

Superintendent Tittman who is much more capable of addressing you on this subject.

In the foregoing, the endeavor has been made to give some idea of the contributions which the Coast and Geodetic Survey has made to geodesy. Of necessity much has been omitted, but what has been given will bear witness that the world's geodesy has been greatly enriched by the work of the Survey.

A test of the greatness of the geodetic work of the Survey may be had in a review of the comments made by prominent men in other organizations and countries, by men who are well qualified to judge. They all accord to the geodetic work of the Survey a very high place in the geodesy of the world. One comment only will be here given as a fitting close to this brief review of the contributions made by the Coast and Geodetic Survey to geodesy.

Commandant Perrier, the French geodesist, in speaking of the work of the Survey, says:

There is no example in the history of geodesy of a comparable collection of measurements, made with so much decision, such rapidity and such powerful means of action, and guided by such an exact comprehension of the end to be attained.

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#### PITTSBURGH'S FIRST CHEMICAL SOCIETY<sup>1</sup>

IN *The Commonwealth*, a Pittsburgh weekly newspaper, of November 4, 1811, there was an advertisement to the effect that Dr. Aigster would deliver an introductory lecture on chemistry, Wednesday, November 6, at 3 P.M. in the grand jury room at the Court House. The advertisement concluded with this striking sentence:

<sup>1</sup> This paper was read before the Historical Society of Western Pennsylvania on January 25, 1916.

All friends of science will be gratuitously admitted.

*The Pittsburgh Gazette*, of December 20, 1811, carried the following advertisement:

The subscribers to Dr. Aigster's Chemical Lectures are informed that the regular lectures will begin on Monday, the 16th of December, at the Laboratory, corner of Smithfield and Second Streets, at 3 o'clock P.M., to be continued from that time every Monday, Friday and Saturday at the same hour and at the same place. Further subscription will be received at the Laboratory.

That Dr. Aigster was not unlike many modern lecturers on scientific subjects is seen from an announcement in the *Gazette* of December 27, 1811, that Cramer, Spear and Eichbaum had just published a discourse, introductory to a course of lectures on chemistry, which included "a view of the subject and the utility of that science, delivered at Pittsburgh on the 6th of November by F. Aigster, M.D."

There is a copy of this discourse bound with Cramer's Pittsburgh Magazine Almanacks for 1816 and 1817 in the Carnegie Library of Pittsburgh. The lecture discusses in the words of Dr. Aigster, "the application of chemical knowledge in private and social life." It describes the applications of chemistry to agriculture, mining, cloth making, glass making, brewing, tanning, paper making and, last but not least, to cookery.

Some of Dr. Aigster's statements sound as if his lecture were delivered yesterday. Witness this:

The time is come when America can shake off the yoke of foreign dependency for a number of the most necessary wants, whose first material, bountiful nature has scattered with lavish hands over this country.

And this:

A laudable beginning has been made in the wool, flax and cotton manufactures. But it can never be expected that they will attain any high degree of improvement as long as the art of dyeing, which is altogether chemical, is not attended to.

In a latter part of a lecture Dr. Aigster says that while the history of chemistry in America is short, it contains a few names which would do honor to the proudest nations of the ancient world. He mentions the names of Dr. Benjamin Rush, of Philadelphia, Dr. Samuel L. Mitchill, of New York, Dr. Woodhouse, of Philadelphia, Dr. M'Clean, of Princeton, Professor Silliman, of New Haven, Dr. I. Redman Coxe, of Philadelphia, Joseph Priestley, and Mr. Thomas Cooper, who he states was his successor as professor of chemistry at Dickinson College.

Following the discourse is a syllabus on chemistry which is divided into three sections:

1. General forces productive of chemical phenomena.
2. Of the general properties and relations of individual substances.
3. Chemical examinations of organized nature.

That Dr. Aigster was interested in the practicable application of some of his theories will be seen from the following note in the Pittsburgh Magazine Almanack for 1812:

Proposals for the formation of a company for the purpose of establishing a combined manufactory of sulphuric acid (oil of vitriol), of nitric acid (aqua fortis) and of allum have been lately issued by Dr. Aigster, formerly professor of chemistry in Dickinson College, Carlisle, now resident in Pittsburgh.

The note then goes on to outline the process and the prospects for success.

In the Directory of Pittsburgh for 1815, which was the first directory, Dr. Aigster's Christian name is given as Frederick, his residence "in the Diamond" and his profession as "physician and chymist."

Sarah Killikelly, in her history of Pittsburgh, says that perhaps out of the series of lectures by Dr. Aigster grew the Pitts-

burgh Chemical and Physiological Society.<sup>1</sup> This is no doubt true, as Dr. Aigster's name appears in the list of honorary members of the Columbian Chemical Society of Philadelphia, which was founded in 1811, and the Pittsburgh Society appears to have been modeled very closely after the Philadelphia Society.

At all events, a notice appeared in one of the weeklies requesting persons interested to "meet at A. M. Bolton's Academy Hall, Market Street, on Friday evening October twenty-ninth, 1813, at 6 o'clock, for the purpose of organizing the Institution and electing officers."

At the next meeting, on November 12, the following officers were elected:

*President*, Dr. B. Troost.

*Secretary*, J. B. Trevor.

*Treasurer*, S. Pettigrew.

*Lecturer*, Dr. E. Ramsey.

*Librarian*, A. M. Bolton.

*Annual Orator*, Rev. D. Graham.

At the time of the organization of this Chemical Society, the population of these United States was about 7,000,000 and of the borough of Pittsburgh about 7,000. Some of the advertisements which appeared in the papers at that time will give an idea as to why, with so small a population, there was a live interest in chemistry.

#### PAPER MAKERS WANTED

Two paper makers, one who is competent to superintend a paper mill and is well acquainted with the whole art and mystery of paper making, the other to work as a journeyman.

The highest price in cash will be given for a quantity of merchantable potash. Apply to Anthony Beelen.

#### GLASS BLOWING

Wanted, two or three sober lads, fourteen to sixteen years of age, as apprentices to above business.

<sup>1</sup> Killikelly, Sarah H., "History of Pittsburgh." B. C. and Gordon Montgomery Company, Pittsburgh, 1906.

Cash given for pot and pearl ash.

TREVOR AND ENCELL

DR. G. DAWSON

Family, patent and horse medicine, surgeon's instruments, paints of all kinds, spirits of turpentine, spices, perfumery, oils, varnish, etc.

ASHES

The subscriber will give 25 cents per bushel for any quantity of good oak and hickory ashes, delivered at his soap and candle manufactory, corner of Ferry and Third Streets.

NICHOLAS O'CALLAGHAN

NITRE

Warranted in its pure stage, refined by the subscriber and for sale at John McClean's commission warehouse. It may also be had particularly prepared for manufacturing gun powder, by CHARLES MUNNS, Gun Powder maker and Salt Petre refiner.

Well, to come back to the Chemical and Physiological Society. The advertisements in the papers after the initial meeting were very few. Newspapers were not so liberal with their space as now. A notice appeared in February, 1814, to the effect that there would be a lecture on "the singular properties and effects of nitrous oxide or, as it is sometimes called, the exhilarating gas, Friday evening, February 25, 1814."

On November 2, 1814, the *Mercury* carried the following advertisement:

A stated meeting of the Chemical and Physiological Society will be held at the usual place, on Thursday evening next, at 7 o'clock.

The punctual attendance of the members is particularly requested, in order to make the necessary arrangements for the delivery of the annual oration at the succeeding meeting.

The election of officers will be held on the 10th instant, agreeable to the constitution.

J. B. TREVOR, *Secretary*

There is no record as to what was the subject of the annual oration, but there is a record that at the meeting following the election Dr. Troost talked "on oxygen gas accompanied with several interesting experiments."

The Directory for 1815 tells something of the Society and gives a list of officers who were elected at the meeting on Thursday, November 10, 1814, in the following notice:

THE PITTSBURGH CHEMICAL AND PHYSIOLOGICAL SOCIETY

This society was formed in 1813, by a number of scientific gentlemen resident in Pittsburgh, and has since rapidly increased.

There are at present belonging to the society, a Library, Chemical and Philosophical apparatus, and a valuable cabinet of mineralogy.

Their meetings are held every two weeks, in a room appropriated for that purpose in the Court House.

*President*, Walter Forward.

*Secretary*, Harmar Denny.

*Treasurer*, Samuel Pettigrew.

*Librarian*, Lewis Peterson.

*Lecturer on Chemistry*, Dr. B. Troost.

*Botany*, M. M. Murray.

*Anatomy*, Dr. Joel Lewis.

*Mineralogy*, Dr. F. Aigster.

*Astronomy and Natural Philosophy*, Joseph Patterson.

*Annalist*, Aquila M. Bolton.

*Annual Orator*, J. B. Trevor.

Walter Forward, who is given as the President, was an attorney-at-law, who in 1819 became one of the twenty-six incorporators of the Western University of Pennsylvania, now the University of Pittsburgh. In 1841 he was appointed by President Harrison to be the controller of the United States and in that same year he was made Secretary of the Treasury of the United States by President Tyler.

Harmar Denny, who is given as the Secretary, was the son of Ebenezer Denny, who, in 1816, became the first Mayor of Pittsburgh. Harmar Denny, when he was elected Secretary, had just been graduated from Dickinson College where he had undoubtedly studied chemistry under Thomas Cooper who was professor of chemistry at Dickinson College from 1811 to 1814.

The election notice, signed by Harmar

Denny, appeared on November 15, 1814, and on December 14, 1814, the following notice appeared:

A special meeting will be held at the Society Hall next Thursday at half past six.

HARMAR DENNY, *Secretary*

Why a special meeting so soon after the election? Did Messrs. Troost and Trevor resent the fact that they were not reelected to their former positions, or had interest in things scientific declined in the borough? Perhaps it was the pressure of business, for less than a month after this notice the newly organized firm of Trevor, Pettigrew and Troost announced that the Western Eagle Lead Factory was in complete operation. The members of this firm later advertised that "they also manufacture, at their chemical laboratory, alcohol, ether, sweet spirits of nitre, aqua fortis, muriatic acid, red precipitate, calomel and chemical preparations generally."

At least one member of this firm, Dr. Troost, did not lose his interest in pure chemistry, for in 1827 he was elected lecturer in chemistry for the Pittsburgh Philosophical and Philological Society, of which Rev. Robert Bruce, the first chancellor of the University of Pittsburgh, was president.

But, to come back to the Chemical Society, it is almost certain that the Society was disbanded at the special meeting of December 14, 1814, for no other notices of meetings appeared in the newspapers.

It is interesting to know that the Pittsburgh Chemical Society was undoubtedly the third in the United States. It was preceded by two Philadelphia societies, the Chemical Society of Philadelphia, founded by James Woodhouse in 1792, and the Columbian Society of Philadelphia, founded in 1811.<sup>2</sup>

Pittsburghers have every reason to be

<sup>2</sup>Smith, Edgar Fahs, "Chemistry in America," D. Appleton and Company, 1914.

proud of the fact that so early in the history of the city, which was then a frontier town, away on the other side of the mountains, there was a live interest in science, and, especially, in that branch of science which has contributed so much to the industrial progress of the city.

JOHN O'CONNOR, JR.

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### THE SAN DIEGO MEETING OF THE PACIFIC DIVISION OF THE AMER- ICAN ASSOCIATION

#### ASTRONOMICAL SOCIETY OF THE PACIFIC

THE Astronomical Society of the Pacific will hold sessions in San Diego on Thursday and Friday, August 10 and 11, at the time of the meeting of the Pacific Division of the American Association for the Advancement of Science. In these sessions the Astronomical Society of Pomona College will participate.

The opening paper of the program will be presented by Professor S. D. Townley, of Stanford University, president of the society. A number of other papers have been promised by astronomers of the Pacific Coast, and an interesting program is assured. A special feature of the program will be discussion of problems presented by the nebulae. Attention is also called to the fact that the address on August 9 by the president of the Pacific Division A. A. A. S., Dr. W. W. Campbell, will be on the subject "What we know about Comets."

The titles of papers offered by members of the Society or of the Pacific Division for this meeting should be in the hands of the chairman of the program committee, R. G. Aitken, Mount Hamilton, California, before July 10, and abstracts should be submitted before July 29. It is especially requested that these abstracts be worded in popular language, as it is planned to print them in the daily press.

#### CORDILLERAN SECTION OF THE GEOLOGICAL SOCIETY OF AMERICA

A MEETING of the Cordilleran Section of the Geological Society of America has been ap-