

AARON IHDE AND HIS STUDENTS ⁽¹⁾

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The Making of a Teacher

Aaron Ihde was a born teacher. He once recalled (2) that he always thought that he would become a teacher: in grade school he wanted to be a grade school teacher, in high school he assumed that he would eventually teach high school, and in college he wanted to become a professor. When he received his B.S. in 1931, he was lucky to find any job at all, and went to work as a food chemist in Chicago. But it was not long before his early ambitions caught up with him. In February of 1938 he and his wife packed up their belongings and their six-month-old daughter, and returned to Madison, on the basis of meager savings and no initial teaching assistantship. Three years and four months later, Ihde was a newly minted Ph.D., eligible for a college teaching career (3). Unfortunately, this was one of the worst of times to look for university work. Although the Depression had broken, the war in Europe (and its likely implications for the United States) meant that university enrollments were declining all over the country. Ihde found an instructorship at Butler University in Indianapolis, but the



Aaron J. Ihde, circa 1985.

work was difficult and not particularly rewarding. He taught four courses per semester, each a separate preparation. Moreover, this food chemist found himself teaching the full spectrum of courses, particularly physical chemistry. Ihde wrote his former adviser Henry Schuette

about his troubles, and Schuette brought the matter to the attention of the Chemistry Department. The department was having its own troubles, for defections of faculty members to Manhattan Project work exacerbated the normal rate of faculty attrition. In the spring of 1942 Ihde was brought back to Madison for one year to plug a gap in staffing for the general chemistry program.

Ihde immediately established a reputation, both among students and colleagues, for conscientious and attractive teaching, and he was clever enough (and motivated enough) to figure out how to make himself indispensable. Conditions at the university during the war years were chaotic, and Ihde was willing and capable of doing anything, on the shortest notice—from the most challenging teaching assignment to the sort of routine section work normally done by teaching assistants. And everything he did brought rave reviews. His one-year terminal contract was renewed twice more. In 1945, with returning servicemen now

pushing enrollments through the roof, Ihde was offered a tenure-track contract (4). He was promoted to associate professor with tenure in 1948, and to full professor in 1958.

Ihde loved teaching general chemistry, and his students loved him. He continued teaching freshman chemistry until he was made chair of the Integrated Liberal Studies department in 1963 (about which more below). Early on he began to incorporate historical material into his chemistry teaching, purely for pedagogical reasons, as he had witnessed Schuette do. Gradually he came to understand the importance of history of science for its own sake. In summer semester 1946 he revived a course in the history of chemistry that had lain dormant the previous few years. He continued to teach history of chemistry (breaking it into a two-semester survey sequence in 1963) until his retirement in 1980.

The Department of Integrated Liberal Studies (ILS) was founded at the University of Wisconsin in 1948 to provide an innovative two-year undergraduate curriculum in interdisciplinary liberal arts, for selected students who wished to have a broader general education than that offered by the conventional "breadth" requirements. Influenced by the Great Books curriculum, as well as by the "Experimental College" pioneered a generation earlier by Alexander Meiklejohn, ILS was an immediate success, partly on the strength of its instructors. The founders of ILS were clever enough to select professors who were not only committed to interdisciplinary approaches, but were gifted teachers, as well. (All faculty retain their primary disciplinary departmental affiliations when they join the ILS Department.) Naturally enough, Aaron Ihde was invited to participate, and he was delighted to do so. He created the introductory science course in this new college: ILS 131, entitled "The Physical Universe." Intended for nonscience majors, Ihde

structured his course around the leading themes of energy, motion, and matter, and developed these ideas in astronomy, physics, and chemistry, using a case-historical approach. Students responded well to this, as they did to all of his courses.

So Ihde began teaching historical material in ILS in 1948, just two years after starting to teach history of chemistry in the Chemistry Department. Simultaneously, a potential third historical opportunity arose, for a new Department of History of Science was created at UW-Madison

in 1947, with the arrival of Marshall Clagett and Robert Stauffer (5). These men, and later additions to the department, warmly welcomed Ihde as an unofficial colleague. Ihde's Carnegie year at Harvard (1951-52) fully professionalized him into the emerging discipline: he got to know James Conant, Thomas Kuhn, Leonard Nash, I. B. Cohen, and, not least, George Sarton. In 1957 Ihde formally



Aaron (left) consulting with Odell Taliaferro, the chemistry department demonstrator, just before the beginning of one of Aaron's ILS lectures. December 1949.

added affiliation to the History of Science Department to his professorial title. Gradually Ihde taught more courses for the department, including Science, Technology, and Society, and the Evolution of Food and Drug Controls. He also conducted an advanced seminar in history of chemistry for his graduate students.

By the time of his retirement in 1980, he had taught for thirty-eight years at the University of Wisconsin. Other than seven years in an industrial position in Chicago, a year in Indianapolis, and a year in Cambridge, Ihde had the good fortune to have spent his entire life in the state of Wisconsin.

Personal Recollections

I arrived in Madison as a graduate student in chemistry in the fall of 1969. In one respect I may not have been typical: as the product of a Great Books undergraduate curriculum, I had long been attracted to interdiscipli-

nary and historical approaches to knowledge, and I thoroughly enjoyed reading history of science. Two years later, seduced by the first course I took with Aaron in the spring of 1970, I abandoned the Chemistry Department for the Department of History of Science. Aaron hired me as a teaching assistant for Physical Universe (PU), beginning in the fall of 1971.

Aaron decided to revamp completely this course (giving up the chairmanship of ILS in 1970 gave him the leisure to accomplish this). He had taught PU for 23 years essentially the same way, and it continued to be a great success with students, about two hundred of whom took the course every year; colleagues were astonished that he would meddle with success and deeply impressed by Aaron's commitment to productive innovation. In brief, Aaron was not unhappy with his course, but he wanted to see whether he could exercise his interests and competencies in science and public affairs, in a way that would make the course seem more exciting and relevant. The new PU sought to "look at certain scientific developments, examine their impact on practical affairs, and examine the good and the bad which has resulted." Topics included energy production and use, natural resources, water quality, food and nutrition, pesticides, and nuclear weapons. The debut of this course was my first teaching in ILS.

The course was a smashing success. American undergraduates were, in general, anxious for "relevance," and this course was relevant with a vengeance. Vietnam protests were hot, the first Earth Day had recently occurred, the environment was becoming the watchword it remains today, and battles over clean water, clean air, and pesticide use were raging. Through it all Aaron provided a thread, while teaching nonscience students a goodly amount of real science in the process.

This course required the organization of massive amounts of information. What amazed his TAs was that he accomplished this, with virtuoso skill, and with no apparent sense of effort. One could speak with him right before class, in the midst of organizing his lecture and ever-present slides, and he had as relaxed a manner as if we were taking tea on Sunday afternoon. Organized he certainly was, but paradoxically he was not obsessively neat, for which his desk may serve as a case in point. At the start of every semester he began with a large, perfectly clean desk, which gradually began to accumulate memos, correspondence, and other scholarly and administrative detritus. As the volume increased, he had a tendency to push the remaining mass

toward the wall. This gradually created a sloped surface, well designed for writing. By the end of the semester the front edge of his desk would have perhaps a half-inch cover, while the back edge might have upwards of a foot of paper. Somehow, though, he always knew how to find the piece of paper he needed at the moment. After the semester ended he would do the necessary archeology, in order to prepare for the semester to come.

In lecture as in conversation, Ihde spoke with admirable deliberateness, clarity, and precision. Modest and self-effacing, he was not the least flashy. He was also, despite what I have just written, something of a ham. In one of his lectures during that first semester of the "new PU," he wanted to describe the physiological effects of DDT on animal life, and had the sudden inspiration to act it out. The lecture hall, being in the chemistry building, had a large demonstration table in front. Ihde said, "Let us suppose that I represent a fly that has just been subjected to a lethal dose of DDT." He then crawled onto the table on all fours and began to narrate (while graphically illustrating) the next events in the life (or rather death) of that fly. Suffice it to say that the demonstration ended with Professor Ihde flat on his back, limbs stiffly raised, dead as a doornail. The room erupted in applause. Ihde's "dying fly" immediately became legendary at the University of Wisconsin, and he was obliged by popular demand to repeat his performance every year thereafter.

Aaron's student evaluations were superb. Part of his secret of success was simply his extraordinary personality: he exuded an utterly irresistible combination of erudition and kindness, which was apparent to all of the students. The course asked for complexity, thoughtfulness, and wisdom, and he gave them that. The undergraduates often told me that they idolized him, and viewed him as a wise grandfatherly figure (and he was that). They flocked to his classes. In 1978 Aaron was given the Chancellor's Award for distinguished teaching at the University of Wisconsin, a highly select honor. In a letter supporting Aaron's nomination, his colleague Victor Hiltz (who regularly co-taught "Science, Technology, and Society" with him) wrote that Ihde was much more than simply a superb classroom performer (6):

There is an integrity about Ihde as a person, as a scholar, and as a teacher that comes through to even the most inexperienced undergraduate. Ihde never gives the impression that he is in the classroom just to do his job or to impart a certain quantity of information. Long before most others were concerned

about the interrelationships of science and society, Ihde was deeply concerned with these things. This concern comes through in his lectures, and this is what he teaches above all else. Students leave the lectures with the feeling that they have heard something important, and that they want to know more—indeed, that they *must* know more. Perhaps this should be the criterion of distinguished teaching.

Hilts concluded that "... if one could somehow define the secrets of Ihde's success as a teacher, one would have a very nearly perfect model of what a university teacher ought to be."

Aaron had a similar following for his graduate courses as for his undergraduate offerings, and for the same reasons. His ability to summarize complex developments in brief compass was uncanny, and when queried on this or that detail he was virtually never at a loss. He had an astonishingly precise and retentive memory. Aaron conducted his graduate seminar in the evenings in his beautiful home in the UW Arboretum. We would gather after supper, spend a pleasurable

Aaron was not excessively directive or intrusive in his supervision of doctoral work. He held to the philosophy that an important part of the exercise of writing a dissertation was to work through puzzles and problems oneself, and thereby acquire the self-confidence and resourcefulness necessary to succeed as a scholar. (Of course, like a father at poolside, he always stood ready to rescue you, if it became necessary.) He always said that he viewed the Ph.D. degree not as a certificate of perfect competence in the field, but as a scholarly "hunting license," one should—that is, one *must*—continue to learn and to improve throughout one's life.

My Ph.D. was granted in 1975, but jobs had become very scarce after about 1971, and I did not immediately find a tenure-track position. The silver lining in this disappointing cloud was that I was privileged to continue my association with Aaron, first as his research associate and then with a lectureship to assist him with his ILS duties. I left Madison in 1978 when Robert Schofield brought me to Case Western Reserve Univer-



Aaron and Olive Ihde with many of Aaron's former students and postdoctoral fellows. Midwest History of Science Junto Meeting, Madison, WI, 11 April 1980.

couple of hours talking about history of chemistry, then Aaron would prepare and serve a small treat for dessert. Aaron's wife Olive, who was confined to a wheelchair during the time I was privileged to know her, participated fully (as an informed layperson) in all of the seminars.

sity, to replace fellow Ihdean Reese Jenkins, who had just been hired as the Director of the Thomas Edison Papers Project at Rutgers University. Schofield told me at the time that he felt very comfortable with hiring me, not least because Reese had done so very well in his eleven years at CWRU; the fact that I was another Ihde product, he thought, augured well (7).

I could not have asked for a better dissertation director. Aaron became not only a trusted adviser, but a close fatherly friend. I regard him as one of the finest human beings I have ever met—a model of probity, wisdom, erudition, and benevolence.

The Next Generation

Aaron Ihde directed a total of 21 Ph.D. dissertations in history of science (see Appendix I). In addition, Ihde supervised three doctoral dissertations in chemistry (8) and 10 master's theses (five each in chemistry and in history of science) (9). He also directed postdoctoral research for Owen Hannaway, O. Bertrand Ramsay, and seven other historians of chemistry (10). Hannaway, whose articles and book on the history of early modern chemistry have been extraordinarily influential, has always emphasized the significance for his intellectual development of his postdoctoral study with Ihde.

I began to tabulate all the refereed articles and book chapters written by Ihde's students but eventually gave up the task when the numbers started to get out of hand (Siegfried, Hamlin, Whorton, and Parascandola were the most flagrant culprits in this regard). Suffice it to say that they number easily in the hundreds. As far as books are concerned, Appendix 2 lists 19 monographs written by Ihde students (this excludes edited works, which would be a large category in itself).

Ihde's first doctoral student in history of science in 1953 was Robert Siegfried, who was also the first Ph.D. produced by the still young Department of History of Science. Siegfried was hired to teach in the general science program at the University of Arkansas in Fayetteville, but he also offered a specialized course in the history of chemistry. The first time he taught this course, an undergraduate by the name of Betty Jo Dobbs was among his students. Dobbs went on to become a distinguished scholar of the history of alchemy and chemistry, and Siegfried and Dobbs published an important article together in 1968 (11). Siegfried was a prolific researcher—an "article man," like Ihde's great contemporary Henry Guerlac—specializing particularly in the life and work of Humphry Davy. By 1963 he was sufficiently prominent that Ihde was able to bring him back to the University of Wisconsin as a colleague. During his 24 active-duty years in Madison, Siegfried directed six Ph.D. dissertations: David Dyck (1967), Virginia Schelar (1969), Homer LeGrand (1971), Bernard Langer (1971), Jean-Claude Guédon (1974), and Anthony Stranges (1977).

Some of Ihde's first few Ph.D. students—Siegfried, Costa, and Baker—chose research topics that illuminated the development of the science of chemistry in Europe during the nineteenth century; later on, Fisher, DeKosky, and Rocke did the same. Early in their careers, Costa, Baker, Fisher, and DeKosky published landmark books and articles spun off from their dissertation research, then moved to different concerns. A new direction in the "Ihde group" was indicated by the work of Reese Jenkins (1966), who moved toward American topics and technology. Jenkins' book on the U.S. photographic industry, *Images and Enterprise* (1975), based on his dissertation work, won the 1978 Dexter Prize (the outstanding book award by the Society for the History of Technology) (12). Jenkins has had a distinguished career at Case Western Reserve and then Rutgers University in New Brunswick. He has directed one M.S. thesis (Michael Sokal), and three Ph.D.s (Michael Swords, David Channell, and Paul Israel), all of whom are distinguished scholars today (13).

The American direction was reinforced by the dissertations of Becker, Parascandola, Jones, Whorton, Kopperl, Johnson, Paradowski, Trottman, Hochheiser, and Meyer. The work of Becker and Parascandola was directed toward the history of biomedicine; that of Kopperl and Paradowski was more oriented to the development of basic science; and that of Jones, Whorton, Hochheiser, and Meyer related more directly to science, technology, and society.

John Parascandola's research has been enormously prolific and wide-ranging. Concentrating at first on the history of biochemistry and the work of the Harvard scientist Lawrence Henderson, he then turned to the history of pharmacology, chemotherapy, and pharmaceutical chemistry. His publications on the history of chemical pharmacology shed light on a subject that had received almost no attention, and earned him the Edward Kremers Award of the American Institute of the History of Pharmacy. His work on Paul Ehrlich and the origins of chemotherapy is of special interest to historians of chemistry, pharmacy, and medicine; and for his seminal book *The Development of American Pharmacology* he was awarded the George Urdang Medal of the AIHP. He directed the Ph.D. work of John Swann (1985).

James Whorton has also had a distinguished career. After his highly important first book (based on his dissertation), *Before Silent Spring*, Whorton has concentrated on investigating the history of health culture in America and Great Britain. His second and third

books—along with a raft of important articles—provided groundbreaking explorations of the evolution of scientific and medical thinking about diet, exercise, and other health behaviors, and the intersection of expert advice and popular or commercial programs. He supervised the Ph.D. work of Barron Lerner (1996).

Sheldon Hochheiser was one of Ihde's last two students, finishing after Aaron retired. His work has focused on the practice of science and technology in corporate America—at first centering on food processing and applied chemistry, then on telecommunications. Since he became corporate historian for AT&T, his professional efforts have been devoted to activities other than scholarly publication.

Christopher Hamlin's work, like that of Whorton, emerged out of Ihde's interest in the social history of applied chemistry. This has led him in several directions—disease theory, public health, environmental history, the history of public administration, and the cultural history of chemical concepts. His work has pertained both to Great Britain and the United States and has been oriented toward public policy and social justice, as well as to more classic themes in the history of science and technology. Hamlin's several books and numerous articles have had a major impact on the fields he studies. He has directed three Ph.D. students: Craig Stillwell, Vladimir Jankovic, and Barbara Wall; another two are still in progress.

My own work has been directed towards investigating the development of the science of chemistry in Europe, especially Germany and France, during the nineteenth century. I directed the Ph.D. work of R. Richard Hamerla (2000).

Few historians of chemistry—indeed, few historians of science—have had the kind of productive teaching career that Aaron Ihde enjoyed. His students remember him with fondness and gratitude, and the "Ihde legacy" is passed on through them.

REFERENCES AND NOTES

1. I would like to thank James Bohning, Christopher Hamlin, Sheldon Hochheiser, Reese Jenkins, William Jensen, John Ihde, John Parascandola, Gretchen Serrie, Robert Siegfried, and James Whorton for their assistance and advice.
2. In an oral history taped in 1983 (five one-hour tapes) and preserved in the University of Wisconsin Archives.
3. The biographical material in this paper mostly comes from sources in the University of Wisconsin Archives and from additional material provided by the family. An informative biography was published in the Madison *Capital Times* at the time of Ihde's retirement in 1980. There is a short biography in the Festschrift edited by John Parascandola and James Whorton, *Chemistry and Modern Society: Historical Essays in Honor of Aaron J. Ihde* (American Chemical Society, Washington, DC, 1983). In addition, there is much of interest in Ihde's own *Chemistry as Viewed from Bascom's Hill: A History of the Chemistry Department at the University of Wisconsin in Madison* (University of Wisconsin Chemistry Department, Madison, WI, 1990).
4. Ihde, writing in the third person, allows that he had been "versatile and effective" in his teaching in the war years, hence his elevation to tenure track (*Chemistry as Viewed from Bascom's Hill*, p 605). In light of Ihde's habitual modesty, one can only imagine how positive his impact actually was.
5. Actually, Henry Guerlac had taught history of science briefly at the University of Wisconsin as early as 1941, but he left shortly thereafter to serve as the historian of the MIT radar project, and there is no evidence that he and Ihde became acquainted at that time.
6. Hilts, nomination letter, March 10, 1977.
7. Ihde and Schofield held deep respect for each other, despite their very different styles of history. They had been closely associated in the founding of the Midwest Junto for the History of Science.
8. Don Kromer (1950), Robert J. Kline (1953), and Irving Domskey (1959).
9. Hans Breuer (1948), Charlene Steinberg (1948), George Hood (1949), Mary Glassner (1949), William Kinsman (1952), Virginia Schelar (1953), Rosemary Ehl (1953), Shirley Pomeroy (1958), David Biggins (1973), and Grady Frenchik (1978).
10. David Biggins, Dale Warren, E. Frank Korman, Jerry Janssen, Vincent Cash, Ernest Spittler, and A. Truman Schwartz.
11. Siegfried and Dobbs, "Composition: A Neglected Aspect of the Chemical Revolution," *Annals Sci.*, **1968**, *24*, 275-293.
12. Not to be confused with the Dexter Prize for outstanding work in the history of chemistry, awarded annually by the History Division of the American Chemical Society.
13. For his outstanding book *Edison: Life of Invention*, Paul Israel received the SHOT Dexter Prize for 2000—the first time in the history of this prize that a student of a winner received the award.

ABOUT THE AUTHOR

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earned his doctorate at the University of Wisconsin under the tutelage of Aaron Ihde. Dr. Rocke was the recipient of the 2000 Dexter Award from the History of Chemistry Division.

Appendix 1.

Ph.D. Dissertations in History of Science Directed by Aaron J. Ihde (in chronological order)

Robert Siegfried (1921-), "A Study of Chemical Research Publications from the United States Before 1880" (1953). Siegfried taught at the Universities of Illinois and Arkansas before returning to the History of Science Department at the University of Wisconsin in 1963, where he remained until his retirement in 1987. He lives in Madison.

Albert B. Costa, "Michel Eugène Chevreul and the Chemistry of Fatty Oils" (1960). Costa taught in the History Department of Duquesne University; he is now retired in Pittsburgh.

Victor A. Triolo (1932-), "Systems of Renal Physiology before Malpighi" (1962). Triolo is currently associate professor in the School of Library Science and Instructional Technology at Southern Connecticut State University in New Haven.

A. Albert Baker, Jr. (1926-), "The Development of the Understanding of Unsaturation in Organic Chemistry in the Nineteenth Century" (1964). Baker was hired at Grand Valley State College (Allendale, Michigan), then was director of the Science Library at the University of Southern California for many years. He is now retired.

Suzanne Kathleen Boram Sabbagh (Nixon) (1940-), "A Preliminary Study of Fossils as Stratigraphic Indicators (1022-1820)" (1964). Sabbagh did not pursue an academic career; she resides in Madison.

Reese V. Jenkins (1938-), "Some Interrelations of Science, Technology, and the Photographic Industry in the Nineteenth Century" (1966). After teach-

ing in the Department of Interdisciplinary Studies at Case Western Reserve University, in 1978 Jenkins became Director of the Thomas Edison Papers Project; he is currently Professor of History at Rutgers University in New Brunswick.

Stanley L. Becker (1929-), "The Emergence of a Trace Nutrient Concept through Animal Feeding Studies" (1968). Becker teaches in the General Science program at Bethany College in Bethany, West Virginia.

John Parascandola (1941-), "Lawrence J. Henderson and the Concept of Organized Systems" (1968). After working his way up to full professor in the departments of history of pharmacy and of history of science at the University of Wisconsin, in 1983 Parascandola became Chief of the History of Medicine Division of the National Library of Medicine. In 1992 he was hired as Historian of the Public Health Service in Bethesda.

Daniel P. Jones (1941-), "The Role of Chemists in Research on War Gases in the United States during World War I" (1969). After a period teaching at the University of Illinois, Jones moved to the National Endowment for the Humanities in Washington; he is currently a Senior Program Officer in the Division of Research Programs.

James C. Whorton (1942-), "Insecticide Residues on Foods as a Public Health Problem: 1865-1938" (1969). In 1970 Whorton was hired in the Department of Biomedical History at the University of Washington School of Medicine; he is currently full professor in the Department of Medical History and Ethics.

Nicholas W. Fisher (1942-), "The Taxonomic Background to the Structural Theory of Organic Chemistry" (1970). Fisher was hired at the University of Aberdeen, where he teaches today in the Center for Cultural History.

Sheldon Kopperl (1943-), "The Scientific Work of Theodore William Richards" (1970). Kopperl teaches in the School of Biomedical and Health Sciences of Grand Valley State College.

Diane O'Neil Johnson (1929-), "Edwin Broun Fred: Scientist, Administrator, Gentleman" (1971) Johnson worked for the University of Wisconsin athletic department, and did not pursue an academic career.

Robert K. DeKosky (1945-), "The Scientific Work of Sir William Crookes" (1972). DeKosky taught first at the University of Wisconsin-Milwaukee, then moved to the University of Kansas, where he is associate professor.

Robert J. Paradowski (1940-), "The Structural Chemistry of Linus Pauling" (1972). Paradowski was hired at Eisenhower College, then went to Rochester Institute of Technology, where he is professor in the Program in Science, Technology, and Society.

Charles H. Trottman (1934-), "Edwin Bret Hart: Agricultural Chemist" (1972). Trottman taught at Jackson State University (Mississippi); I do not know his current location.

Alan J. Rocke (1948-), "Origins of the Structural Theory in Organic Chemistry" (1975). Rocke is Bourne Professor of History at Case Western Reserve University.

Stephen L. George (1946-), "The Origins and Discovery of the First Nitrated Organic Explosives" (1977). George taught in the Chemistry Department of Millikin University, Dekatur, Illinois; I do not know his current location.

Christopher S. Hamlin (1951-), "What Becomes of Pollution? Adversary Science and the Controversy on the Self-Purification of Rivers in Britain, 1850-1900" (1982). Hamlin is Professor of History, and currently department chair, at the University of Notre Dame.

Sheldon Hochheiser (1951-), "Synthetic Food Colors in the United States: A History Under Regulation" (1982). Hochheiser taught at Rensselaer Polytechnic Institute and the University of Minnesota; in 1988 he became Corporate Historian of AT&T.

Phyllis Anderson Meyer (1945-), "The Last *Per Se*: The Delaney Cancer Clause in United States Food Regulation" (1983). Meyer is currently associate professor of chemistry at St. Xavier University, Chicago.

Appendix 2.

Books Written by Students of Aaron Ihde (alphabetical by author, not including edited books)

A. Albert Baker, Jr., *Unsaturation in Organic Chemistry*, Houghton-Mifflin, Boston, MA, 1968.

Albert B. Costa, *Michel Eugène Chevreul, Pioneer of Organic Chemistry*, Wisconsin State Historical Society, Madison, WI, 1962.

Robert K. DeKosky, *Knowledge and Cosmos: Development and Decline of the Medieval Perspective*, University Press of America, Washington, DC, 1979.

Christopher Hamlin, *What Becomes of Pollution? Adversary Science and the Controversy of the Self-Purification of Rivers in Britain, 1850-1900*, Garland, New York, 1987.

Christopher Hamlin, *A Science of Impurity: Water Analysis in Nineteenth-Century Britain*, University of California Press, Berkeley, CA, 1990.

Christopher Hamlin and Philip Shepard, *Deep Disagreement in U.S. Agriculture: Making Sense of the Policy Conflict*, Westview, Boulder, CO, 1993.

Christopher Hamlin, *Public Health and Social Justice in the Age of Chadwick: Britain, 1800-54*, Cambridge University Press, Cambridge, 1998.

Sheldon Hochheiser, *Rohm and Haas: History of a Chemical Company*, University of Pennsylvania Press, Philadelphia, PA, 1986.

Bruce H. Bruemmer and Sheldon Hochheiser, *The High-Technology Company: A Historical Research and Archival Guide*, Charles Babbage Institute, Minneapolis, MN, 1989.

Reese V. Jenkins, *Images and Enterprise: Technology and the American Photographic Industry, 1839 to 1925*, Johns Hopkins University Press, Baltimore, MD, 1975.

Diane Johnson, *Edwin Broun Fred: Scientist, Administrator, Gentleman*, University of Wisconsin Press, Madison, WI, 1974.

Carl Buckner, Kenneth A. Connors, John Parascandola, Glenn Sonnedecker, and George Zografi, *The University of Wisconsin School of Pharmacy: Its First Century*, Office of University Publications, Madison, WI, 1997.

John Parascandola, *The Development of American Pharmacology: John J. Abel and the Shaping of a Discipline*, Johns Hopkins University Press, Baltimore, MD, 1992.

Alan J. Roche, *Chemical Atomism in the Nineteenth Century: From Dalton to Cannizzaro* Ohio State University Press, Columbus, OH, 1984.

Alan J. Roche, *The Quiet Revolution: Hermann Kolbe and the Science of Organic Chemistry*, University of California Press, Berkeley, CA, 1993.

Alan J. Roche, *Nationalizing Science: Adolphe Wurtz and the Battle for French Chemistry*, MIT Press, Cambridge, MA, 2000.

James Whorton, *Before Silent Spring: Pesticides and Public Health in Pre-DDT America* Princeton University Press, Princeton, NJ, 1974.

James Whorton, *Crusaders for Fitness: The History of American Health Reformers* Princeton University Press, Princeton, NJ, 1982.

James Whorton, *Inner Hygiene: Constipation and the Pursuit of Health in Modern Society*, Oxford University Press, Oxford, 2000.

FUTURE ACS MEETINGS

Spring 2001 — San Diego, CA

Fall 2001 — Chicago, IL

Spring, 2002—Orlando, FL

Fall, 2002—Boston, MA

Spring, 2003—New Orleans, LA

Fall, 2003—New York, NY

Spring, 2004—Anaheim, CA

Fall, 2004—Philadelphia, Pa

Spring, 2005—San Diego, CA

Fall, 2005—Washington, DC

Spring, 2006—Atlanta, GA

Fall, 2006—San Francisco, CA

Spring, 2007—Chicago, IL

Fall, 2007—Boston, MA

Spring, 2008—San Antonio, TX

Fall, 2008—Philadelphia, PA

Spring, 2009—Salt Lake City, UT

Fall, 2009—Washington, DC

Spring, 2010—San Francisco, CA

Fall, 2010—New York, NY