lustrations by neglecting to use the manuscript that would make his discourse coherent?

Perhaps mere notes would save him from helpless verbal floundering.

What shall we say of that misguided person, who, having at least eighty pictures to illustrate his lecture on Alaska, or some other far-away place, throws in about forty more, to show how he got there? Half a dozen to get the ship away from the dock at Seattle, half a dozen shots at the city as he steams away, a few more at passing vessels, another half dozen at the members of his party (in which he is careful to show up in most of the groups himself), a few pictures of the captain, and about a dozen showing the Indian villages of the British Columbia islands, as he steams kodaking along, and all of which have been kodaked by a dozen tourists on every steamer, every week for the past twenty years.

I witnessed such a performance at the afore-mentioned meeting in Philadelphia. The exhibitor of slides held the platform for an hour and a half, until even the picture-bewitched ornithologists were audibly in revolt.

How shall we use the lantern slide? Is it not possible for the lecturer to first present his matter, so that it will appeal to the mind of his audience, and then follow his discourse with a limited number of illustrations selected for their fitness rather than their beauty? It would be quite useless to show pictures first. No audience will stay after the last picture. The unceremonious exit stampede begins at once, even if the distinguished president of the society has risen to make some concluding remarks.

And how about manuscript which is unfortunately often necessary? There is no need for a slavish use of manuscript, if the matter is good and delivered in a vigorous manner. Many speakers use it effectively. Ingersoll never spoke without it, and Roosevelt uses it for all lengthy discourses.

Our museum lecturer should unquestionably devote more time to preparation. He should make his address worth hearing without illustrations at all. He should be able to get the same applause for his matter that he gets for his pictures. When he does that he will be on a dignified basis himself, and will pay a long-deferred compliment to the intelligence of the audience, that it will be likely to appreciate.

I should like to see some of our museum men doing their platform work without pictures, and I am sure that some of them are capable of doing it. Most of those who try it should write out their lectures in full, and thus get the benefit of the work of arranging their matter and becoming familiar with it.

There must, of course, be reference to the manuscript, but the audience will not mind that if the subject is of real interest and the speaker deals with it in a forcible manner, impressing his hearers with the fact that they are listening to a man filled with his subject and sure that it is a good one. Lack of earnestness means that the audience will get weary or begin to slip out. I am sure that a good lecture half an hour long, followed by half the usual number of illustrations, will be an improvement on the present method.

Should we not illustrate our lectures, and cease to lecture about our illustrations?

C. H. TOWNSEND

N. Y. AQUARIUM

RALPH STOCKMAN TARR

As Cornellians and former students of Professor Ralph Stockman Tarr we learn with sorrow of his death and extend to his family our heartfelt sympathy and condolence. We feel keenly the loss to the university of his unselfish service and forceful personality, and we regret that his brilliant contributions to geology and geography have been cut off at a time when they were most fruitful and convincing. Above all we deplore the loss of the personal influence which we have found so helpful and inspiring in his home, in the class room and in the field. Those of us who have known him under the trying conditions of life in northern ice fields, where no hardship was too great to be cheerfully borne, can most fully

appreciate his devotion to the science he loved and the fineness and strength of his character.

Geo. H. Ashley,
V. H. Barnett,
J. A. Bonsteel,
B. S. Butler,
F. K. Cameron
M. E. Evans,
L. C. Graton,
R. T. Hill,
J. A. Holmes,
J. C. Hoyt,
L. O. Howard,
E. M. Kindle,
G. C. Martin,
G. C. Matson,
E. S. Sheperd,
C. W. Turrentine,
David White

Washington, D. C.,
March 22, 1912

CHARLES ROBERT SANGER

In the untimely death of Professor Sanger, on February 25, 1912, the Faculty of Arts and Sciences of Harvard University lost a loyal and faithful member, the chemical laboratory of Harvard College an efficient director, and the class of 1881 a devoted secretary.

Charles Robert Sanger was born in Boston on August 31, 1860. He graduated from Harvard College in 1881, received the Harvard degree of Master of Arts in 1882, and attained that of Doctor of Philosophy in 1884. From 1881 to 1882 and again from 1884 to 1886, he was assistant in the chemical laboratory of Harvard College, but in 1886 he went to the United States Naval Academy at Annapolis, as professor of chemistry. Six years later he was called to Washington University, St. Louis, Mo., and remained there until 1899, when he came back to Harvard as assistant professor of chemistry. He was called here because his service as assistant in qualitative analysis fifteen years before had been so able that he was deemed the most suitable person to continue the instruction in this favorite course when Professor H. B. Hill was obliged by other duties to relinquish it. Professor Sanger's return to Harvard was appropriate; he had never lost interest in the varied phases of our university life even when duty called him elsewhere. No son of Harvard has ever worked, according to his opportunity, more loyally in her behalf.

When in 1903 Hill laid down his work forever, Sanger was promoted to a full professorship, and on account of his marked executive ability and conscientious devotion, was the natural choice for the onerous directorship of the laboratory. Only those who have been privileged to work with him there can fully appreciate the extent to which he generously gave his time and thought in order to further the interests of all.

While first at Harvard as an assistant, he worked under Professor Hill on the constitution of pyromucic acid. In recent years he confined his work chiefly to the devising and perfecting of methods for the detection of minute quantities of arsenic, antimony and fluorine, as well as to the investigation of the chlorine derivatives of silicon and sulphur. Besides papers describing these researches, he wrote several laboratory manuals. His fine character was especially manifested in the great care he exercised in all his scientific work; he was determined that no untrue statement should ever escape his pen, and rigorous precautions and manifold repetitions of experiments doubtless prevented him from ranging over a wider field. As a teacher he tried to inculcate the same habits of methodical painstaking work which he possessed himself.

He was a Fellow of the American Academy of Arts and Sciences and a member of the American Chemical Society and the Deutsche Chemische Gesellschaft.

In 1886 he married Miss Almira Starkweather Horswell, who died in 1905, leaving three children. Five years later he married Miss Eleanor W. Davis, of Cambridge, who, with the children, survives him.

No one could watch his struggle against an insidious disease during these last years without a feeling of deep admiration for the courage with which he lectured and worked in spite of spasms of mortal pain and prostrating weakness; and the devotion and consideration of his classes was a striking testimony to the universal respect in which he was held.

T. W. Richards,
B. O. Peirce,
G. P. Baxter