

**CENTENNIAL HISTORY OF THE BOSTON SOCIETY OF CIVIL ENGINEERS, 1848 - 1948.<sup>1</sup>***Abridgement by Robert A. Snowber****The Early Years - 1848 to 1874***

An informal gathering on April 26, 1848 of five civil engineers of Boston at the United States Hotel marked the first successful endeavor of engineers on this continent to unite for the advancement of the profession and the improvement of its members. At subsequent meetings, in which additional persons participated, the constitution and bylaws were adopted, and on July 3, 1848, was held the first regular meeting of the Boston Society of Civil Engineers - the oldest engineering society in America! The Society was formally chartered by an act of the Massachusetts legislature in 1851.

In 1852, four years after the founding of the Boston Society, the American Society of Civil Engineers and Architects was established in New York, and in 1869 the Civil Engineers Club of the Northwest (now Western Society of Engineers) was founded in Chicago.

*List of Founders*

Samuel Ashburner	(1816-1891)	Waldo Higginson	(1814-1894)
James Fowle Baldwin	(1782-1862)	Isaac Hinckley	(1815-1888)
Joseph Bennett	(1814-1875)	Eben Norton Horsford†	(1818-1893)
John Harrison Blake	(1808-1899)	Josiah Hunt	(1818-1874)
Simeon Borden	(1798-1856)	Martin Brimmer Inches	(1820-1893)
Uriah Atherton Boyden	(1804-1879)	Samuel Francis Johnson	(1821-1883)
Ellis Sylvester Chesbrough	(1813-1886)	James Laurie	(1811-1875)
John Child	(1802-1858)	Henry Swasey McKean	(1810-1857)
Marshall Conant	(1801-1873)	Samuel Nott	(1815-1899)
Franklin Darracott	(1820-1895)	George Alanson Parker	(1822-1887)
William Lee Dearborn	(1812-1875)	William Pearce Parrott	(1810-1868)
George Minot Dexter	(1802-1872)	Thomas Willis Pratt	(1812-1875)
Sereno Dwight Eaton	(1823-1899)	Theophilus E. Sickels	(1822-1885)
Robert Henry Eddy	(1812-1887)	Lucian Tilton	(1811-1877)
Samuel Morse Felton	(1809-1889)	William Scollay Whitwell	(1809-1899)
James Bicheno Francis	(1815-1892)	Thomas Scott Williams	(1812-1874)
Charles Haynes Haswell†	(1809-1907)		

*The First Officers*

James F. Baldwin, President  
 John H. Blake, Secretary  
 Joseph Bennett, Director  
 Samuel Nott, Director  
 James Laurie, Director

George M. Dexter, Vice Pres.  
 William P. Parrott, Treasurer  
 Ellis S. Chesbrough, Director  
 William S. Whitwell, Director

(1)By John B. Babcock, 3d, Past President, B.S.C.E.; original text published in Journal issue of July, 1948.

For headquarters and library a room was leased in Joy's Building on Washington Street at \$100 per year; a library committee was appointed; and appropriations made for the purchase of books and periodicals. The Society maintained this room until January, 1853, when new quarters were established at 11½ Tremont Row, jointly with the New England Association of Railroad Superintendents.

James Laurie presented the first paper before the Society on "Coal and Iron Trade of Great Britain and United States." Many of the papers were on railroads and hydraulics, fields in which most of the members were engaged.

Boston's first water supply was than being built, and papers on that project included "Construction of Beacon Hill Reservoir" and "Mode Adopted for Carrying Water to South Boston," by Whitwell; an excellent one on "Contracts," by Chesbrough; and "Use of Lead for Service Pipes," by Blake.

By 1850 the Cochituate Aqueduct was completed, and within a few years the amount of railroad construction in New England had diminished. Many of the members left Massachusetts to take advantage of midwest opportunities. For some time those who remained carried on the affairs of the Society, but with a gradually decreasing attendance. Finally it was decided to suspend activities, at least for a time, and in 1861 the library books and the Society's records were stored with the Boston Athenaeum.

Opportunities for formal education in civil engineering before 1850 were very limited. Professor Horsford, who was associated with the Society as an honorary member, was the only one of this group who had a degree in civil engineering (Rensselaer, 1838).

Loammi Baldwin, often referred to as "The Father of Civil Engineering in America," was responsible for the sound practical training received by many civil engineers in New England. From an office in Charlestown, Massachusetts, in the short span of his professional career (less than thirty years) he became the most noted civil engineer of that era. He took into his office as students a number of young men whom he trained in physics, mathematics, surveying and kindred subjects. At Loammi Baldwin's death, Samuel F. Felton, a former student, took over the office and some of the younger men remained with him as students. Any history of the Society would be incomplete if it failed to give Loammi Baldwin a large measure of credit for his influence on the civil engineering of that formative period.

Most of the other members of the founder group had the equivalent of a high school education, after which they engaged in civil engineering work and gained their knowledge of the profession through practical experience supplemented by earnest study.

Intensive railroad development provided a fertile field for employment, and at least twenty-eight of the thirty-one regular members of the Society were on railroad work at some stage in their careers.

The development of Boston's first public water supply is closely associated with the Society's early life. For twenty years there had been agitation for a public supply. Finally, in 1846, the Cochituate gravity scheme was adopted and James F. Baldwin, brother of Loammi, was named as one of the commissioners. On October 25, 1848, a celebration was held on Boston Common when the water was turned on at the fountain in the Frog Pond and rose "in a strong column, 6 inches in diameter, increasing rapidly in height, until it reached an elevation of 80 feet. (Editor's note, 1979: In those days they didn't fool around. Imagine, a 20-mile aqueduct designed and completed two years after adoption of the scheme!)

The civil engineers of this period made rapid strides in hydraulic engineering. Many opportunities existed for civil engineers to become associated with municipal, state, and industrial enterprises. The Massachusetts Institute of Technology, incorporated in 1861, had postponed its opening during the Civil War, but in 1865 classes were started and the first students were graduated in 1868.

### *Boston Society of Civil Engineers - 1874 to 1948*

In the 1860's and 1870's a new generation of civil engineers was becoming established in Boston. One of these was Ernest W. Bowditch, M.I.T. 1869, who, on May 24, 1873, wrote to about forty young men in the vicinity of Boston proposing "to form a junior engineers' association."

In response to this call, twenty-six persons met at M.I.T. on May 30, 1873 and agreed to form a Society, the name of "Boston Society of Civil Engineers" being adopted with the following officers: president, Desmond FitzGerald; vice presidents, Henry Manley and Ernest W. Bowditch; secretary, George S. Rice; and treasurer, Robert H. Richards.

Contact was made with the members of the early Society, the charter of which was still in effect. A few of the early members were still living near Boston and a merger was arranged. A meeting was held on April 27, 1874 at which James B. Francis was elected president and Samuel Nott, secretary. The members of the Junior Society (B.S.C.E. of 1873) were proposed for membership in the originally chartered Society, and on June 8, 1874, were elected to membership. Thus there was established that direct link which provides our Society with a continuous existence for a century!

This history would be incomplete if it failed to mention the names of a few of our past members whose services to the Society were outstanding:

Thomas Doane (1821-1897) was elected president August 7, 1874 and served to March, 1880. Later that year President Joseph P. Davis resigned and moved to New York, and Doane again became president, an office which he held until March, 1884. His untiring service had much to do with the sound growth of the Society in the critical years following the reorganization of 1874.

Desmond FitzGerald (1846-1926) was president for two years, 1888-1890. In 1915 he became an honorary member. He was the donor of the medal which bears his name. For many years he made substantial contributions to the Permanent Fund and left a bequest, the income of which is used for the Desmond FitzGerald Scholarship. In 1898, he delivered the Society's Semi-Centennial Address. For fifty years he took part in Society activities, serving as chairman of many important committees.

John R. Freeman (1855-1932) was president for the term 1893-1894. He was elected an honorary member in 1917. He took great interest in the value of the Society to young engineers just starting on their professional careers. In furtherance of this he gave \$25,000 to the Society for the establishment of the John R. Freeman Fund.

Clemens Herschel (1842-1930) was the first treasurer, after 1874, was president from 1890 to 1891. He became an honorary member in 1915. He established the Herschel Library in 1906 and later provided for prizes in recognition of meritorious papers.

Edward W. Howe (1846-1931), was president from 1907 to 1908. He left a bequest, the income of which is devoted to the Society and its membership.

Henry Manley (1841-1919) was president from 1892-1893. When the first annual dinner was held in 1883, Manley was responsible for the arrangements, and for the next 25 years he ably carried out the same assignment. He presented a valuable paper on rapid transit in 1889.

Samuel Nott (1815-1899), one of the founders, was a director in 1848 and served to March, 1849, then became secretary and filled that office until 1874. In 1891 he became an honorary member. His last meeting with the Society was at its Semi-Centennial (1898); at that time Desmond FitzGerald paid high tribute to Nott's devoted service to the early Society.

S. Everett Tinkham (1852-1921) was secretary from 1880 to 1882 and again from 1887 until his death in 1921. Desmond FitzGerald wrote: "The Society has had many officers and members who have contributed to its usefulness and renown, but among them was one whose name leads all the rest, and the good which S.E. Tinkham accomplished for the Society will endure as long as the Society exists."

George L. Vose (1831-1910) was president from 1884 to 1886 and became an honorary member in 1896. Professor Vose in addresses before the Society made several notable contributions on the lives of such famous early engineers as Loammi Baldwin, and George W. Whistler, noted railroad builder.

Frank O. Whitney (1851-1936) was treasurer from 1915 to 1931, having been a director from 1894 to 1896. His careful administration of the financial affairs of the Society, his sound judgment and his faithful service on an arduous task are deserving of high praise.

Of the 67 presidents of the Society since its reorganization in 1874, at least 50 attended engineering schools, and several others had some form of higher education. Of those serving since 1900, all but five or six received a formal engineering education. However, neither Desmond FitzGerald nor Frederic P. Stearns had any technical education; but both rose to the highest rank in the profession and served as presidents of the American Society of Civil Engineers.

At least sixteen members of our Society have served as presidents of national engineering societies, 12 in the American Society of Civil Engineers; 3 in the American Society of Mechanical Engineers; and one each in the American Institute of Electrical Engineers and the American Institute of Mining and Metallurgical Engineers. (J.R. Freeman served as president of both ASCE and ASME.)

### *Membership*

The Constitution and Bylaws adopted in 1848 provided for grades of Member, Corresponding Member and Honorary Member. The 1875 Bylaws of the reorganized Society provided for the same grades. By 1890 the grade of Corresponding Member had been eliminated, and a grade of Associate had been added to include "other persons interested in the objects of the Society and desirous of being connected with it."

In his presidential address in 1909, Joseph R. Worcester laid considerable stress on the desirability of making the Society more interesting to young engineers. A committee was appointed the following year to consider the revision of membership grades and on June 15, 1910 the Society adopted a revised Constitution and Bylaws which provided for a grade of Junior. In 1932 the grade of Student was added.

In the year 1923-24, the Bylaws were amended as follows: "A member of any grade who has paid dues for forty years, or who has reached the age of seventy years and has paid dues for thirty years, shall be exempt from all further dues."

### *Meetings*

**Regular Meetings.** The Society has always held regular monthly meetings except during the summer. With the establishment of a complete program of technical section meetings devoted to topics in specialized fields, the holding of extra meetings of the main Society has practically ceased. Each year at least one of the Society meetings is held jointly with a Section which sponsors the program.

**Annual Dinner and Annual Meeting.** the first annual dinner was held at Young's Hotel on March 21, 1883. For several years, the annual dinner and the annual meeting were held on separate days, but since 1909, the annual dinner (or smoker) has been held following the afternoon annual dinner.

For nearly a half century the president has delivered an address at the annual meeting. It became such a regular custom that it was included as a requirement in the 1910 revision of the Bylaws.

Semi-Centennial Celebration. The Hotel Vendome was the scene of our Semi-Centennial Celebration on November 11, 1898. Following a reception by the officers and their wives, President Howard A. Carson spoke on "Glimpses of Boston Fifty Years Ago."

Student Night. A high spot in the program every year is Student Night. On April 5, 1911, when Charles T. Main was president, the first of these events took place. This affair has been carried on each year since then.

Social Activities. The habit of eating together on the evenings of the meetings was established 100 years ago, a custom happily preserved! When the Society quarters were at the Boston & Albany Railroad station (1885-89), the members dined together at the restaurant there before the meeting. In 1914, a Social Activities Committee was appointed to arrange dinners preceding the meetings at the Boston City Club and at various hotels. Since 1933 a dinner has usually been included in the program.

### *Excursions*

Starting in 1885, excursions became a very prominent feature in the Society's program. For the next 30 years, the Excursion Committee arranged about 10 trips each year. Some of them included the ladies and concluded with a clambake or other festivity. Although most of the excursions were made to construction projects or recently completed work, some were to industrial plants. From 1886 to 1890, excursions lasting two or three days were made each autumn to points of interest in New England. Later the interest in such frequent excursions apparently waned and after 1915 no regular excursion committees were appointed.

### *Sections*

Sanitary. Albert F. Noyes, in his presidential address in 1896, suggested the formation of groups within the Society for discussion of topics of particular interest in various fields. In 1903, President George A. Kimball again urged consideration of this subject. On December 21, 1903, the Board of Government received a petition from fourteen members of the Society to establish, "a section for consideration of the special subjects relating to sanitary engineering, to be known as the Sanitary Section of the Boston Society of Civil Engineers." This petition was approved and on January 27, 1904 the Board approved the Bylaws which had been adopted by the Section. For 45 years the Sanitary Section has been in active operation and has been a highly important factor in the Society's activities. The Sanitary Section has appointed a number of committees to study special phases of sanitary engineering.

**Structural.** On May 19, 1920, the Board approved the Bylaws of the Designers Section (renamed Structural Section in 1947). In recent years with the formation of additional sections in separate fields, its meetings have been increasingly devoted to structural engineering.

**Transportation.** The Board approved the organization and Bylaws of a Highway Section on May 1, 1924. The name was changed to Transportation Section in 1946, and the scope of its activities broadened to include railways and airports.

**Hydraulics.** A section devoted to hydraulics was organized on May 1, 1940. This section was formed to occupy a field not previously covered.

**Surveying and Mapping.** The most recent section is the Surveying and Mapping Section, which was authorized by the Board of April 8, 1947. The activity of this section during the past year has justified the expectations of its sponsors.

**Northeastern University.** An affiliate section of the Society was authorized at Northeastern University on January 20, 1922. Membership in this section is limited to students, graduates or members of the faculty of Northeastern University.

### ***Society Rooms***

The quarters occupied by the Society for a library and meeting room were as follows:

- 1848 - Joy's Building on Washington Street.
- 1853 - 11-½ Tremont Row (Scollay Square) jointly with the New England Association of Railroad Superintendants.
- 1874 - 66 State St.
- 1876 - Wesleyan Hall, 36 Bromfield Street.
- 1885 - Boston & Albany Railroad Station Building (briefly).
- 1885 - A room at M.I.T.
- 1893 - Again at 36 Bromfield Street.
- 1896 to 1948 - Tremont Temple, Room 715.

For years it has been hoped that the Society might join with other engineering groups in the establishment of a modern clubhouse with ample accommodations for auditorium, library and cuisine facilities. Although a number of plans to accomplish this have been studied, no plan has yet been evolved which provides a satisfactory solution within the resources of the Society.

### ***Library***

In 1874, books previously deposited with the Athenaeum formed the nucleus of a library for the rejuvenant Society. Its growth since then is indicated as follows: in 1889 there were 600 bound volumes and 900 unbound volumes and pamphlets; in 1925 there were 10,500 bound volumes and 3,800 pamphlets.

From 1874 until 1896, the various quarters occupied by the Society were small and rather inadequate for the library. For about twenty-five years, it has been necessary to make room for new material and progressively discarding older material, particularly bound periodicals and departmental reports which are used infrequently and are available elsewhere. In 1947 the Library committee presented a detailed report to the Board of Government with recommendations for future storage.

The importance of securing the latest text and reference books in civil engineering was recognized from the start and appropriations have been made each year for the purchase of such books. In 1922, some books in electrical and mechanical fields were added by the Society and the list of technical periodicals broadened.

Herschel Library. In 1906, Clemens Herschel, Past President and Honorary Member presented seventy books to form the nucleus of a special library and donated additional books to this collection during his life; others were received from his estate.

In 1909 Harold Parker presented the Society with 300 volumes of historical value which show the developments in civil engineering in the early years of the nineteenth century; in a similar category are a number of books received from the estate of Charles H. Swan in 1901. In 1916, the Society received 1100 books from the estate of Edmund K. Turner. Many other donations of books and transactions have been received from our members.

### ***Publications***

The papers presented before the early Society were copied in a bound volume which was available to the membership in the Society's library. The "Reports of Proceedings - September, 1879 to June, 1881" was one of the first publications of the Society.

Journal of Association of Engineering Societies. In 1881, the Society joined the Engineers' Club of St. Louis, Civil Engineers' Club of Cleveland and Western Society of Engineers in organizing The Association of Engineering Societies in order to provide a joint publication of the papers and proceedings

of the participating societies; other groups subsequently joined the Association; in 1900 there were eleven member societies. The papers and proceedings of our Society were printed in the monthly *Journal of the Association* from 1881 until the Society withdrew in 1913 to establish its own *Journal*.

*Bulletin of New Engineering Work.* From 1900 to 1906 the Society issued a monthly publication which included notices of meetings and excursions and a special section entitled "Bulletin of New Engineering Work."

*Monthly Bulletin.* In 1906 the content of the *Bulletin* was extended to include all Society proceedings, but not the papers presented before the Society, and offering an advertising section to defray the cost of publication. The *Bulletin* was continued in this form through 1913.

*B.S.C.E. Journal.* In 1913, upon withdrawal from the Association of Engineering Societies the Society voted to establish its own *Journal*, as our Society had furnished nearly one-half of the entire text of the Association's *Journal*. It was felt that the advantages to the Society of having its own *Journal* far outweighed the disadvantages of losing the papers presented by other societies and that the cost of publishing such a *Journal*, with the elimination of the *Monthly Bulletin*, would be less than under the previous procedure. The *B.S.C.E. Journal* made its appearance in January, 1914. Ten issues of the *Journal* were published each year in Volumes I to XX. Since 1934, the *Journal* has been published quarterly with an index in the last issue of the year. The *Journal* contains papers presented before the Society and its Sections, reports of professional committees, items of general interest and the proceedings of the Society and Sections.

### *Awards and Prizes*

*Desmond FitzGerald Medal.* On September 15, 1880 it was voted "that the sum of \$15 be appropriated to be expended on books as a prize for the best essay read before the Society during the year ending March, 1881." Apparently no further consideration was given to the establishment of a prize for nearly thirty years. In 1910 the Board voted to offer an annual prize for the best paper presented to the Society. Past President Desmond FitzGerald offered to provide a bronze medal as a prize each year, the society accepted this offer and adopted rules governing the award of the medal. Desmond FitzGerald medals have been awarded for thirty-two papers through the year 1947-48.

*Clemens Herschel Award.* In 1923, Clemens Herschel presented to the Society a number of autographed copies of his book entitled "Frontinus and the Water Supply of the City of Rome" and the Board awarded these books

as prizes for papers. The Clemens Herschel Fund, established in 1931 from a bequest, now provides other books as prizes.

Sections Prizes. The Board voted on April 12, 1924 to present a prize for a worthy paper given in each section.

Desmond FitzGerald Scholarship. This award is made to students in Civil Engineering at Northeastern University in memory of Desmond FitzGerald whose bequest was made with the intent that the income be used for charitable and educational purposes.

Samuel E. Tinkham Scholarship. This fund was established in 1921 at the Massachusetts Institute of Technology in memory of Samuel E. Tinkham. The income of the fund is used "to assist some worthy student of high standing to continue his studies in Civil Engineering."

### ***John R. Freeman Fund***

In 1925 John R. Freeman made a gift to the Society amounting to about \$25,000 to establish the John R. Freeman Fund. The income of this fund is particularly devoted to the encouragement of the younger members. A standing Freeman Fund Committee has the responsibility of determining how the income of this fund shall be used.

Travel Scholarships. From 1927 to 1938, the Freeman Fund Committee awarded travel scholarships to six young men for a total of ten years' study. The scholarships, with one exception, were for study in Europe.

Publications. The Committee has from time to time authorized the use of a portion of the income for the publication of important reports.

John R. Freeman Lectures on Hydraulics. A series of lectures on hydraulics was given in 1939.

Research. Appropriations from the Freeman Fund have been made for hydraulic research at engineering schools in the vicinity of Boston.

### ***Cooperation with Other Societies***

Boston's civil, electrical and mechanical engineering groups have long cooperated, informally at first and later as members of the Engineering Societies of New England. Meeting notices of local sections were included in B.S.C.E. publications.

On June 12, 1922 "The Affiliated Technical Societies of Boston" was granted a charter and continues to operate under its present name, Engineering Societies of New England, Inc. These joint headquarters, at 715 Tremont Temple, have been continued to the present time. The E.S.N.E. Journal contains announcements of the meetings of all the affiliated societies and matters of general interest to the membership.

The most cordial relations have always been maintained with the American Society of Civil Engineers. The Society is honored that the American Society chose Boston as the Scene of its Fall Meeting in October, 1948, in recognition of the B.S.C.E. Centennial Year!

Other national societies have held meetings in Boston which our Society has been privileged to take part. Cooperative relations have been maintained with the New England Waterworks Association which jointly occupied quarters with our Society at Tremont Temple for many years.

### *Committees*

The Committee on Library has been included in every list of committees since 1848. Throughout much of the Society's life there have been committees on Meetings, Programs, Review of Papers, Publications, Hospitality, etc.; their duties are obvious from their names.

Separate Committees are appointed each year for the Desmond FitzGerald and Clemens Herschel Awards and for each Section Prize. A standing committee is in charge of the John R. Freeman Fund.

A Welfare Committee has been active in connection with employment, particularly during the depression of the thirties, and on matters concerned with compensation and other aspects of the welfare of the membership. Others have dealt principally with the internal affairs of the Society and with matters directly concerning the welfare of its members and specific problems of the engineering profession.

The Society in recent years has appointed several committees to study specific problems of importance both to the civil engineer and to the community:

**Boston Subsoils.** In 1921 a Committee on Boston Subsoils was appointed and between 1923 and 1931, the Committee collected about 3900 boring records. The final report of the Committee published in September, 1931 Journal, contains a complete tabulation of the boring records in Boston and Cambridge together with nine detached maps showing the location of the borings, geological cross-sections and a contour map. In 1943, another Committee on

Boston Subsoils was appointed to continue the collection of boring data along the lines of the 1931 report and to consider the possible collection of water table data, settlement records and other information.

Rainfall and Run-off of New England. In 1916, a Committee on Run-Off was appointed, the Committee presented its report, which published in October 1922. Data were later collected in the name of the Committee for the period from 1922 to 1937. A more final assembly of this information was made in April, 1939.

Flood Committee Reports. After complete cause and effect studies had been made for the 1927, 1936 and 1938 floods they were published in January, 1942 Journal. Through the notable reports on rainfall and run-off and on the New England Floods, the Society has made contributions of inestimable value to New England.

### ***Public Affairs***

The Society, directly and through its members, has always been active in those public affairs in which the civil engineer could be of service.

For several years the Society was a member of the Federated American Engineering Societies and of American Engineering Council.

### ***Miscellaneous Activities***

Society Badge. After considerable discussion, the Society adopted the present badge, a shield with "1848" and "Boston Society of Civil Engineers" in gold letters on maroon background.

Code of Ethics. The Society led the way and adopted its present Code of Ethics on December 18, 1912.

World Wars. During both World Wars the Society remitted the dues of members in the Armed Forces who were unable to participate in the Society's activities. In 1917, the First Corps of Cadets of Boston, in continuous existence since 1741, raised an engineer regiment for the National Guard. The Society obtained subscriptions amounting to over \$2200 for a fund to be used to equip a band — the 101st becoming the first engineer regiment to have its own band attached.

Employment. As early as 1889, the Secretary was directed to maintain a list of members seeking employment and in 1910, the Board established an Employment Bureau. Lists of men available and positions open were maintained at the Society rooms. Brief notices as to men available were published

each month. The Society's employment service was observed by the formation of the Affiliated Technical Societies of Boston in 1922. In 1932 during the early days of the depression the Engineering Societies of New England and the Boston Society of Architects organized the Emergency Planning and Research Bureau, Inc., which rendered valuable employment service and continues to operate an employment service for engineers and architects.

### ***One Hundred Years 1848-1948***

In these highlights of the first 100 years of our Society, many items have been omitted because they were deemed of lesser importance — and some no doubt may have been overlooked. In concluding this Centennial History of the Boston Society of Civil Engineers, oldest engineering society in America, there seem no words more fitting than those of Desmond FitzGerald, fifty years ago, in his Semi-Centennial Address.

“In what has already been said, I have attempted to give an historical account of the formation and progress of this Society during the past fifty years. Such a narrative must necessarily deal with facts which can be of little interest outside of our own membership, and with statistics which, I am afraid, tax even your patience. I trust, however, they may be at least useful in bringing to your minds the paths, more or less familiar, which we together have been following at different times in this eventful half century, paths at times clouded by the passing storm, and perhaps even at times by failure, but more often illuminated with the bright rays of success and of progress.

“In the laborious and responsible work of the profession there is little time for looking backward; the swimmer who turns his eyes from the goal is cast into the eddy; but there are times when retrospection is profitable, and a glance into the past, at least once or twice in a century, is instructive and at least pardonable.

“As we consider the record of this Society, founded by the early toil and constant struggles of the fathers of the profession, built solidly on the eternal principles of truth and honesty, and rising slowly but surely out of every discouragement to its present commanding proportions, we have reason to be proud, proud of our Society, and proud of the achievements of our members in every branch or specialty of the work of the civil engineer, who, by patience, by industry, by ability, and best of all by unswerving integrity, have aided in lifting the noble profession of engineering to its place among the great professions of the world.”