spirit of research should be in every student. If he does not have this, medicine is not for him. But let us not think we yet know how to select from the thousands who wish to study medicine each year a few groups of fifty or sixty, for a few schools, so that in each group there shall be even five "righteous" persons, *i. e.*, capable of adding to the sum of human knowledge.[5]

There are many and serious practical objections to the scheme I have indicated in outline, which I shall not take the time to consider now. I have intentionally avoided details. At the risk of being misunderstood, and seeming dogmatic, I have sought brevity. But from many quarters arise suggestions that the student should come in contact with patients earlier than at present. Why not be "simple minded"[6] and begin at the beginning?

STEPHEN RUSHMORE
TUFTS COLLEGE MEDICAL SCHOOL

PRESENTATION OF THE MARY CLARK THOMPSON MEDAL TO DR. EMMANUEL DE MARGERIE

AT the recent meeting of the National Academy of Sciences, the Mary Clark Thompson Medal was presented to Dr. Emmanuel de Margerie by Dr. Charles D. Walcott, president of the academy. In making the presentation Dr. John M. Clarke said:

It should be clearly understood that this award, based upon the foundation established by Mrs. Frederick F. Thompson, has for its purpose the recognition of full achievement in the sciences of geology and paleontology and while the award may encourage its recipient to further endeavor, this is not its first purpose. By the terms of the foundation, the Thompson Gold Medal shall go to him who has not failed in seed time nor in harvest and the fruits of whose labors are evident in the sheaves he has already reaped. This medal has been given but once before and then to Charles D. Walcott, the president of this academy.

Your committee has very cautiously filtered the world of geological achievement in its effort to fix upon the work and the author of the work most fitly to be crowned by this award. It has halted at no national boundaries and its decision has not been a hasty one nor arrived at by any devious crosscut. In consequence the committee has the pleasure of presenting to the academy for the award of this highest honor in these sciences in its gift Dr. Emmanuel de Margerie, former president of the Société Géologique de France, actual director of the geological service of Alsace-Lorraine, the bearer of many distinctions in geology and its allied sciences, laureate of the Académie des Sciences, member of l'Institut and Chevalier de la Legion d'Honneur.

Thirty-five years ago on his return from a visit to France, J. Peter Lesley, a member of this academy, wrote enthusiastically of meeting in Paris, along with Hébert and other men of distinction in science, a young man whom he characterized as "one of the best of the younger geologists—de Margerie." It is quite safe to say to-night that de Margerie still holds title to that characterization subject to some such modification as the best of the younger looking geologists. At all events the thirty-five years have yielded up their harvest and while we respect and honor him for his versatile accomplishments in many fields of investigation, his researches on the dislocations of the earth's crust, on the interpretations of terrestrial relief in terms of earth structure, his extensive and incessant labors on geological cartography, his bathymetric survey of the oceans, his contributions to the geological map of the world, his orogenic studies in the Pyrenees and the Corbières and the Jura—all these are his monuments—but no devotee of this science of geology can fail to recall without emotion de Margerie's most excellent service in translating from exceedingly difficult and intricate German into lucid French and in illuminating this translation with annotations as important as the original work, Suess's "Das Antlitz der Erde," de Margerie's "La Face de la Terre." To this monumental task de Margerie devoted the years from 1894 to 1917. Scrupulously exact in translation, vastly enriching the labors of that master of geological science, de Margerie has given an impulse to the work which

[5] Pritchett, H. S., Report of President of Carnegie Foundation, 1921.

[6] Pearl, Raymond, "Trends of modern biology," SCIENCE, Vol. LVI, No. 1456.

has enabled it to penetrate deep into the present thought of the science. It is a rare good fortune for us that our laureate is here, even though he faces homeward after his cycle of our universities and it is with gratification that your committee introduce him for this award.

After receiving the medal M. de Margerie replied:

My first word in acknowledging the award of the Mary Clark Thompson Medal must be a word of gratitude.

To be selected as a characteristic representative of the trend of geological research at the present time is a very great honor indeed, specially when one recalls the first to receive that signal distinction Dr. C. D. Walcott, our most distinguished president and my friend for many years.

One of the pleasantest days I can recollect in my whole life occurred just four years ago, in 1919, when, as an officer of the Geological Society of France, it became my duty to report on the work of Dr. Walcott, to whom our greatest prize for paleontology and geology, the Gaudry Medal, had been awarded. I felt even more delighted than I could tell to embrace that unique opportunity of summarizing, for the benefit of my colleagues, the splendid contribution to early Paleozoic structural and organic history which have made the name of the present secretary of the Smithsonian Institution famous throughout the world.

How unworthy do I feel when I see on the rolls of the academy my own name following the name of that great investigator, whose services in deciphering the most complicated problems of Cambrian stratigraphy stand in such preeminence—not to speak of so many other achievements, both scientific and administrative, made in the successive capacities of field explorer, of museum curator, of executive officer, and above all, of invertebrate paleontologist!

It is, I believe, the practice on such occasions as this to say a few words regarding one's own personal experience. Autobiography is a very dangerous type of literature, particularly in its oral, improvised form; and I shall not dwell upon the external events of my life, which —just as for happy nations—have been few and unimportant. Allow me only to refer briefly to some incidents in my intellectual history, which are closely connected with the results for which I am standing here to-night.

First among my feelings comes the joy of work and of discovery. The stimulus of getting at something new, even in a very restricted field, of penetrating a little deeper in the knowledge of nature, has always appeared to me as one of the reasons of living and one of the justifications of effort.

But the true, perhaps, would seem unattractive if it were not constantly associated with the beautiful. And is not the geologist specially fortunate in deciphering, as in a laboratory of his own, sea-cliffs and canyons, great mountain-ranges and glacier-sculptured peaks, burning volcanos or silent caverns? To my mind science seems as inseparable from art; think only of Leonardo, or, nearer to us, of Ruskin, and again, in our own days, of that man of genius, but so modest that very few know of him, William Henry Holmes!

Another factor in science, the importance of which I would like specially to emphasize, is the element of sympathy—the moral or social element. Every bit of scientific work is the product of human effort, the final outcome of a far-reaching chain of inheritance, combined with some data of personal discovery; it occupies a definite place in the intellectual evolution of mankind—and there lies the reason why the history of science, so ably advocated in this country by Dr. Sarton and more particularly on its geological side by Dr. Merrill, is of such importance to develop a deeper comprehension of the past and a surer construction of the future.

Now, to speak again of myself, I have to admit that anything of value which may have come from my pen, in geology and geography, was largely obtained through association with one friend or another. The two first volumes on which my name appeared in print and which were both published in 1888—*Les Dislocations de l'Ecorce terrestre* and *Les Formes du Terrain*—were written in conjunction with my revered masters, Professor Albert Heim, of Zürich, and General de La Noë, of Paris. And, in the preparation of the work which has ab-

sorbed more than half of my time since I became interested in geology—the French edition of Eduard Suess's masterpiece: "The Face of the Earth"—I enjoyed the efficient help of twelve among the most active of French geologists and geographers.

Finally, when I was obliged to act alone, may I state that I have always had before my eyes the desire to do full justice to my predecessors in the very field where I was working? The perhaps too bulky volume on the "Structure of the Jura Mountains," which has just been published by the Geological Survey of France, and which is only the introduction to a monograph of a more original character, is, in fact, a continuous appeal to the rights of writers of past generations to get our full esteem for what they achieved, often under very unfavorable circumstances.

I fear I have expanded perhaps too much on my own psychology; and, still, I feel compelled to add something more: the great inspiration I have found, since more than forty years, in perusing the magnificent documents with which America has enriched, during that time, geological science in all its various branches. Never shall I forget the deep impression which some of your great men made upon my youthful mind when I first met them in Paris in the year 1878, on the occasion of the inaugural meeting of the International Congress of Geologists. Again, in 1891, at the fifth session of the same body, what a joy it was for me to greet so many eminent teachers and to exchange ideas with such men as James Hall, Dana, Emmons, Gilbert, King, Lesley, Newberry, Powell, Shaler, Whitney, the two Williamses and many others who, alas, have now passed away, but who have still left to us here the benefit of their wide learning!

To conclude, let me tell you how proud I feel to have received as an acknowledgement of my life-work this beautiful medal; let me thank you for your generosity which I am sure, will be felt very deeply by my colleagues in the French Academy and by French scientists at large; and—last, but not least—let me express my very cordial gratitude and affection to Dr. Clarke for his kind and sympathetic appreciation of my humble efforts.

SCIENTIFIC EVENTS

EDWARD WILLIAMS MORLEY

THE following resolutions were passed at the New Haven meeting of the American Chemical Society in memory of Edward Williams Morley, an honorary member of the society:

The American Chemical Society in this memorial wishes to express its appreciation of the great loss it has sustained by the death of Professor Edward W. Morley, who was to have been the honorary chairman of this meeting.

Born in 1838, graduated from Williams College in 1860, he entered the Congregational ministry and was called from it to be professor of natural history and chemistry in Western Reserve College in 1869. He was actively connected with this institution for 37 years and since his retirement has made his home near Hartford, Connecticut, in which city he died on February 24 of this year, shortly after his eighty-fifth birthday.

Although Western Reserve College was but little known at that time, Professor Morley soon brought it into prominence and raised himself by his own genius to be one of the foremost scientists of his time. He was as much a physicist as a chemist, and most of his published papers, curiously enough, lie in the domain of physics, although he allied himself primarily with the chemists.

With remarkable characteristics for precision and thoroughness, he possessed also an unusually clear and resourceful mind and a wonderful mechanical skill, so that he was not only a great investigator, but also an inventor of many new devices for fine and exact measurement. Among these were a precision eudiometer for the rapid determination of oxygen, two types of differential manometers, by which differences of gaseous pressure can be measured to the 1/10000 mm. of mercury and many mechanical features of a minor sort used in the manipulation of gases. Together with Professor Michelson he developed the interferometer, an apparatus for measuring lengths in terms of the wave-length of light, and employed it in measuring the expansion of metals, the relative motion of the earth and the ether, and the velocity of light in a magnetic field.

The work, however, for which he is best known among chemists is that on the densities of oxygen and hydrogen and the ratio in which they combine, published as Smithsonian Contribution to Knowledge, No. 980. This research, finished in 1895 and on which he was engaged for eleven