

102. "Le Bel, Joseph Achille", in C. C. Gillispie, ed., *Dictionary of Scientific Biography*, Scribner's, New York, 1973, Vol. 8, pp. 109-110.

103. "Le Châtelier, Henry Louis", in C. C. Gillispie, ed., *Dictionary of Scientific Biography*, Scribner's, New York, 1973, Vol. 8, pp. 116-120.

104. *Development of Biochemical Concepts from Ancient to Modern Times*, Harvard University Press, Cambridge, MA, 1974 (book).

105. "Muir, Matthew Moncrieff Pattison", in C. C. Gillispie, ed., *Dictionary of Scientific Biography*, Scribner's, New York, 1974, Vol. 9, p. 557.

106. "Müller, Paul", in C. C. Gillispie, ed., *Dictionary of Scientific Biography*, Scribner's, New York, 1974, Vol. 9, pp. 576-577.

107. "Lomonosov's Views on Combustion and Phlogiston", *Ambix*, 1975, 22, 1-9.

108. "Sørensen, Søren Peter Lauritz", in C. C. Gillispie, ed., *Dictionary of Scientific Biography*, Scribner's, New York, 1975, Vol. 12, pp. 546-547.

109. "James Blake", in Wyndham Miles, ed., *American Chemists and Chemical Engineers*, American Chemical Society, Washington, DC, 1976, p. 36.

110. "Tenney Lombard Davis", in Wyndham Miles, ed., *American Chemists and Chemical Engineers*, American Chemical Society, Washington, DC, 1976, pp. 112-113.

111. "Edward Curtis Franklin", in Wyndham Miles, ed., *American Chemists and Chemical Engineers*, American Chemical Society, Washington, DC, 1976, pp. 158-159.

112. "Gilbert Newton Lewis", in Wyndham Miles, ed., *American Chemists and Chemical Engineers*, American Chemical Society, Washington, DC, 1976, pp. 296-297.

113. "Harry Wheeler Morse", in Wyndham Miles, ed., *American Chemists and Chemical Engineers*, American Chemical Society, Washington, DC, 1976, pp. 350-351.

114. "Willard Bradley Rising", in Wyndham Miles, ed., *American Chemists and Chemical Engineers*, American Chemical Society, Washington, DC, 1976, pp. 410-411.

115. "John Maxon Stillman", in Wyndham Miles, ed., *American Chemists and Chemical Engineers*, American Chemical Society, Washington, DC, 1976, pp. 457-458.

116. "Virtanen, Artturi Ilmari", in C. C. Gillispie, ed., *Dictionary of Scientific Biography*, Scribner's, New York, 1976, Vol. 14, pp. 45-46.

117. "Wallach, Otto", in C. C. Gillispie, ed., *Dictionary of Scientific Biography*, Scribner's, New York, 1976, Vol. 14, pp. 141-142.

118. "Windaus, Adolf Otto Reinhold", in C. C. Gillispie, ed., *Dictionary of Scientific Biography*, Scribner's, New York, 1976, Vol. 14, pp. 443-446.

119. "The Geochemical Ideas of Mikhail Lomonosov", *Ann. Sci.*, 1976, 33, 341-350.

120. "The Mystique of Vitamins", *Scientia*, 1977, 112, 361-370.

121. "Fischer, Hans", in C. C. Gillispie, ed., *Dictionary of Scien-*

tific Biography, Scribner's, New York, 1978, Vol. 15, pp. 157-158.

122. "Karrer, Paul", in C. C. Gillispie, ed., *Dictionary of Scientific Biography*, Scribner's, New York, 1978, Vol. 15, pp. 257-258.

123. Translation of I. I. Chernyaev, "The Theory of Complex Compounds: Article I", in G. B. Kauffman, ed., *Classics of Coordination Chemistry, Part III: Twentieth Century Papers (1904-1935)*, Dover, New York, NY, 1978, pp. 151-152.

1980 - 1989

124. "Electron Configuration", in *Academic American Encyclopedia*, Aretê, Princeton, NJ, 1980, Vol. 7, p. 120.

125. "Periodic Table", in *Academic American Encyclopedia*, Aretê, Princeton, NJ, 1980, Vol. 15, pp. 166-169; and a number of short biographical notes scattered throughout the various volumes.

126. "The Scientific Poetry of Lomonosov", in H. M. Said, ed., *Essays on Science: Felicitation Volume in Honour of Dr. S. Mahdihassan*, Hamdard Foundation, Karachi, Pakistan, 1987, pp. 167-173.

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SOME EDGAR FAHS SMITH MEMORABILIA

William D. Williams, Harding University

Edgar Fahs Smith is recognized as the Dean of American chemical historians. His papers and books have inspired many of us to study early chemistry. His influence in establishing the Division of the History of Chemistry of the American Chemical Society has promoted research in that field and his wonderful collection of early chemical books, portraits and memorabilia, still housed at the University of Pennsylvania, has preserved for all of us a tangible and irreplaceable link with our professional past.

I certainly cut my history-of-chemistry teeth on Smith's works and have tried to emulate his writing and collecting. In this process, I became a close friend of Wyndham Miles, another chemical historian and "old chemistry" collector. Dr. Miles has spent 40 years supplementing Smith's work on early American chemistry. Over the years he has accumulated a large rare chemistry collection, including some interesting Smith memorabilia. As a regular visitor to the Smith Collection, Miles became well known to Eva Armstrong and Robert Sutton, who were its curators. In the 1950s, when the Smith

Collection was discarding some duplicate volumes and some of E. F. Smith's non-chemistry books, Miles obtained them for his collection. When Miles retired in 1984, he placed his collection and research files at Harding University, to be combined with mine.

So here I am, searching through third and fourth-hand material for fragments that contain insights into the character of Edgar F. Smith. Just as I enjoyed reading the recent story about the Smith statue on the University of Pennsylvania campus (1), perhaps you will be interested in some of this memorabilia. Join me and let's see what we can find!

The first item to come to hand is a presentation copy of Smith's *Old Chemistries*, with the inscription: "To Dr. Tenney L. Davis, whose love for ancient chemical literature endears him to thousands of chemistry students - from one of them, The Author." Davis was, of course, another of the founders of the Division of the History of Chemistry and also an avid student of early American chemistry.

In another copy of the same book, we find a letter from Smith which traces its surprising bibliographic success:

University of Pennsylvania
Philadelphia
Edgar F. Smith

January thirtieth 1928

Dear Mr. Marshall:

I have your letter of January 28th. I am exceedingly sorry but it is

January thirtieth
1928

Dear Mr. Marshall:

I have your letter of January 28th. I am exceedingly sorry but it is impossible to get a copy of my little book entitled "Chemistry in Old Philadelphia." The edition was 500, I think. The book disappeared rapidly. I handled it myself, as the publishers evidently did not think that it would sell very well. They seemed surprised when it was taken up so heartily.

Do you happen to have another volume of mine entitled "Chemistry in America?" There is undoubtedly a copy of that in the library in Baltimore.

Yours sincerely,

Edgar F. Smith



Edgar Fahs Smith

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Yours sincerely,
Edgar F. Smith [signed]

To Mr. A. E. Marshall
3034 St. Paul St.
Baltimore, MD

A box of books that once belonged to Dr. Smith, many with his signature in them, reveals an unrecorded facet of his busy life. It contains a collection of 43 western and civil war novels by the same author, Captain Charles King. Similar in content and period to those of Zane Grey, these stories were drawn from King's experiences as an Army Cavalry officer in the 1870s (2). A graduate and former teacher at West Point, King had been stationed among the Apaches in the Tonto Basin of Northern Arizona Territory. He was among troops who made a 2000 mile march through the Big Horn region to disperse the Sioux Indians following "Custer's Last Stand". On multiple occasions he had engaged in mortal combat with Indians. He was a friend of "Buffalo Bill" Cody, who was a scout for his Company. King's writing was rich in authentic frontier and Army life. Using different names and circumstances, he wove into his stories the characters he had met, his love for horses,

and even his own serious wounding at the hands of the Apaches.

Smith's enjoyment of Captain King's books is attested by an envelope tucked into one of them. It contained a letter and autographed photo from Charles King to Smith. The photo shows King, at age 81, ramrod straight and immaculately uniformed, astride a handsome horse. It is inscribed: "To Prof. Edgar F. Smith, with the regards of Charles King, 1925". The reverse of the photo proudly explains:

Star and C. K. Combined ages 98 years. Winner of the Blue Ribbon (1st prize), Annual Horse Show, State Fair, Milwaukee, Wis. Sept 25. Officers Charges Class Ten Competition.

The letter is a poignant tribute to the character of both of these men as they neared the end of their lives:

St. Johns Military Academy
Delafield, Wis
September 26, 1925

My dear Sir:

Not in many a moon have I received a letter which gave me such pleasure as yours of the 21st inst. It is a rare thing that men of your



Charles King

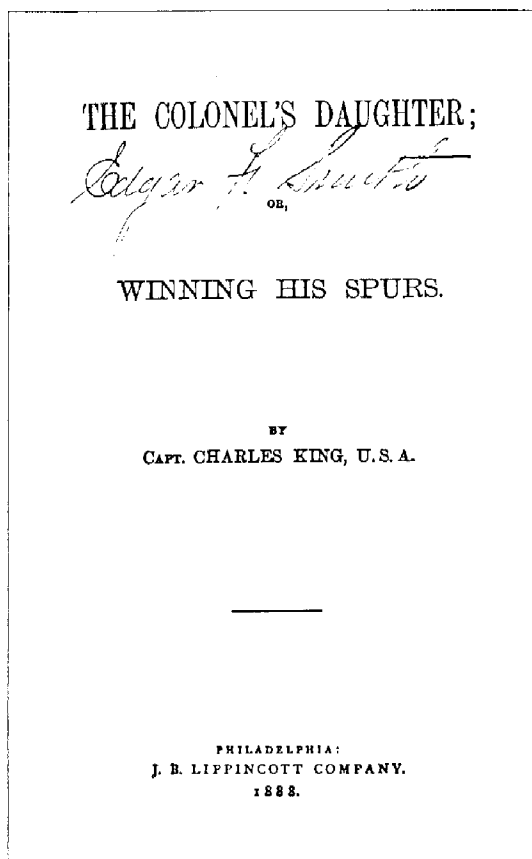
high standing in the Educational world find time to read such work as mine, much less to attach to it any value whatsoever, and I thank you with a full heart for every word of it ... That letter goes in a special file for my grandson and namesake, and should I be able to come East next June to attend the sixtieth anniversary of the graduation of my class at West Point, I shall do myself the honor of looking you up at the University.

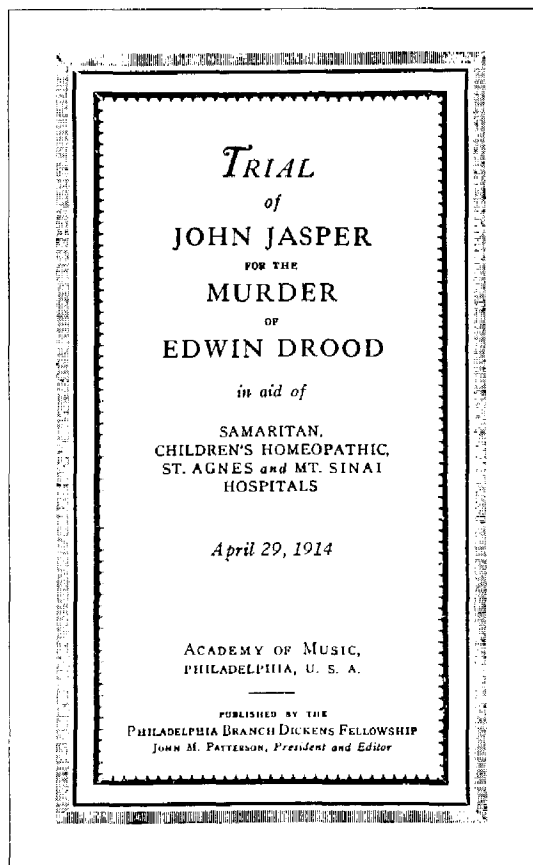
The estimate placed by publishers on these frontier stories of long ago differs so widely from yours that the most valuable from a historical point of view, "Campaigning with Crook," the story of the great Sioux War of 1876, has been allowed by Harper & Brothers to go out of print ...

Gratefully & Sincerely yours, Charles King

Prof. Edgar F. Smith

In yet another box is a book describing Smith's participation in a stage presentation at the Philadelphia Academy of Music on 29 April 1914. It was a gala evening with a packed house of the city's finest. Proceeds were designated to aid local hospitals. The program, entitled "Trial of John Jasper for the Murder of Edwin Drood," was a somewhat extemporaneous mock trial based upon an unfinished novel by Charles Dickens. When Dickens died in 1870, six installments of his *The Mystery of Edwin Drood* had been published. Evidence





pointed to multiple suspects for the disappearance and supposed murder of Drood, but not even an outline of Dickens' conclusion was found. Other authors tried to finish the story but all versions were unsatisfying. Finally, British mystery lovers presented a public trial of John Jasper, with Gilbert K. Chesterton as judge and George Bernard Shaw as jury foreman. Following the same format, the Philadelphia version was elaborately staged with Dickensian costumes and a cast of eminent judges, politicians and civic leaders.

Edgar F. Smith served as a member of the jury. His selection to be seated illustrates the tongue-in-cheek nature of the evening (3):

CRIER: Juror number seven, Edgar F. Smith

CLERK: Juror, look upon the prisoner; prisoner, look upon the juror. How say you, challenge or no challenge?

DEFENSE: No challenge.

PROSECUTION: I should like to have it noted upon the record that Fate tried to conceal him by naming him Smith. (Laughter)

Q: You are Provost of the great University of this Commonwealth?

A: I am.

Q: I believe that the sun never sets on the sons of Penn? (Applause)

A: That is true.

Q. Did you ever have John Jasper or Edwin Drood enrolled upon the

records of the University? (Laughter)

A: Never, sir.

Q Then I apprehend that the love and partiality that you bear for all the sons of Penn would not obtain in this case?

A It would not.

Q: And you could render an unbiased verdict?

A: I could, sir.

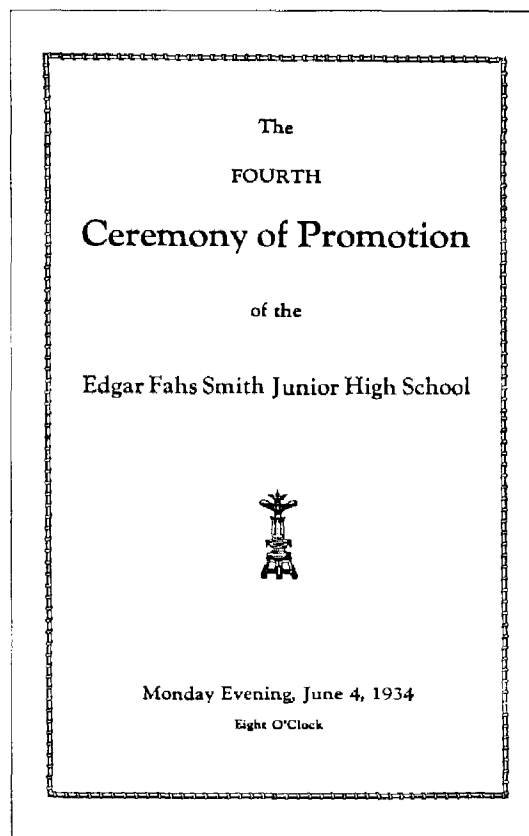
(Juror takes seat in jury box.)

Despite the levity, the trial endeavored to be objective in the evidence and the verdict. The presentation had begun at 7:30, but most of the audience were still in their seats after midnight when the jury returned a "not guilty" verdict. It was reported that the jury was at first deadlocked at six for acquittal and six for guilty. It would be interesting to know what Smith thought and said as the jury deliberated.

Another book from Smith's library carries the title, *Jenghiz Khan and Other Verses*, by Erwin Clarkson Garrett. It contains a poem dedicated to Smith (4):

To Dr. Edgar Fahs Smith upon his retirement as Provost of the University of Pennsylvania, 1920.

We may not bear to think - ye we've always known -
A keystone fair, a comrade rare - should feel the time had grown
To drop the reins your hands have held with master grip -



Or quit the straining tiller of your loved and honored ship.

We may not bear to think - ye we've cherished long -

Ye will not stand where ye have watched your mighty craft wax strong.

Deck and deck upbuilding - mast and mast arise -

A source of pride, a cause of joy, in your all seeing eyes.

But though ye go ye never may cut the sacred bands

That bind you to the Sons of Penn through all the far flung lands,

For over hall and campus ye've cast a golden spell -

A gentle knight - a beacon light - Friend of our youth, farewell!!

There are also tattered programs for the 1934 and 1937 graduation exercises at the Edgar Fahs Smith Junior High School at York, PA, the city where Smith was born. The 1937 program celebrated the 150th anniversary of the York County Academy. A yellowed clipping explains (5):

... In celebrating this anniversary we do honor not only to the academy but to its most famous student, the late Edgar Fahs Smith," declared Mr. Kain, who stated that at the 125th anniversary celebration of the founding of the academy, Mr. Smith wanted for the 150th anniversary such a procession of representatives of educational institutions as was presented last night ... Mrs. Edgar Fahs Smith was a special guest of honor last night ...

These fragments, though few in number, reveal the Smith known only to his close friends and family and allow us to glimpse the man behind the name. Only those who have actually handled such artifacts can fully appreciate the power they possess of evoking in the handler a feeling of almost tangible contact with the personality of their long-dead owner.

References and Notes

1. J. Bohning, "The Monster Under Edgar's Foot", *Bull. Hist. Chem.*, 1988, 1, 20-22.
2. Two books by King contain biographical material: C. King, *Campaigning with Crook and Stories of Army Life*, Harper & Brothers, New York, 1890, pp. 1-171; C. King, *Dunraven Ranch*, J. B. Lippincott, Philadelphia, 1888, pp. 856-862.
3. J. M. Patterson, ed., *Trial of John Jasper for the Murder of Edwin Drood*, Philadelphia Branch Dickens Fellowship, Philadelphia, 1916, pp. 47-48.
4. E. C. Garrett, *Jenghiz Khan and Other Verses*, John Winston, Philadelphia, 1924, p. 78.
5. *Gazette and Daily*, York, PA, 2 June 1937, p. 1.

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THE HISTORY OF FOOD COLORANTS BEFORE ANILINE DYES

Harold T. McKone, Saint Joseph College

The addition of coloring agents to foods is not a recent phenomenon. In ancient Greece and Rome, wine was often artificially colored and inspectors were appointed to monitor this practice. In the first century A.D., Pliny the Elder comments on the Gallic wine industry as follows (1):

... about the rest of the wines grown in the Province of Narbonne no positive statement can be made, in as much as the dealers have set up a regular factory for the purpose and color them by means of smoke ... a dealer actually uses aloe for adulterating the flavor and color of his wines.

The first recorded "pure food laws" were passed in Europe in the early middle ages. A regulation concerning the adulteration of beer, enacted in 1292 in France stated (2):

Whoever put into beer baye, pimento, or "poix" resine was to be fined 20 francs ... for such things are neither good nor loyal to put into beer, for they are bad for the head and the body, for the healthy and the sick.

Butter was another commonly adulterated food. An Edict of Paris in 1396 prohibited its coloration with flowers, herbs or drugs. In England, bread appears to have been the most commonly adulterated food in the middle ages. As early as 1155, laws were passed regulating its composition, price, and formulation. Punishment for selling adulterated bread was severe (3):

If any default ... be found in the bread of a baker of the city, the first time, let him be drawn upon a hurdle from the Guildhall to his own house, through the greatest streets, where there are most people assembled, and through the streets which are most dirty, the false loaf hanging from his neck.

The great trade expansion of the 16th and 17th centuries brought tea, coffee, chocolate, and spices to Europe. With the influx of these new foods came more skillful methods of adulteration. Tea from China arrived with iron filings, clay, and gypsum to increase weight and mineral salts such as copper sulfate to intensify color. Joseph Addison (1672-1719) comments on the adulteration problem in England in 1710 as follows (4):

There is in this city a certain fraternity of chemical operators who work underground in holes, caverns, and dark retirements ... they can squeeze Bordeaux out of sloe and draw champagne from an apple.

The history of the coloring of tea in 18th century England is

They walked along, two continents of experience and feeling, unable to communicate. (W.G.) Metonymy. There you are at your tricks again. The rest of them do earn their bread; you live on my charity. (E.Br.) Pun. "Someone at the door," he said, blinking. "Some four, I should say by the sound," said Fili. Metonymy. The praise was enthusiastic enough to have delighted any common writer who earns his living by his pen. (S.M.) Zeugma. After a while and a cake he crept nervously to the door of the parlour. (A. T.) Metaphor. "We need you so much here. It's a dear old town Miles Craven (pdf + mp3).^Â Listening Extra. Miles Craven. A Resource Book of Multi-Level Skills Activities. Cambridge University Press - 2004. - 136 ^Ñ. (Cambridge Copy Collection) Book + 2 Audio CD. This book provides original and stimulating listening practice across a range of levels and topics.^Â The recordings expose students to a variety of native and non-native accents and cover a range of genres from radio and television to academic lectures, presentations and conversational dialogues. Listening Extra contains a bank of imaginative photocopiable materials designed for young adults (16+) and adults. There are over 50 easy-to-prepare activities at elementary, intermediate and upper-intermediate level. ^{â€¢} Books are of different types. Some of them are useful and delightful while others are not. The exact value of books is greatly related to their content and purpose. Francis Bacon, a famous English essayist, classifies books into three categories in his formal essay ^{â€œ}Of studies^{â€}: ^{â€œ}Some books are to be tasted, others to be swallowed and some few to be chewed and digested.^{â€} In other words, some books should be read in parts; others hastily, without much concentration and attention; and some few thoroughly and steadily. In essence, books are used as a source of knowledge and information; they are also used as a source of pleasure and amusement.