nor merely the series of events forming the past; but shall incorporate and be the onward-striding thought, the interwoven tissue of event itself, the element of continuity without which nothing is or can ever have been. Every object in nature, every bit of science, every philosophic theory, every phase and kind of religion, and every constructive or destructive act of life, possesses the constituent of being and becoming which is time. And the history of politics, of science, of philosophy, of art, or of religion, is politics, science, philosophy, art or religion in its genesis, its emergent growth, its present, or even future, culmination and decay, through which its elements pass into other phases of the cosmic process.

HENRY OSBORN TAYLOR

SAMUEL GARMAN—1843–1927

SAMUEL GARMAN or Samuel W. Garmann, as he styled himself during his early life, was born on June 5, 1843, in Indiana County, Pennsylvania, and died on September 30, 1927, at Plymouth, Massachusetts.

Although he was for a while a student in the Lawrence Scientific School, he did not graduate but received an honorary degree of B.S. from Harvard University in 1898 and an A.M. in 1899. Garman told the junior author that as a young man he took part in surveying the routes for the Union Pacific Railroad and that having left home very early, he fought Indians and shot meat for the working crews while hardly more than a boy. This was a strange beginning for one who became almost completely a recluse.

In 1870 he became, for a year, the principal of the Mississippi Normal School and in 1871 taught natural science, again for one year, at the Ferry Hall Seminary in Illinois. Always keenly interested in natural history, he went to California, met Professor Agassiz at San Francisco when the *Hasslar* docked there after her voyage through the Straits of Magellan and Agassiz, immediately appreciating Garman's potential usefulness, hurried him on to Cambridge at once where he became one of his favorite pupils.

The senior writer's first acquaintance with Garman dates from the inception of the Anderson School at Penikese. Here Garman was one of the little group who, with Professor Agassiz, laid the floor of the barn with their own hands, on that memorable Sunday before the day on which the first modern marine biological laboratory ever opened its doors to students. Garman kept the books of the school and helped in practical as well as in scientific matters. Then, and later when he returned from the west after fossil hunts in the Bad Lands, he appeared in a broad hat and a flaming red necktie. But even as a young man he possessed a most firm dislike for personal publicity. He saw in the West the rivalry of Cope and Marsh to secure each other's specimens and to forestall each other's descriptions of their discoveries. Moreover, the somewhat unkindly attitude which they maintained towards each other's work evidently impressed him very deeply, for all his life long he maintained a singular reticence and it was only after years of intimate friendship that he would discuss any scientific work which he had in hand. Indeed he habitually put away his manuscript and the specimens which he was dissecting when a visitor rang the bell to his room. This was not by any means all from a fear that others might anticipate his results, although he did at times have this fear, as was so commonly the case with the zoologists of a few decades ago, but rather because he disliked discussing any of his work until his studies were completed. Those who came to know Garman early in their career, and the junior author was one who worked at his side almost daily for many years, appreciated that gradually he became more warm and kindly in his companionship, while his thorough and most accurate methods of work and his methods of training were always of the very best.

Johannus Müller was his guiding genius and of American workers he had vastly more intellectual respect for Jeffries Wyman than for most of his immediate predecessors. His affection for Louis Agassiz and his lifelong friendship for Alexander Agassiz amounted almost to hero worship and betokened a fine spirit of loyalty.

For many years his biography was not to be found in "Who's Who" nor even in "American Men of Science," although in his field of science he was easily one of the world leaders. The senior writer remembers a gathering on Penikese Island in 1874, six months after the death of Agassiz. Each one then present expressed in his own way his indebtedness to the great teacher. Finest of all were the words of Garman, depicting "the best friend that ever student had."

Garman, in 1874, accompanied Alexander Agassiz on his survey of Lake Titicaca and occasionally when in an unusually expansive and reminiscent mood he could be persuaded to tell how once while perched on a high Andean precipice catching frogs, he shot, with his suspender button, a gigantic condor which regularly swung past him on outstretched wings finally to fall a prey to his ingenuity. The details varied a little from time to time and while always told with the utmost seriousness there was nevertheless an unmistakable twinkle in his eye.

Garman also served for a while as Alexander Agassiz's assistant on *The Blake* and this gave him the opportunity to visit most of the Antilles and to

make the collection of reptiles which he described on his return.

Once established in the Museum of Comparative Zoology, Garman seldom left Cambridge, but settled down to a life of persistent work on certain groups of fishes, a quiet career of graying age, one day much the same as another for over half a century. So seldom did he go upstairs to the museum library or exhibition halls that few students even knew him by sight, for he entered early and left late from his own little grilled door in the basement. Upwards of fifty papers on fishes, most of them of special value, and including new facts and new material are listed in Dean's "Bibliography of Fishes" from 1875 to 1913. Of these the most important is the one latest in date, "The Plagiostomia (Sharks, Skates and Rays)." In this are given detailed descriptions of the known species, with 77 excellent plates depicting nearly all of them. Of great value also is his report on the fishes of the deep seas collected by *The Albatross* under direction of Alexander Agassiz along the west coasts of tropical America. This is one of the most useful contributions to our knowledge of the fauna of the deep seas. Other papers of importance are the Selachians (sharks) of the voyage of *The Blake*, the accounts of *Chlamydoselachus* the frill-shark, regarded as the "oldest living type of vertebrates," which view is perhaps questionable; "The Discoboli," the "Cyprinodonts" and the "Chimaeroids," besides detailed anatomical studies and accounts of new species.

Garman was a man of medium size, latterly rather bent over and spare. He loved his garden and working there and with his bees kept himself in excellent physical condition until but a few years before his death. His library of fishes is one of the very largest ever gathered in private hands and by his generosity is now in the possession of the museum which he dearly loved and of whose staff he was one of the most distinguished members.

DAVID STARR JORDAN,
THOMAS BARBOUR

SCIENTIFIC EVENTS

THE NATIONAL RESEARCH COUNCIL OF ITALY[1]

HIS EXCELLENCY, PREMIER MUSSOLINI, the head of the government, on the first of the year, directed to the Honorable Guglielmo Marconi, president of the National Research Council, the following message, in which are fixed some of the fundamental objectives which should control the activities of the Council:

[1] From *La Tribuna*, of Rome, January 7, 1928. Translated and submitted to SCIENCE by Dr. John W. Lieb.

Mr. President:

The necessity of a coordination and regulation of scientific research, so intimately related at the moment to the technical and economic progress of the country, induces me to organize an instrumentality well equipped for this high national purpose. The interesting ("geniale") invention almost always originates in the brain of an isolated individual, but only the persistent work of patient investigators, with large and well adapted means, can efficiently develop and utilize it. A country like our own, poor in raw materials and dense in population, finds it absolutely necessary to have a thoroughgoing organization in order to be able to solve promptly difficult problems so as to avoid waste of energy, of money and of time.

To the National Research Council I have confided this duty, so full of responsibility. In its difficult task it can count upon my hearty support and to this end I intend to fix several fundamental objectives which should inspire its action and that of all of the bodies which will collaborate with it.

First. It is necessary to systematize in Italy research laboratories and well-equipped and live museums, in which the progress of science, of technology and of industry are rendered evident. A country does not spend in vain for such a progressive activity.

Second. The Research Council must have a care that Italian representatives in foreign parts, in the meetings so frequently held of technologists and scientists, should worthily represent our country and are dignified and well educated. I intend that these, my instructions, shall be respected in the most rigid manner. No official Italian delegation should go abroad to represent our country in the field of science or technology unless nominated by me on the recommendation of the Research Council. I beg that my colleagues in the government will assist in every way the directors of the council in discharging this not easy duty.

Third. The scientific and technical congresses which are held in Italy also, whether they are national or international, require to be regulated. These meetings will be authorized by me on the recommendation of the directors. No Italian delegate has the right to propose meetings in Italy of international scientific congresses without my specific authorization.

Fourth. I have intrusted the National Research Council with the not easy task of attending to the compilation of the Italian technical-scientific bibliography. The utility of this work is evident; it facilitates our scientific and technical progress which is essential to our economic welfare, and it is necessary for valorizing and recording in Italy the hard work done by our scientists also in comparison with other countries. It is necessary that everybody lends his cooperation with enthusiasm in this work of national interest, and everybody must answer with a ready response the questions asked by the National Council. It is my intention that all state, and public organizations in general, should support this truly Fascist undertaking.

Fifth. Very often government technical bureaus need