

## GUSTAVUS HINRICHS AND THE LAVOISIER MONUMENT

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As many commemorations of the bicentennial of Antoine Lavoisier appeared (1), so there were similar efforts to honor that great chemist in the 1890's, at the time of the 100<sup>th</sup> anniversary of the observance of the French Revolution and Lavoisier's death. One of those efforts a century ago was originated by a little known American chemist, Gustavus Hinrichs, who called for a world-wide subscription by chemists to erect a monument to Lavoisier in Paris.

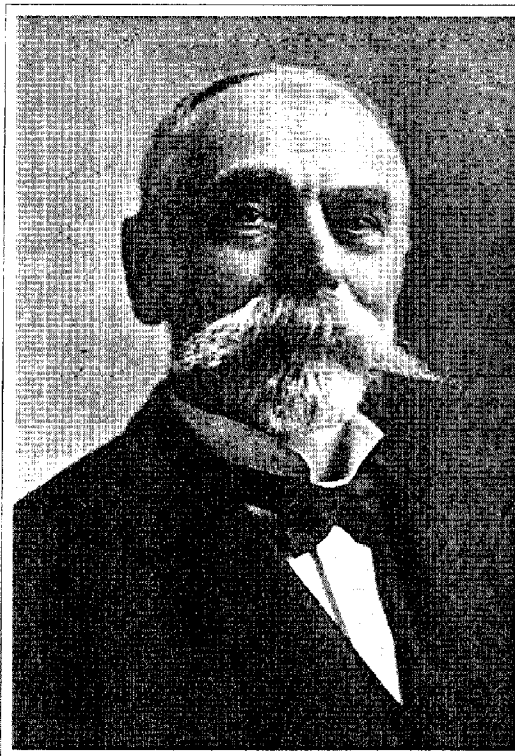
Gustavus Detlef Hinrichs (1836-1923) was one of America's earliest theoretical physical chemists. He was professor of chemistry at the State University of Iowa (1863-1885), St. Louis College of Pharmacy (1889-1903), and the Medical Department, St. Louis University (1903-1907). Fluent in five languages, he published most of his research in European journals and was as well known in Europe as in the United States. Hinrichs himself carried out very little laboratory experimentation but rather sought to interpret and interrelate data from the literature. He devised a classification of the chemical elements and a type of periodic chart which predated those of Mendeleev and developed some of the earliest mathematical relationships between molecu-

lar structures and physical properties. Seeking to identify a fundamental subatomic unit of matter, which he called the panatom, he spent 40 years evaluating methods of atomic weight determination. The author of about

300 publications, including 25 books, he also made significant contributions to chemical education, meteorology, astronomy, and geology. Although some of his concepts later proved to be incorrect, Hinrichs showed insightful originality at the frontiers of the science of his generation. He was described by Charles C. Wylie as "as versatile a man as American science has produced (2)."

On February 12, 1894, Hinrichs presented a lecture, "Centenary Commemoration of the last Days of Antoine Laurent Lavoisier," before the Writers' Club of St. Louis. He concluded his presentation with a wish that "chemists of the world would unite to erect a monument to Lavoisier (3)." Captivated by that idea, Hinrichs published a four-page "Appeal to Chemists of All Nations" (4). On the ex-

act centennial of Lavoisier's death on the guillotine, May 8, 1894, Hinrichs mailed one thousand copies of his "Appeal" to chemists, chemical journals, and science



Gustavus Detlef Hinrichs

societies. An advance copy was sent to the secretary of the French Academy of Sciences, Marcelin Berthelot (1827-1907), who immediately labeled it "a happy and grand idea"[translation by Hinrichs; see Ref. 8] and offered the cooperation of the Academy. Soon the French Academy assumed sponsorship of the project, and Hinrichs was appointed "Delegate of the Academy of Paris" to organize the American committee. Karl Remigius Fresenius (1818-1897) assembled a German committee; the Royal Society backed efforts in England, and a Russian committee responded as well.

Hinrichs selected an American committee of fourteen additional members (5): Jasper L. Beeson, Ph.D., Louisiana Experimental Station, New Orleans; Charles A. Goessmann, Ph.D., Massachusetts Agricultural College, Amherst; Eugene W. Hilgard, Ph.D., University of California, Berkeley; Richard W. Jones, M.A., LL.D., University of Mississippi, University, MS; John Uri Lloyd, Ph.D., Eclectic Medical Institute, Cincinnati; John H. Long, ScD., Northwestern University, Chicago; John U. Nef, Ph.D., University of Chicago; James M. Pickel, Ph.D., University of Alabama, Tuscaloosa; Paul Schweitzer, Ph.D., University of Missouri, Columbia; William Simon, Ph.D., M.D., College of Physicians and Surgeons, Baltimore; Edgar F. Smith, Ph.D., University of Pennsylvania, Philadelphia; Eugene A. Smith, Ph.D., University of Alabama, Tuscaloosa; Henry Trimble, Ph.M., Philadelphia College of Pharmacy; Francis Venable, Ph.D., University of North Carolina, Chapel Hill. So that every dollar subscribed would reach Paris, Hinrichs asked committee members to defray all expenses involved in collecting the money.

As money was raised from 1894 to 1899, periodic reports were printed in *Comptes Rendus* on the status of the contributions (6). A total of almost 100,000 francs was eventually collected, with France providing about half the amount. Russia sent about one-fourth of the total, including a sizable gift from the Tsar. The remaining one-fourth came from all the other countries, with the United States sending 3,054 francs (\$580) (7). In Hinrichs' final report for the United States committee, a list of about 500 contributors indicated the source of the \$580 (8). Since committee members only canvassed people in their own areas, a larger committee would have yielded a bigger total. Most individual subscriptions were between \$1 and \$10, and several groups of students pooled modest amounts. Hinrichs' personal contribution was 250 francs (about \$50). While the American combined contribution seems embarrassingly small, it should be noted that an economic depression in the 1890's reduced incomes to meager amounts. In addi-



Lavoisier Monument, Paris

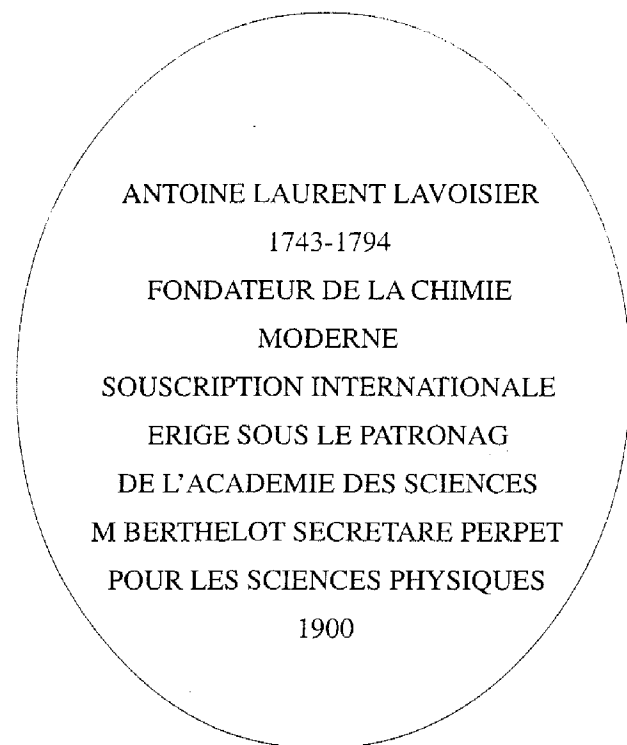
tion to the committee members, some notable American chemists appearing in the list of contributors were: John W. Mallett, University of Virginia; Alexander Smith, University of Chicago; Ira Remsen, Johns Hopkins University; Albert B. Prescott, University of Michigan; and James M. Crafts, Massachusetts Institute of Technology.

The statue was cast in bronze by E. Barrias of the French Art Institute. The figure of Lavoisier stood beside a table containing chemical glassware and a balance. It has been reported that Barrias copied a head of Lavoisier made by another sculptor at an earlier date. Later it was found that the head was that of Condorcet, rather than of Lavoisier (9). Two large bronze bas-relief scenes were set into the pedestal. In one, Lavoisier was working in his laboratory as his wife recorded the results of his experiments. In the other Lavoisier was lecturing at the Academy of Sciences to contemporary scientists Guyton de Morveau, Berthollet, d'Alembert, Condorcet, Monge, Laplace, Lamark, and Lagrange (10).

Dedication ceremonies were held on July 27, 1900. Berthelot presented a biographical sketch of Lavoisier, and H. Moissan, secretary of the French Academy committee for erecting the statue, gave details of the inter-

national cooperation. There is no indication that Hinrichs or any other American attended the dedication (11).

The monument was located at the rear of the Eglise de la Madeleine, facing rue Tronchet, near the house where Lavoisier had lived for many years. The inscription on the plaque read:



Lamentably, the monument did not survive World War II, for German occupation forces confiscated all metal statues in Paris to use as scrap for their war efforts. A 1945 photograph showed the Lavoisier pedestal stripped of the statue, the two bas-reliefs and the inscription plaque (12). The ultimate fate of the pedestal is unknown.

## REFERENCES AND NOTES

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3. G. Hinrichs, *Quelques Lettres*, G. Hinrichs, St. Louis, MO, 1910, 35.
4. G. Hinrichs, "Appeal to the Chemists of all Nations," no publisher, St. Louis, MO, 1894.
5. J. Long, "The Lavoisier Memorial," *J. Am. Chem. Soc.*, **1897**, *19*, 170-171.
6. *C. R. Hebd. Séances Acad. Sci., Ser. C*, **1896**, *123*, 335-337; **1899**, *129*, 855-859, 985-986.
7. Ref. 3, p. 36.
8. G. Hinrichs, "Report of the American Lavoisier Committee," G. Hinrichs, St. Louis, MO, 1899, 1-12.
9. R. Oesper, "Once the Reputed Statue of Lavoisier," *J. Chem. Educ.*, **1945**, *22*, October Frontispiece.
10. Photographs of the statue and the bas-reliefs are reproduced in T. Davis, "What a Student of the History of Chemistry May See and Do in Paris," *J. Chem. Educ.*, **1934**, *11*, 212-212. The bas-relief with Madame Lavoisier was modeled after drawings she made of her husband's laboratory (see H. Van Klooster, "The Lavoisier Bicentenary Exhibition in Paris," *J. Chem. Educ.*, **1946**, *23*, 211).
11. "Inauguration du Monument erige a Lavoisier, par une Souscription Internationale," *C. R. Hebd. Séances Acad. Sci., Ser. C*, **1900**, *131*, 307-316.
12. R. Oesper, Ref. 9; R. Oesper, "Effects of War upon some Historical Landmarks of Paris," *J. Chem. Educ.*, **1947**, *24*, 196.

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