retirement in 1919, however, did I come into intimate contact with him. In 1925 I began a series of scientific articles for a popular magazine, and in connec-

¹ The Planetesimal hypothesis was developed jointly by Professor Chamberlin and his younger colleague, Professor F. R. Moulton, the astronomer and mathematician. Professor Chamberlin told me that the idea of planetary genesis from the sun through the attraction of a passing star (recently adopted in England by Jeans and Jeffreys as the foundation of their tidal theory) was his alone, but that in the working out of the necessary calculations which established its validity he was so dependent upon Moulton that he desired the theory to be considered a joint one and wished that the public should so understand it.

tion therewith I was asked, early in 1926, to prepare a write-up of the Planetesimal hypothesis and other fundamental discoveries by Professor Chamberlin. He cordially acceded to my request for an interview, which occupied a large part of a forenoon in his pleasant apartment at the Hyde Park Hotel. This was the beginning of a personal friendship which became closer as time went on.

In 1927, when I was assisting the late Dr. T. W. Goodspeed in work on the biography of President Harper, I wrote to Professor Chamberlin, asking if he would tell me, in a brief interview, of his recollections of Dr. Harper. He replied on the bottom of my letter:

“Come and take dinner with me at 6 P. M. Saturday evening.
“T. C. C.”

He had prepared in advance some memoranda relating to President Harper, which he handed to me. Afterwards, as we sat talking in his study, he added a few oral reminiscences, which I took down in shorthand. Speaking quite extemporaneously, he said:

“I have a very definite picture of Dr. Harper’s personality and mentality. He was a person who was very enthusiastic in almost everything. His enthusiasm was very wise. If you went to him with a scientific subject in which his knowledge was necessarily limited, he would catch on to it and become very enthusiastic about it.

“I remember my first meeting with him, a year before he came here and I came here. I had gone East to see Harper at Yale to get a young man to be assistant in Latin at Wisconsin. Harper was one of the two men at Yale that I wanted to see for recommendations. I met him coming down to one of those old dormitories that used to be in the center of the Yale campus where he had his room. I was able to recognize him and went up and asked: ‘Are you Dr. Harper?’ ‘Yes,’ he said. I told him that I wanted to have a talk with him. ‘Come up to my room.’ I went there and explained my business. He thought a little and then suddenly slapped his knee and said: ‘I have just the man.’ He went on to describe this young man. He was the co-author in the preparation of a *Caesar*. He described him to me, and so I went to see him. I took Dr. Harper’s word that his scholarship was all right, but I wanted to know about his personality.

“I can see Harper sitting there thinking, and when the idea came, bringing down his hand with a quick slap and exclaiming: ‘Just the man!’

“He was full of enthusiasm and quick to catch the essence of an idea. I don’t think I ever knew him to throw cold water on a proposition—maybe he did. But he would catch a proposition and take to it very kindly. That was perhaps a leading characteristic—

that readiness to see an opportunity, to see something to be done, and his enthusiasm for pursuing it."

After the death of Dr. Goodspeed, only a few days later, I sent Professor Chamberlin one or two photographs which I had made of this old associate of his in the days of the organization of the University. On January 6, 1928, Professor Chamberlin acknowledged the pictures in the following note:

"Dear Mr. Nash:

"I thank you very cordially for the photos of Dr. Goodspeed. I shall appreciate them all the more because they were taken so near the close of his life, and because we were so close to him in interest just before he passed away.

"Yours truly,

"T. C. Chamberlin."

"Drop in and take a meal with me once in a while."

Speaking of Dr. Goodspeed in a later interview, Professor Chamberlin said:

"Goodspeed was always a great trouble in my dreams. I wanted him to write my biography, but I didn't want to die first. I couldn't solve the difficulty."

Early in the following May, I called on Professor Chamberlin in company with his former colleague and partner in the development of the Planetesimal hypothesis—Dr. F. R. Moulton. I had arranged this interview in order to secure some photographs of the two noted scientists together. On May 8, Professor Chamberlin wrote me as follows:

"Dear Mr. Nash:

"I appreciate very highly your kindness in sending me prints of the photos you took Saturday, as also the pleasure your call gave. It was an especial pleasure to meet and chat with Moulton. It was so much like old times. As you know, we began to work together thirty years ago.

"Very truly yours,

"T. C. Chamberlin."

In the summer of 1928, I prepared a little article on the scientific philosophy of Professor Chamberlin, taking the material from an interview that he had given me some time before. This manuscript I submitted to the editor of the *Open Court*, with the suggestion that it be published in the September number of the magazine, in honor of the eminent scientist's eighty-fifth birthday, which was to occur on the twenty-fifth of that month. The editor readily agreed

to the proposal, the contribution appearing as the leading article in that issue, under the title, "Professor Chamberlin, Dean of American Scientists, on the Future of Man."

I sent Professor Chamberlin a copy of the article. Later I called him on the telephone to tender him my greetings and to offer him a few copies of some reprints which I had received. Professor Chamberlin thanked me warmly for the article and suggested that I leave the reprints at his home, on my way downtown—"as you are going by."

Accordingly, the next morning I called at his apartment and paid him a little visit. As I was rising to leave, he motioned me back to the chair, with the request that I stay a few minutes longer, as there was another matter that he wished to speak to me about. He explained that he was now without any dependable secretarial assistance, and he wondered whether I would find it convenient to devote a little time daily to helping him. "I have been thinking, for about a year, of asking you to do this," he added. Of course, I gladly accepted his proposition, and a mutually satisfactory arrangement was entered into immediately.

His book, *The Two Solar Families: The Sun's Children*, summing up his many years' investigation of fundamental problems of cosmogony, was, after repeated delays, about to be published by the University Press. He now received a letter from the Press, promising that the book would appear without fail on September 25. The date happened to be Professor Chamberlin's birthday. I called the coincidence to his attention and it seemed to please him. There was a good deal of business to be transacted with the Press in connection with sending advance copies of the book to the reviewers and complimentary copies to personal friends. I handled all of this business for him.

On September 25, Professor Chamberlin observed his eighty-fifth birthday. He spent the day quietly in his apartment. Many messages, by letter, telegram, and telephone, came to him, offering congratulations upon his phenomenally long life of scientific achievement. The annals of history will indeed probably be searched in vain for another instance of a scientist publishing a work of important original research at the age of over eighty. His old friend, Professor J. Paul Goode, the geographer, called on the telephone to congratulate him. "Oh, thank you! You're good, Goode; you're very good, Goode!" he answered, chuckling over his little pun on

his colleague's name. A number of visitors dropped in, and there were flowers on his table. His three tiny grandchildren, accompanied by their mother, trooped into his study, shyly kissed him, and presented him with little gifts of handkerchiefs and pencils. In the afternoon, the newspapers sent reporters and photographers to interview him and take some flashlight pictures. Late in the day, a copy of his book, just off the press, was brought to him—I think by his son, Professor Rollin T. Chamberlin.

Writing the next day to Frank Leverett, for many years one of his field assistants on the staff of the United States Geological Survey, Professor Chamberlin said:

"I appreciate more than I can tell you your kind words with regard to my eighty-fifth birthday. It passed in a way that was almost ideal to me, in that a few friends whom I hold most dear expressed themselves in very gratifying ways; at the same time I kept in the quiet of my study and remained entirely off—so far as I was prime mover—the stage. There has been a little staging, as perhaps you will see from the newspapers—perhaps not; but I was in no way responsible for that."

We had a session in his apartment every forenoon. I read his morning's mail to him; then we disposed of it, together with the mail that had come in late on the day before. To some letters he dictated replies; others he turned over to me to handle. His sight had been failing for many years. He did not use glasses, however, as his eye-trouble involved multiple images. Still, he could read with the assistance of a powerful lens held close to the print or writing. I tried to spare him so far as possible the necessity of reading. On some days he would dictate a few pages of tentative manuscript, mostly connected with certain studies in Pleistocene (Glacial) problems, the field in which he had done his first important geological work and in which he continued to the end to take a keen interest.²

Professor Chamberlin said that if his life should be spared, he hoped to publish a book on the Pleistocene problems, and also one dealing with the philosophical aspects of his scientific studies. This latter, I assumed, would have elaborated the ideas set forth in his address to the Association of Doctors of Philosophy at the University of Chicago in June, 1918, treating of "the Cosmos, the

² The particular Pleistocene problem which engaged his lively interest was that of the correlation of the several ice invasions, especially in Iowa, and the proper nomenclature to be employed in their differentiation.

Psychos, and the Theos," and in his great Boston address as retiring President of the American Association for the Advancement of Science, in December, 1909, wherein he envisaged an almost limitless future for the intellectual and social evolution of the race.

He discussed with me my own writing, especially in the way of popular scientific articles. He expressed cordial approval of this sort of work; indeed, he suggested my preparing at some future time a series of such articles based upon his own investigations. Scientific men like himself, he said, were glad to have their work placed before the general public in a popular style, but preferred to have it done by others.

One day he remarked that he had been thinking of a new term for the studies in which he had been chiefly interested. "It is *Geontology*," he said. "I should like to see a chair of Geontology established at the University to continue my work."

About this time he was arranging for a distribution of scientific papers to his large mailing list; this we revised and corrected for the purpose. The distribution was handled by the University Press, with which I conducted the necessary negotiations by telephone, correspondence, and personal conference. The material, which was sent out to several thousands of names all over the world, consisted of (1) reprint of article in *Scientia*, "The Growth of the Earth" (editions in both English and French), (2) reprint of his last report to the Carnegie Institution of Washington, "Study of Fundamental Problems of Geology," and (3) prospectus, with specimen pages, of *The Two Solar Families: The Sun's Children*.

Meanwhile, an article by a British scientist, Professor Eddington, had appeared in *Harper's Magazine* for October, in which a quite erroneous impression was given as to the authorship of the theory of earth genesis based on the close approach of another star to our sun. Professor Chamberlin was much disturbed by this article, which seemed to him a further step in the apparent attempt of certain British scientists to distort the facts with reference to the Planetesimal hypothesis and the doctrine of "close approach" or "dynamic encounter," which was conceived by himself and developed to maturity in collaboration with Professor Moulton in the period 1896-1904. He suspected a desire on the part of these men "to get us out of it," as he expressed it during the visit which Professor Moulton and I made to him a few months earlier.

Professor Chamberlin was anxious to have Dr. Moulton answer

this article and, once for all, put the record straight as to priority rights in the new cosmogony, involving (1) the proof of the untenability of the Nebular hypothesis of Laplace, and (2) the development of the new theory of the birth of the sun's planetary family through tidal disruption effected by the passing of another star, a phenomenon which occurs only at intervals of billions of years.

Dr. Moulton, at Professor Chamberlin's suggestion during the conversation in May, had already agreed to review *The Two Solar Families: The Sun's Children*, when it should appear from the press. It seemed to Professor Chamberlin that the publication of the Eddington article called for immediate action. He dictated a letter to Dr. Moulton, directing his attention to it and urging upon him the importance of taking the matter up.

In order to facilitate Dr. Moulton's work, I requested Professor Chamberlin to give me an informal account of the history of the original announcement of the Planetesimal hypothesis. He did so, and I transmitted this, along with documents which I secured from Professor Chamberlin's files, to Dr. Moulton, for his use in formulating his paper. I kept in close touch with Dr. Moulton, giving Professor Chamberlin frequent reports on the progress that Dr. Moulton was making in the preparation of the paper, which he had arranged to have published in *Science* after first submitting a draft of it to Professor Chamberlin and to several others for criticism.

Professor Chamberlin was immensely pleased when he learned that Dr. Moulton was pursuing the matter vigorously. It seemed to lift a burden from his mind; he became more care-free and contented than he had been before.

On the other hand, his physical strength was obviously failing. He himself recognized this. He had been at the Billings Hospital (on the University quadrangles) during the summer for rest and observation. For some time he had been taking sleeping tablets for his insomnia. Then, too, ever since his return from the mission to China in 1909 he had suffered from stomach trouble. Early in October, at his request, I had called up Dr. Joseph L. Miller to arrange for a medical examination. The examination was made, and at the physician's suggestion the use of the sleeping tablets was given up.

Now that the publication of the book, the distribution of the reprints, and the matter of Dr. Moulton's article were off his mind, Professor Chamberlin said that he wanted to give up all activity so

far as possible in order to recuperate from "stress." So he abandoned the dictation of any further scientific material, and our sessions became very brief. I was now sufficiently familiar with his correspondence to handle most of it independently, under his direction. He seemed to suffer increasingly from exhaustion. As soon as we had disposed of the morning's mail, he would go to the couch and lie down. As his tiredness grew upon him, after a brief session in the study I would assist him into his chamber, where he reclined on the bed, covered with a steamer rug, and dozed through the day. Sometimes I read a little to him there before leaving, but he generally dropped quickly into a nap.

His great outside interest at this time was the approaching Presidential election. With the aid of his reading lens he continued to scan the newspapers during his leisure time, and in my daily visits I read to him articles of special interest. He was strongly in favor of Hoover, and we discussed together the progress of the campaign.

In the meantime, Dr. Moulton had completed his first draft of the review of *The Two Solar Families: The Sun's Children*. I copied it for him and then read it to Professor Chamberlin. He listened with the closest attention to the reading, frequently punctuating it with expressions such as "mighty good," "that's fine," and so on. When the reading was completed, he dictated the following little note to Dr. Moulton, under date of October 25:

"My dear Dr. Moulton:

"Mr. Nash has just finished reading to me the first draft of your review of the little book.

"I am delighted with it beyond measure, and you have my approval from one end to the other.

"I am so thoroughly with you in both manner and substance that I would advise you to go right ahead and polish it as you and your scientific colleagues advise, and not waste time on me. I am grateful to you to an extent I cannot express for this splendid work.

"Very truly yours,

"T. C. Chamberlin."

By this time he was becoming so feeble that his son, Professor R. T. Chamberlin, arranged to secure the services of a medical student to stay with him at night. This young man, Mr. Kenneth Sears, began his duties at the end of October, occupying a couch in the study. Professor Chamberlin had, however, brushed aside

my suggestion of a wheel-chair, to obviate the danger of falling. He did not want to come to that, he said, until he had to.

The first alarming symptom of Professor Chamberlin's condition occurred on the evening of Monday, November 5, when Mr. Sears reported that his patient was unable to eat his dinner. The next morning he failed to hold his simple breakfast. I acquainted Professor R. T. Chamberlin with the new turn that had developed. I endeavored to get Dr. Miller to come at once to make an examination, but as his engagements were such that he could not come for some time, I reached Dr. Steele, at the Billings Hospital.

That afternoon I stayed with Professor Chamberlin until about 5 o'clock, when his son arrived and took charge. I worked in the study, copying the last draft of Dr. Moulton's article, while Professor Chamberlin slept fitfully in his chamber, separated from the study by a small sitting room, into which the main entrance to the apartment opened. I hoped that the transcript might be finished in time to read to him before any further relapse should occur. But this was not to be.

Professor Chamberlin had not eaten during the entire day. Before I left, he sat up for a little while. I suggested a glass of grape juice, of which he was very fond. "That tastes good," he commented, after a few swallows of the cool, refreshing drink.

The next morning I learned that Dr. Steele had called early in the evening and, after an examination, had ordered Professor Chamberlin's removal to the Billings Hospital. A serious heart weakening had been discovered.

Professor Chamberlin had said nothing to me of a realization that the end was approaching. But some time after I began my work for him, he took me into his private chamber and personally went through his chests of drawers with me, showing me what was in them, and indicating papers that he said could soon be "chucked." I learned afterwards, too, that he expressed to the maid who attended to the care of his rooms at the hotel, when she inquired how he was feeling, the thought that it was "only a matter of time now." This was about two weeks before the final collapse. Mr. Speed, a graduate student in geology, who was serving as an attendant at the hospital, reports to me that Professor Chamberlin, when he arrived at the hospital, remarked in substance, in reply to the young man's inquiry: "I believe that I have come into the hospital for the last time. My health seems to be poor. A person cannot expect

to last for too long, and I had many active years." When Mr. Sears, several days later, expressed the hope that he would soon be able to leave the hospital, he smiled quizzically and said, "Perhaps." On the other hand, the day after he entered the hospital he asked me to tell the Manager of the hotel, with whom his relations were very friendly, that his illness was not alarming and that he expected to return in a few days. So far as I know, he did not discuss with anyone the matter of his death. One day at the hospital he asked me jokingly whether I was troubled by "spooks" in his deserted apartment.

At the beginning of my service to Professor Chamberlin I had encouraged him to "reminisce" to me about the events of his long career, particularly in his early days. He did so freely, with the knowledge that I was taking it down in shorthand for possible biographical use. In this way I secured much valuable material for the story of his life; but we had only slightly tapped his vast store of personal recollections.

Professor Chamberlin's ailment, as I have indicated, was diagnosed as heart trouble. Digitalis was administered at the hospital, and he was given every aid that modern science could offer. But he grew progressively weaker. I visited him daily and kept him in touch, so far as possible, with his mail. Press clippings from all over the country were pouring in every day, warmly commending his book as a notable contribution to scientific progress.

The national election was held on the day of Professor Chamberlin's removal to the hospital. On my first visit to him there, the following day, I reported to him the results of the election, in which Hoover was swept into office by a great Republican landslide. Several of the Southern States had given Republican majorities, for the first time since Reconstruction days. Included among these States were Virginia and North Carolina. Professor Chamberlin had ancestral roots in both of these States; North Carolina was the birthplace of his father, which he had left as a young man because of his opposition to the institution of slavery. "Well," he chuckled, when he heard this interesting news, "that's better than medicine!" A few days before this, during one of our sessions at his home when we were discussing the election, I had remarked that if Virginia went Republican it would make Jefferson Davis "turn in his grave." "He'll roll over," commented Professor Chamberlin, smilingly.

Professor Chamberlin did not suffer pain, nor did his habitual cheerfulness desert him. He was a model patient; the confinement must have irked him, but he never complained. Two efficient young nurses attended him with a reverential tenderness. Several of his old associates visited him during these last days, including Dr. Moulton and Professor MacMillan. His son was in attendance as much as possible daily. Professor Chamberlin enjoyed having visitors call, and conversed with them freely.

Toward the end, his mind occasionally wandered. This, I was informed by medical authority, was due to poor blood circulation in the brain, resulting from the weakening of the heart action.

The last message which he gave to his secretary was in reply to a letter from Mr. James M. Nicely, of New York, informing him of resolutions which had been adopted at a meeting of the New York alumni and alumnae of the University of Chicago, in honor of his eighty-fifth birthday. "I appreciate very much the warm words of greeting," Professor Chamberlin said in answer. The last letter read to him by his secretary was from Sir Arthur Smith Woodward, the well-known British scientist, acknowledging the reprints sent him and telling of some recent excavations at Piltdown and of new fossils discovered by him in the Lebanon. Professor Woodward, it will be remembered, was the co-discoverer of the notable human remains familiar to anthropologists as the *Piltdown Man*.³

On Wednesday oxygen was administered, but Professor Chamberlin disliked it and it was discontinued. I saw him for the last time that afternoon. He was receiving oxygen under a large celluloid hood. Apparently he imagined that he was back in his old classroom, lecturing on problems in geology; he moved his hand feebly on the coverlet as he emphasized his points. "On the other hand" were the last words I heard him speak, as I turned sorrowfully away and left the room. I did not suspect at the time that

³ Sir Arthur Smith Woodward, in a letter to the present writer under date of February 2, 1929, said of Professor Chamberlin:

"I knew him as a geologist of very wide sympathies and knowledge, interested in all kinds of progress. When I first met him in 1900 he had lying on his table my then comparatively new book on Vertebrate Palaeontology, and we had long talks at the Hyde Park Hotel. I was with him again in 1904, both at Chicago and at the Congress of Arts and Sciences at the St. Louis Exposition. I learned to regard him with affection, and regretted I had no opportunity of meeting him in his later years. He left an enduring mark on American science, and the Geological Society of London (of which I am now Foreign Secretary) held him in high esteem among its Foreign Members."

the end was then less than twenty-four hours distant. Professor William H. Hobbs, head of the Department of Geology at the University of Michigan, whom Chamberlin had appointed to a professorship at Madison when President of the University of Wisconsin, later remarked to me at Ann Arbor that these words were significant, suggesting the persistence of Chamberlin's well-known rule of "multiple working hypotheses."

Thursday morning, November 15, his condition was unchanged. At about noon the nurse entered the room and saw him resting easily on his side. She gave him a drink of water, returned at about half-past twelve, and found that all was over.

That afternoon an autopsy was performed on the body. It was reported that the condition of the heart showed that it had worn out. A cancerous condition in the kidneys was discovered, but this in itself was not responsible for his death. I was one of the few who saw the remains in the coffin at the undertaker's the next day. The lines on his face had softened; his features bore a look of infinite peace.

The University funeral service for Professor Chamberlin was the first to be held in the magnificent new chapel, dedicated less than three weeks before. The chancel was banked with flowers, and the coffin rested at the head of the center aisle, a university student marshal and a university aide, in cap and gown, standing one at each end of the coffin until the service began. Dr. Charles W. Gilkey delivered a simple but feeling address on the significance of Professor Chamberlin's life and work. Without, a steady down-pour of rain deepened the shadows of the November twilight within.

Burial was at Beloit the following day, among the fields of southern Wisconsin where he had played and worked as a boy on the farm, where he had spent many happy years as a student and later a professor in the College; in the midst, too, of the sloping, grass-covered moraines where he had made the first glacial studies which led on, step by step, to his far-reaching investigations in cosmogony which culminated in the Planetesimal hypothesis.

There was a remarkable thread of continuity running through Professor Chamberlin's long and fruitful life. Old students, whom he had taught as a young man, kept in touch with him while life endured. A typical instance is revealed in his correspondence, during the last year of his life, with Mr. Charles T. Harris, who was a student under Professor Chamberlin at Delavan, Wisconsin,

in the 1860's. Mr. Harris, now an elderly business man in New York, had read in the *New York Times* of the conferring of the Penrose Medal upon Professor Chamberlin, at Cleveland. He wrote a letter of congratulation, in which he recalled the aid and inspiration he had received from Professor Chamberlin in those far-off days. The letter concluded:

"Therefore, today I voice these few and inadequate words of love and pride and tribute to my best teacher and friend, with joy in my heart for his wonderful professional and personal life and influence.

"Your little boy pupil and friend,

"Charles T. Harris."

Professor Chamberlin's reply, under date of January 11, 1928, is one of the most beautiful human documents that it has been the present writer's privilege to read. It follows:

"My dear Charlie:

"Let me call you that, for it is as Charlie Harris that I remember you, and the memory brings up so many things that were near and dear to me.

"You are quite right that the associations of my first two years after leaving college, at the Delavan school, are full of fond recollections and that my little struggles and triumphs there still stand out large in my personal history. They were the deciding factors in my later life. I do not know how many times I have told of that first little outdoor afternoon excursion when we all went up the creek to the railroad and back to the cut through the ridge, and I tried to tell you a little about the rocks, etc. It led on in a singular way to my later studies and all that has come from them. All you high school boys and girls are entitled to some share in the medal that has been given me, for if you had not been eager, responsive and appreciative, it is not likely that I would ever have become a special student of earth science.

"It is delightful to hear from you again. It is like a sweet breeze from the land of youth.

"As my eyes grow dim it is hard for me to make new acquaintances and to remember people whom I meet, but I could call the roll of Delavan High School today without many omissions, and your faces are fresher and more vivid than any new faces I now see. I thank you sincerely for writing me and for your very gracious words.

"Yours very truly,

"T. C. Chamberlin."

Alfred Russel Wallace, co-discoverer, with Charles Darwin, of evolution by natural selection, in his book entitled *Man's Place in the Universe*, discussed at some length Professor Chamberlin's work in the field of cosmogony. In this book he quoted two stanzas from Tennyson, which to some of Professor Chamberlin's friends seemed a fitting requiem for the great geologist and cosmogonist as his life-work ended:

“(The Question)

“Will my tiny spark of being
Wholly vanish in your deeps and heights?
Must my day be dark by reason,
O ye heavens, of your boundless nights?
Rush of Suns and roll of systems,
And your fiery clash of meteorites?”

“(The Answer)

“Spirit, nearing yon dark portal
At the limit of thy human state,
Fear not thou the hidden purpose
Of that Power which alone is great,
Nor the myriad world, His shadow,
Nor the silent Opener of the Gate.”

So Professor Chamberlin's career closed, as he would no doubt have wished, on the grounds of the institution which had been the scene of his greatest scientific labors. And though he lived to within fifteen years of the century mark, there was for him no period of idleness and senile decay. His life went out on “an upward curve”—on the crest of his last superb contribution to the unfolding story of earth science.