– of any use in historical file?
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Steinmetz

Guy Bartlett, News Bureau
General Electric Company
Schenectady, New York

Photos on request

A SHRINE OF ELECTRICAL HISTORY

On the leafy slopes of the River Rouge in Michigan in close proximity to Edison's famous compound of Menlo Park, another shrine of American electrical history is to be set up. Already the building itself is there---a rough, square little shack that once stood on a wooded river bank in New York state, where it was built in the middle nineties by that paradox of physical dwarf and mental giant, the late Charles Proteus Steinmetz. Now it is part of Henry Ford's great museum Americana, but up to the present time its interior has remained bare of all but the rough pine table at which Steinmetz wrote.

Soon, however, a notable exhibit of Steinmetz mementos will be placed within its simple walls. Steinmetz's foster son, J. LeRoy Hayden, who still lives in the big homestead which Steinmetz built for himself on Wendell Avenue, Schenectady, has announced that he is about to present Mr. Ford with a voluminous set of Steinmetz manuscripts. These documents will cover both his work in electrical mathematics, which made him famous, and his versatile writings on more popular subjects.

With the manuscripts will also go many other articles closely associated with the late "thunderer", and expressive

both of his genius and his personality. One of these will be the first drawing which Steinmetz made when he went to work in the summer of 1889 as a draftsman at the plant of the Eickemeyer & Osterheld Manufacturing Company in Yonkers, N. Y. This drawing, which is now under glass, is a diagram for a street-car motor. It is dated June 15, 1889, and beneath the date are Steinmetz's initials, the whole inscribed in the neat, precise German hand for which he was famous.

The collection will include a file of the little student notebooks which Steinmetz accumulated when he was a student at the University of Breslau, in Germany, between 1884 and 1888. These classroom and lecture notes were written out on loose sheets of uniform size. They were bound with pasteboard covers by Steinmetz's father, who was extremely proud of his son's technical scholarship.

Of more concern to American electrical men, and to the public as well, is a complete record of Steinmetz's early electrical work at Yonkers when he was making investigations of the electrical properties of iron and steel for old Rudolf Eickemeyer, his first employer. Out of these investigations came Steinmetz's first mathematical achievement, the establishment of the law governing hysteresis losses, or the heat losses of iron and steel when subjected to magnetism.

Steinmetz, as these records disclose, began this work on January 9, 1891 when he set down tabulations which are headed,

in his painstaking handwriting, "Tests of the Magnetic Constants of Iron". For a year thereafter he was carefully studying this fundamental problem and compiling mathematical data, which is expressed in pages and pages of tabulations and intricate equations. The outcome is represented by a printed copy of the famous paper in which he presented his findings before the American Institute of Electrical Engineers at two meetings of the Institute, on January 19 and September 10, 1892. The paper itself covers 730 printed pages and is crowded with mathematical symbols.

When Steinmetz read the first section of this paper he was unknown to electrical engineers. His English was painfully slow and halting. He was carelessly attired and had many characteristics of the socially immature. Within ten years, however, he was the distinguished president of this great body of electrical specialists; and one of the interesting exhibits in the collection which Mr. Ford will acquire is Steinmetz's own certificate of membership in the Institute for the year 1902, signed by himself as national president.

Other manuscripts historically unique in the eyes of electrical engineers are the fat folders containing the data of Steinmetz's electrical textbooks, which are now standard in electrical engineering courses as presented by American technical schools. These manuscripts were actually written in the little camp in which they will be displayed. They are carefully titled

in manuscript form "Theory and Calculation of Electric Circuits", "Alternating Current Phenomena", "Theory of Impulse Currents", and "Transient Electrical Phenomena". In addition to numerous pages of written text, some of it in Steinmetz's longhand handwriting, others in the special shorthand which he devised for his own use, there are curve sheets, calculation sheets, and long tabulations. One section contains forty typewritten pages covering sixty mathematical equations, and there are other sections nearly as long.

These textbooks were directly the outcome of one of his greatest professional feats, the establishment of a mathematical process for conveniently dealing with alternating electrical currents. This achievement took place about the time that he became associated with the General Electric Company, in 1893. It was the means of guiding electrical engineers from their previous gropings in the dark to the broad daylight of modern principles, and thus was not only pioneer work but also fundamental thinking. For years Steinmetz was teaching this method to the other engineers of the General Electric Company, and immediately thereafter he began reducing the whole subject to a series of textbooks.

Some of the Steinmetz manuscripts are devoted to investigations of lightning, a field in which he became celebrated in the closing years of his life, and in which he won the popular title of a "modern Jove" and the "thunderer" because of his generator for producing manufactured lightning in his laboratory.

Such manuscripts bear the titles of "Thunderstorms," Lightning and Lightning Protection", "Energy of Disruption", "Dielectric Breakdown of Air", and "Thermodynamics of the Atmosphere".

Another group of manuscripts is concerned with economic, social, philosophical and political topics. This part of the collection discloses Steinmetz's versatile mentality and affords more than a glimpse of his political theories, which were definitely socialistic in character, yet did not wholly condemn the institutions of capitalism, such, for instance, as the modern corporation. He wrote articles on the competitive system, college fraternities, industrial economics, modern civilization, the open door in China, the European war, the wealth of America and the American national spirit.

Many sheets of the manuscripts are written in Steinmetz's shorthand, which his secretary was obliged to master in order to transcribe not only his writings for publication but even his daily correspondence. Some of the early manuscripts of the collection reveal that he was making habitual use of this shorthand system as early in his career as 1889, the year in which he came to America, at the age of twenty-four.

In its various aspects the Steinmetz collection of mementos will provide considerable enlightenment as to the methods and habits of a modern technical genius of the first order.

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Guy Bartlett, News Bureau
General Electric Company
Schenectady, New York

To accompany the news release regarding the Dr. Steinmetz camp, please send glossy prints of the photographs checked below:

..... A66426 Steinmetz's camp as it appeared when first built.

..... 120464 Steinmétz in his camp, at the rough wooden table on which he wrote his electrical textbooks.

..... 119885 Portrait of Dr. Steinmetz at his office desk.

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Publication