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DYEING FOR A LIVING

A History of the American Association of Textile Chemists and Colorists: 1921–1996

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Go to Table of Contents

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Contents

List of Illustrations

List of Tables

List of Appendices

Organization

Sections

Membership Profiles

The Association's Work

Financial Development of the Association

Awards and Honors

Editor's Preface

The title of this history of the American Association of Textile Chemists and Colorists (AATCC), "Dyeing for a Living," is based on a common pun often heard in the dyeing trade that is perhaps as old as the English language. The pun came into being before dictionaries of standardized spellings became widely used in the early 1800s, when the words die and dye were used interchangeably to refer to both the application of colorants to textiles and to the process of death. Specifically, the title was taken from a series of business advertisements that were run in a Baltimore, Maryland, newspaper in 1806 by dyer Charles Williams under the banner, "Dyeing for a Living."[1]

As an industry, the craft of textile dyeing[2] has, over the centuries, provided livelihoods for countless thousands and has brought beauty and the joy of aesthetic appreciation to millions upon millions of people. Yet only in the past century or so has textile dyeing been transformed from a craft into a science, with the AATCC and its members playing major roles in that transformation. In particular, the Association is known for its consensus development of test methods relating to the textile wet finishing industries, which are used worldwide.

This story of the AATCC told so ably by Dr. Mark Clark, is one of modified goals, constructive conflict, and lasting accomplishment. The dream of its founder, Professor Louis A. Olney, to build a professional organization of chemists and colorists that would, among its other activities, fund theoretical or basic research in textile chemistry and dyeing was never fully realized. Knowledge for knowledge's sake was not a popular cause among many members. However, during its first twenty-five years or so, the Association employed full-time chemists to develop fundamental knowledge in textile chemistry and dyeing and to apply that knowledge in the workplace. (A listing of some publications resulting from these research projects appears in Appendix 18.) But as the influence of the aging Louis Olney waned, even applied research fell on hard times in the AATCC and by 1948 was virtually nonexistent. The paid position of research director was abolished in 1960. Yet vestiges of the Association's original research mindedness remain, particularly in its organizational names. To the reader of this history, these names could be confusing at the least and, without explanation, might even misrepresent the Association's current mission. Committees of volunteers that do the technical work to develop consensus test methods for the industry are called Research Committees. Collectively, the chairmen of these committees form the Technical Committee on Research, policy for which is set by the Executive Committee on Research formed originally in 1944, to set research policy and budgets including personnel policies and salaries for the paid research staff. However, the present staff employee who has oversight of a well equipped quality control laboratory in the AATCC Technical Center (not Research Center) and who coordinates volunteer efforts of the research committees to develop standard test methods is titled Technical Director. Numerical designations for test method committees carry the prefix "RA" which

[1] Herbert T. Pratt, "Dyeing for a Living," *Textile Chemist and Colorist*, v. 22, n. 3, March 1990, pp. 29–31.
[2] As used here, the term "textile dyeing" encompasses allied arts and technologies such as printing, bleaching, chemical finishing, and dry finishing.

means Research Active. Technology Committees, the function of which is trade education in specific disciplines rather than developing test methods, nevertheless also carry research (RA) committee designations. To emphasize these differences in function, Research Committees and Technology Committees are listed separately in Appendices 6 and 7, although this distinction has never been made within the Association.

In the text, committees and employee positions are referred to by their designations of record. The work of paid research staff before about 1950 is referred to as research or applied research, but all volunteer work on test methods 1921–1996 is referred to as technical development or development.[3]

One other point needing clarification has to do with names used for yearly gatherings of the membership at large as given in Appendix 17 under the broad term General Meetings, which were called Annual Meetings through 1959. The term Annual Meeting now refers specifically to the legally required meeting held primarily for the election of officers in conjunction with the fall meeting of Research and Technology Committees. All names used to designate the yearly gatherings and their dates follow.

1921–1959	Annual Meeting
1960–1965	National Convention
1966–1970	National Technical Conference
1971	Golden Jubilee Conference
1972–1975	National Technical Conference
1976	International Technical Conference
1977–1982	National Technical Conference
1983	National Technical Conference and Exhibition
1984–1996	International Conference and Exhibition

Regardless of the name, the purposes of the General Meeting have always been the same: to stimulate thinking, to conduct the Association's business, and to provide opportunities for professionals to get to know one another.

I recommend that readers browse through the Appendices as a unit. The rosters of the history's main characters—presidents, councilors, officers, award winners—will remind them of people long forgotten and acquaint them with others they have never known. The lists of test method and technology committees, workshops, symposia, and award winning papers mirror seventy-five years of a changing industry: new technologies, thorny problems, solid growth, and ongoing industry efforts to deliver to consumers high-quality, functional products. These lists also offer silent tribute to the hundreds of unnamed and largely unsung committee chairmen and members who supported the main characters of the story by giving faithfully of their time, talent, and technical skills. Their contributions have been priceless. They too were "dyeing for a living."

Herbert T. Pratt
New Castle, Delaware
July 1998

[3] To avoid future confusion, the Editorial Advisory Board for the history has formally requested that the Executive Committee on Research (ECR) develop and implement new terminology and position designations consistent with the Association's current activities. Herbert T. Pratt to Roland L. Connelly Sr., Chairman, ECR, February 17, 1997.

Author's Preface

The American Association of Textile Chemists and Colorists (AATCC), founded by Louis Atwell Olney, professor of textile chemistry and dyeing at Lowell (Massachusetts) Textile School, was a little more than a year old when, in 1922, the seventy attendees at the National Conference in New York City posed for its first group picture on the roof of the Hotel Pennsylvania. In the clear noonday light of early December, this gathering of all male, all white chemists, dyers, bleachers, finishers, and academics is a prosperous looking bunch—formal, in suit and tie—the image of the college-educated elite of American society. The Association's officers lounge on chairs in front of the others. Olney, the Association's president and chairman of its research committee, is just to the left of center. He sits erect, hat perched on his knees, staring at the camera with an enigmatic look—half smile, half intellectual detachment. In time, Olney would be virtually canonized by the members of AATCC, his name given to the Association's highest award, and his portrait painted and hung as a talisman in AATCC's headquarters. But on this day, he looks less like an icon than a confident man in his prime whose dreams were being fulfilled. The Association's membership was increasing, and the day's program was full—enough papers to fill the morning session and the afternoon session as well.

Olney had found it exciting to found a new professional society, but in many ways this meeting was more satisfying. The technical papers presented that day would be published over the coming months and would enhance the prestige of the Association as a truly scientific society.

Chief among Olney's colleagues during the past year had been Elvin H. Killheffer, his vice president and president of Newport Chemical Company. Killheffer, who stands just to the right of the officers, had done much of the hard thinking so necessary to get the Association going. He had helped hammer out the constitution and bylaws and had led the planning for this meeting. Also it was he who had struck the bargain with the trade magazine, *American Dyestuff Reporter (ADR),* to publish the AATCC's Proceedings, a relationship that continued until the AATCC established its own journal, *Textile Chemist and Colorist (TCC)* in 1969. Killheffer would go on to serve as president of AATCC in 1928–1930.

But one of Killheffer's most significant contributions to the AATCC had nothing to do with his formal role in the Association. In October 1934, he conceived the idea of writing a brief history of the AATCC. He sent letters to many of those who had been active in the Association's founding asking for their recollections of their roles. Although Killheffer never published his work, a preliminary draft and much of the correspondence related to his projected history is filed in the AATCC archives. Most of this material is preserved nowhere else. Although he never held the title, Killheffer was, in effect, the AATCC's first historian.

Over the next half century, the Association continued to be well served by members like Killheffer who were interested in preserving its history and that of the industry. In 1956, the AATCC sponsored the American celebration of the centennial of the discovery of mauve, the first synthetic dye, by William Henry Perkin. At the

same time, the Association arranged for the library at Lowell Textile Institute to be the formal repository for its papers and established an Archives Committee with Sidney M. Edelstein, president of Dexter Chemical Company, as chairman. Edelstein, who was well known for the histories of dyeing he had been publishing in *ADR*, would hold the office for more than twenty years. An avid collector of antiquarian books on dyeing, he also collected, in the early years of his chairmanship, members' papers and other materials for the archives. His ultimate goal was to convince the AATCC to set up an academic institute for the study of the history of dyeing and finishing. Although he was ultimately unsuccessful in this effort, an "Institute" room at the new AATCC Technical Center at Research Triangle Park, North Carolina, was set aside in 1968, and now houses a collection of rare books, instruments, and archival materials.

In 1969, AATCC funded the English translation, by Edelstein and Hector C. Borghetty, of *The Plictho,* published in 1548, the first book ever on dyeing. In 1973, Phoenix Dye Works, whose President, Joseph H. Jones, also had been president of AATCC when *The Plictho* translation was issued, funded the translation and publication of Franco Brunello's 1968 Italian classic, *The Art of Dyeing in the History of Mankind*.

During the 1970s, as Sidney Edelstein turned more and more of his attention to his business interests, the Archives Committee was largely inactive. In 1979, Herbert T. Pratt of the DuPont Company concerned that much of the history of dyeing was being lost in a rapidly changing industry, proposed that the Association establish a committee on History and Lore. In 1980, the AATCC governing Council changed the name of the Archives Committee to the History and Archives Committee, expanded its mission, and appointed Pratt as chairman. Pratt was not able to whip up much member interest in history during his initial five-year chairmanship; neither was his successor.

In 1990, Pratt was reappointed chairman, and in 1991, convinced Jack Kissiah, editor of the AATCC's journal *Textile Chemist and Colorist,* to start a monthly anecdotal column titled "I Remember When," with Pratt as editor. This feature became very popular with readers and seems to have been the spark that increased member enthusiasm for history. According to Pratt, attendance at History and Archives Committee meetings rose from an average of one in 1990 to seventeen in 1994.

Another significant event related to history came in November 1989, when the Association became an affiliate of the Chemical Heritage Foundation in Philadelphia. After initial contacts between the foundation and the AATCC were arranged by Pratt earlier that year, Sidney Edelstein offered to pay the first year's dues ($5000) and President George Mandikos successfully guided the vote to affiliate through the Council over strong objections by a few of its members.

At the end of 1985, when Mandikos retired after forty-two years as an employee of the AATCC, he was retained by Council to write a history of the Association. He set about researching the topic, but after a two-year interlude as president (1989–1990) and several interruptions due to failing health he realized in 1992 that he could not complete the work and resigned his commission.

It was in this context that I was approached in 1993 about the possibility of writing the book. I had never heard of the AATCC, but I was intrigued with the idea. In order to learn more about the Association and determine what sort of records were available, I visited the AATCC's headquarters in Research Triangle Park, North Carolina, where I found a wealth of material in the archives. There were letters, technical reports, minutes of innumerable meetings, yearbooks, technical manuals, research results, reference works, and dye shade cards, not to mention complete runs of the *American Dyestuff Reporter* and *Textile Chemist and Colorist.* Together, it was more than enough material to write a history of the AATCC.

It was in these files I first encountered the names of Louis Olney, Elvin Killheffer, and all the rest of the men and women who had participated in the development of the AATCC. I still remember the first time I opened the file folder containing Killheffer's correspondence with the other founders. The letters were fascinating and Killheffer was asking his correspondents all the questions I would have asked: Who first had the idea to found the Association? Who was invited to the first meeting, and why? What did they hope to accomplish? I felt a surge of gratitude that Killheffer had sought to preserve the facts while these men were still alive.

Beginning in January 1994, I spent eighteen months learning about the AATCC, reading through the records and talking with current AATCC members. This book is the result. My work was made far easier by the cooperation of many AATCC members, and I am grateful to all of them. Their contributions are detailed in the Acknowledgments which follow.

In the course of my research I identified four themes that are explored in detail. The most important, *professionalization*, relates to the motives of the AATCC's members in forming and perpetuating their Association. The late nineteenth and early twentieth centuries saw the birth of a large number of trade and professional associations in the United States. There is an extensive historical literature that deals with these groups and the purposes their members had in coming together. This history seeks to place the AATCC within that context and compare the activities and motives of AATCC's members with those of other professional groups.

The second theme is the conflict within AATCC between what historian Monte Calvert has referred to as *shop culture* versus *school culture*. Beginning in the nineteenth century, employers increasingly sought to replace traditional, craft-based knowledge in the workplace (symbolized in the textile industry by the boss dyer's "little black book") with science-based techniques learned in the new technical and engineering schools. The AATCC's role in developing standard test methods, supporting research in textile chemistry, and aiding textile education clearly places it on the side of those who wanted to replace craft with science. This book examines the motives of AATCC members in choosing this course and the impact the Association has had on the American textile industry.

The third theme is closely related to the second. From its very beginnings, there has existed within AATCC a tension between the *two roles* of the Association, one being explicitly *technical,* the other being *social.* As a result, the Association has

walked a fine line between being a scientific society and a trade association.[4] For example, the meetings of the local sections of AATCC, ostensibly for the presentation of professional papers, have often served as an occasion for recreation and a means of informal networking for those involved with textile chemistry. Over time, the relative importance of the technical versus the social has varied in response to positions held by the elected leadership, member expectations, and general economic and social conditions. This history details these changes and their effect on the Association.

The fourth theme is the tension and conflict within the AATCC based on *regional differences*. The shift of the American textile industry from New England to the South is a well-documented twentieth-century event. This geographical shift in the industry has led to a similar geographical shift in AATCC membership. The shift also has created tension within the Association, most notably during the years of discussions leading up to the decision to move the AATCC Technical Center from Massachusetts to North Carolina in 1964. The book explores these tensions and relates them to differences in employment patterns and industry structure between the northern and southern states.

The book's contents are divided into four sections, each of which deals with a distinct chronological period. The first section, "The Olney Era," comprising Chapters 1 through 4, covers the period from the Association's founding in 1921 to the effective retirement of Louis Olney in the mid-1940s. Section two, "Growth and Independence," embracing Chapters 5 through 10, examines the events that led to the AATCC's move to North Carolina in 1964 and the establishment of *Textile Chemist and Colorist* as the Association's journal in 1969. The third section, "Coping with Change," covers the period from the mid-1970s to the present, and includes Chapters 11 through 14. In the final section, "A Reason for Being," Chapter 15 covers in detail the monumental amount of work done over seventy-five years to develop and maintain three test methods that are typical of the nearly 200 that have been published.

Writing this book was a pleasure for many reasons. Although most of the research went smoothly, there were a few surprises, the biggest of which came in October 1994. I had agreed to give a paper at the AATCC's annual International Conference and Exhibition. As it turned out, studying the events of the 1922 AATCC conference was no preparation for attending the conference in 1994.

The basic form was the same, of course—papers to listen to, a formal dinner to attend, even photo opportunities. But the execution was different—much different. Two things stand out as distinguishing the 1994 event from the 1922 version. The first is that of scale. Where the 1922 event was small, the 1994 version was gigantic. There were eighteen sessions of papers rather than just two, each held in a room that could have accommodated the entire 1922 meeting with room to spare. In contrast to those few dozen men who met in 1922, about 3000 teemed onto the floor of North

[4] In this context, a scientific society would be an association that focuses primarily on furthering the academic and research interests of individual members. Most members would be practicing scientists or engineers from academia and industry. A trade association, on the other hand, would be an association that focuses on the business interests of its members, including political matters. Members would most likely be from the management echelons of industrial concerns.

Carolina's Charlotte Convention Center at the 1994 meeting. Moreover, rather than being a uniform group from one small area of the United States, the 1994 meeting drew people from all over the world. The attendees were far more diverse than they had been seventy-two years before. There were both men and women in the crowd and people of every possible description—White, Black, Hispanic, and Asian. It was a clear message: as the Association had grown, it had come to encompass a much greater variety of individuals.

The second change was perhaps less dramatic but was equally hard to miss, since it dominated most attendees' time. There had been no commercial exhibits in 1922, no salesmen plying their wares. In fact, in 1922 salesmen were not even allowed to join the AATCC. It was not until the late 1920s that the rules were changed and a few were admitted. In 1994, the exhibit hall was huge and covered most of the floor of the convention center. Technical representatives and sales people were there in force; some 171 organizations had booths, the most ever at an AATCC exhibition. Clearly, commerce had grown from nothing to being a large part of what the AATCC was all about.

I can't help but wonder how Louis Olney would have reacted if he could have attended the 1994 conference. I'm sure he would have been pleased at how the membership had grown and by how many technical papers were being given. I'm not so sure he would have approved of the exhibit hall. After all, he had voted against letting salesmen join the Association. Then there's the matter of a publication. As a great friend of A.P. Howes, owner of the *American Dyestuff Reporter*, Olney might have regretted that the magazine no longer carried the AATCC's official business. It's hard to tell, but I do know one thing for sure. Olney would have swelled with pride at the Association's progress and its standing within the textile industry and the chemical community at large.

Acknowledgments

All historical research projects are collaborations and that has been particularly true in this case. I spent a great deal of time with people who not only knew the history of the Association, but had also helped make it. They were all extraordinarily gracious individuals who went out of their way to help me. My work would have been impossible without them, and I am very grateful to them all. Any errors in this book are my own, and its virtues are largely due to the efforts of those who aided me.

First of all, I thank Herbert T. Pratt, my editor. Herb oversaw this entire project, from the initial contract through the final editing. He read all my drafts carefully many times, simplified wording, standardized form and style, reorganized paragraphs, rewrote sections for accuracy, weighed comments from his Editorial Advisory Board, suggested areas for additional research, compiled two-thirds of the appendices, proposed the title, and proved to be the very best judge of what could be left in and what could be left out. He is a man of many and varied talents, and it was a real pleasure to have worked with him.

The diligent efforts of Herb's Editorial Advisory Board members, Ernest R. Kaswell, Jim Whitworth, Leander B. Ricard, and George C. Anderson and their intimate knowledge of and participation in the making of the recent history of the AATCC kept me from making both small errors and more serious mistakes both in fact and interpretation.

I am also grateful to long-time AATCC employee and former president George J. Mandikos. He was most gracious with me in sharing his work and his insights into the history of the Association with me. I only hope this book is as good as the one he had hoped to write.

Herbert A. Stauderman, publisher of *American Dyestuff Reporter*, was kind enough to review those chapters that concerned the relationship between his magazine and the Association, and he helped clear up a number of points.

Since much of the history of the AATCC is within living memory, I interviewed a number of AATCC members. Bethlehem Kottes Andrews, Eugene J. Blanchard, Percy J. Fynn, Frederick K. Jones, Robert J. Harper Jr., Robert K. Lattie, and Robert M. Reinhardt all were most generous with their time during formal recorded interviews. I also talked informally with many Association members; I am to grateful to Martin Bide, Nick Christie, Joyce B. Storey, and Linda M. Welters in particular for their many kindnesses and informal chats.

I also acknowledge the indirect help of three deceased members of AATCC: Louis A. Olney, Elvin H. Killheffer, and Sidney M. Edelstein. Olney founded the AATCC, and gave me a wonderful subject to research. Killheffer and Edelstein made my work easier because they collected and preserved many early records of the Association. This book would not have existed without the first man, and would have been far harder to write without the other two.

My work spanned the tenure of two AATCC executive directors, William R. Martin Jr. and John Y. Daniels. Bill Martin consented to take time from his busy schedule for a long recorded interview, and both he and Jack Daniels made sure I had full access to AATCC records and staff members. I am grateful for their help and support.

I interviewed staff members: William B. "Bill" Davis, Jerry G. Tew, Kathy Jones Pendziwater, Susan H. Keesee, and Karen E. Kyllo—all were most forthcoming and helpful. They and the rest of the staff at the AATCC Technical Center were very generous with their time and were good enough to show me the best local restaurants and laugh at my bad jokes. In addition to those I interviewed, I particularly thank Ann Holland, Peggy Pickett, and Elizabeth Fisher who were always ready to help, no matter how busy they were.

During my research for this book, I visited the Society of Dyers and Colourists in Bradford, England. The SDC staff were most helpful, and I thank Jim Watson and Richard Williams in particular for their help in making my time there so productive.

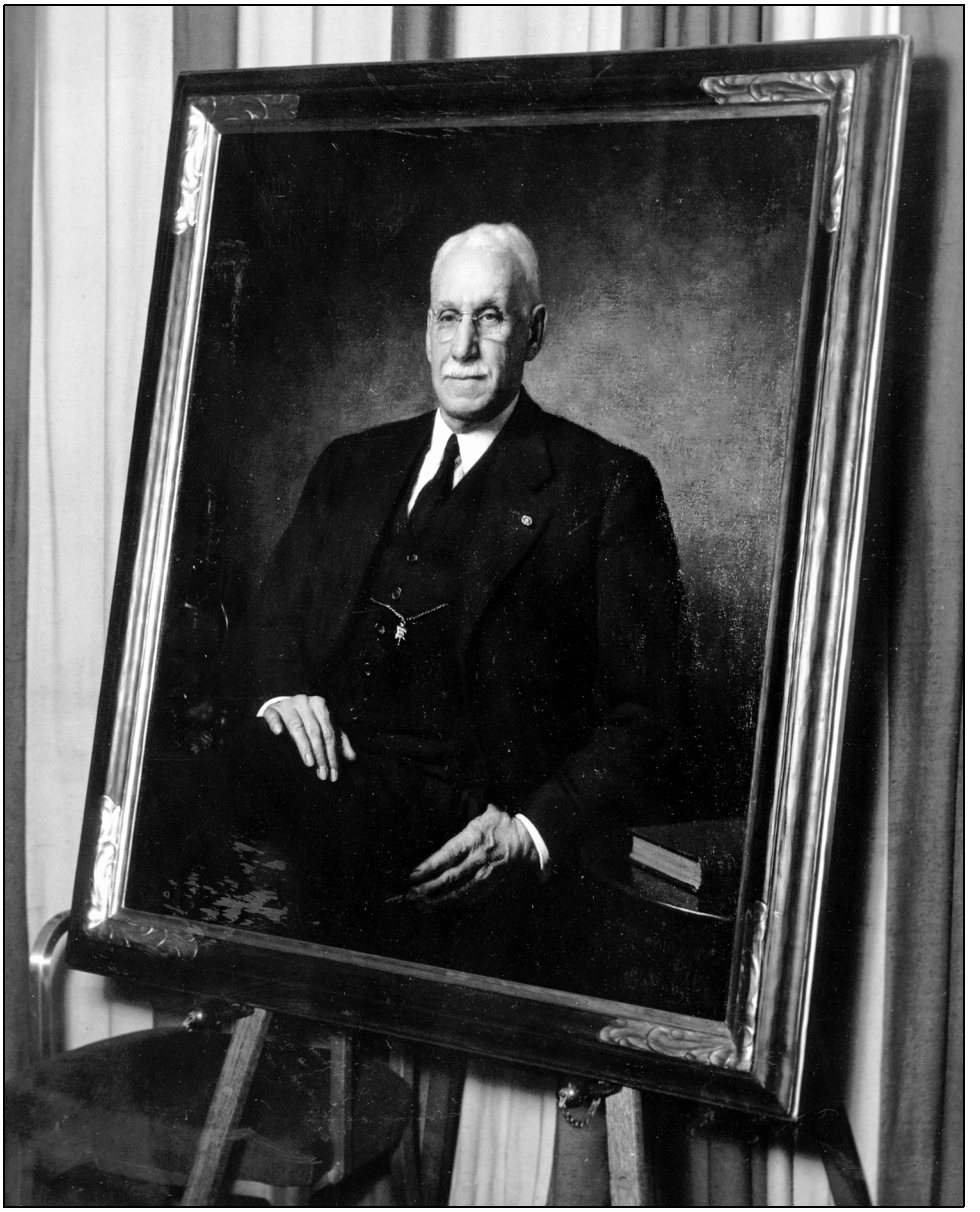
I employed Matthew Ruane and Kathy Steen as research assistants during the course of this project. Matt spent long hours on the data entry portions of the statistical research on AATCC membership. He also did basic bibliographic research and copied a seemingly endless series of documents from the AATCC archives. Kathy served as a consultant during the early stages of my work, providing valuable back-

ground advice on sources in the history of the American chemical industry from her ongoing dissertation research at the University of Delaware. I appreciate their fine work very much.

James J. Bohning of the Chemical Heritage Foundation, Philadelphia, was most helpful in his advice on conducting oral interviews.

Finally, I'd like to thank my wife Anne and my parents Scott and Anneliese, for without their love and support I never could have seen this project though. I am more grateful than they can ever know.

Mark Clark
Klamath Falls, Oregon
September 1997



Louis A. Olney, Founder of the AATCC

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Part I

The Olney Era (1921–1945)

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Chapter 1

Textile Chemistry in the United States Before 1921

This chapter gives a brief history of the dyeing industry up to the time the American Association of Textile Chemists and Colorists (AATCC) was founded in 1921. It outlines the major events that shaped the environment within which the AATCC was conceived. In particular, it describes the "dyes crisis" in the United States brought about by World War I and the impact that it had on professionals involved in the wet processing industry.

Natural Dyes

The coloring of textiles is an ancient art. Prior to the eighteenth century, the manufacture and use of dyes were based largely on tradition. Dyes extracted from locally available vegetable, animal, or mineral matter were applied to fibers, yarns, or cloth by soaking them in water-based solutions using a limited number of mordants, the chemicals that fixed the dyes to the textile.

During the early modern era, the development and distribution of dyes were increasingly in the hands of dye suppliers, known as drysalters in England, and in France as Marchands Épiciers.[1] The dye suppliers were part of the larger merchant community that included spice merchants, apothecaries, and jam-makers. These suppliers extracted dyes from bark, flowers, and roots; shipped them over large areas; and sold them to local dyers, along with other chemicals such as oil of vitriol (sulfuric acid) and aqua fortis (nitric acid) used in dyeing and finishing processes. They also sold coloring agents to confectioners, painters, and other tradesmen.

The historian Sarah Lowengard has compared the social and economic role of these merchants with that of scientific instrument makers.[2] They were international in their orientation and had access to a wide variety of information about their industry,

[1] Sarah Lowengard, "Dyes and Colors in the Eighteenth Century: Historiographic (and other) Problems." Paper presented at the 1994 Annual Meeting of the Society for the History of Technology, Lowell, Mass., October 7, 1994.
[2] Ibid.

including the latest scientific developments in chemistry and related fields. Many called themselves chemists and were active in chemical research, although they were not closely linked to the academic chemistry of their day. It appears that they were active in developing new dyes and dyeing processes, making use of their experience with paint pigments and ceramic glazes.

In the early nineteenth century, the manufacture and distribution of dyes began to be carried out on a large scale, driven by demand from the textile industry.[3] The textile trade was one of the first to be affected by the industrial revolution, and increasing production of cloth led to increased use of dyes. To meet this demand, the suppliers of natural dyes scaled up their production methods. They adopted new machinery and invested in large new production facilities. Although the dyes were produced from traditional sources, the production processes made use of modern machinery, including steam power and mechanically efficient processing equipment. By the 1850s, the dyes industry was a large and prosperous one.

Synthetic Dyes

Over the next thirty years, the industry underwent considerable change through the introduction of synthetic dyes.[4] In 1856, the young British chemist William Perkin synthesized the first synthetic dye, a purple from an aniline base that subsequently was labeled mauve by the French fashion industry. Over the next ten years, Perkin and others developed a wide variety of dyes based on aniline. These new dyes, which were exceptionally vivid and colorfast in comparison to competing natural dyes, experienced a rapid growth in sales.

As historian Ludwig F. Haber has pointed out, the success of Perkin and his competitors was the result of a combination of three factors that came together in the middle of the nineteenth century.[5] First, physicians were increasingly interested in finding synthetic substitutes for natural drugs as a way of reducing harmful side effects. This led to widespread chemical experimentation, including Perkin's own work. He had been trying (unsuccessfully) to synthesize the antimalarial drug quinine when he discovered mauve by accident. Second, the science of organic chemistry was making great strides and yielded a growing body of knowledge that aided in developing new dyes. Finally, the continued expansion of the textile industry provided a ready market for the new dyes.

During the 1850s and 1860s, the leading manufacturers of the new synthetic dyes were British and French firms. They employed German chemists, some of whom had been trained at the University of Giessen under Justus Liebig, a leading figure in

[3] Anthony S. Travis, "Comment" in the session New Directions in the History of Dyes and Dyeing. Paper presented at the 1994 Annual Meeting of the Society for the History of Technology, Lowell, Mass., October 7, 1994.
[4] The classic account of the development of synthetic dyes is in John J. Beer, *The Emergence of the German Dye Industry*. Urbana: University of Illinois Press, 1959. The most current scholarship is Anthony S. Travis, *The Rainbow Makers: The Origins of the Synthetic Dyestuffs Industry in Western Europe*. Bethlehem, Pa.: Lehigh University, 1993, which updates and expands on Beer's work.
[5] Ludwig F. Haber, *The Chemical Industry During the Nineteenth Century: A Study of the Economic Aspect of Applied Chemistry in Europe and North America*. Oxford: Clarendon Press, 1958, reprinted 1969, pp. 80–81.

organic chemistry from 1820 on. One of Liebig's students, August Hofmann, taught at the Royal College of Chemistry in England from 1845 to 1865, where William Perkin attended classes. It was Hofmann who had assigned Perkin the task of synthesizing quinine, the work that led to the discovery of mauve.

As the result of patent litigation, most French aniline dye manufacturers were forced out of business in 1863. Many of the entrepreneurs and skilled workmen from those firms relocated to other countries, the bulk of them going to Switzerland. The one remaining major French firm, Société La Fuchsine, went out of business due to financial mismanagement in 1868. As a result, France lost its early leadership in synthetic dye production and remained a minor player in the world market.[6]

British firms continued to maintain their leading position throughout the 1870s. One source of this prosperity was the introduction of the first alizarin dyes. Based on the intermediate anthraquinone rather than aniline, alizarin was the first synthetic dye to replace a widely used natural dye, madder. This development led to a marked expansion of synthetic dye manufacture and the beginning of the end of widespread use of natural dyes. The market share of natural dyes continued to decline, constituting less than 10 percent in the early 1920s.

The Rise of German Dyemakers

However, the marketing of alizarin marked one of the last times British industry was in a leadership role. Beginning in the late 1860s, German firms increasingly came to dominate the world dye market. Several factors account for this change. First, many of the chemists who had been working in British firms in the 1850s and 1860s were German. As Germany became increasingly industrialized, many of these individuals returned to their homeland and found work in German firms. Academic training in chemistry in England was weak during this period, particularly in organic chemistry, so British firms were unable to replace the departing Germans.

Second, the unification of Germany in 1871 led to a larger, more integrated internal market for dyes. The new government also instituted a new, much stronger patent law in 1877. Representatives from the dye industry and academic chemistry departments advised the government on administration of the law. Under the new law, patent officials conducted searches of relevant literature and allowed the challenge of the patent before it was granted. As a result, German patents were seldom invalidated in court, which encouraged firms to develop and patent new products, including dyes.

Finally, the German dye industry benefited from the close ties it had with German universities and their departments of chemistry, which were the world leaders in organic chemistry. German dye manufacturing companies hired university chemistry graduates and put them to work in research laboratories. Initially, the goal was to improve production methods through the development of more efficient process

[6] Travis, pp. 106–121.

paths. By the 1880s, firms also sponsored research aimed at developing new dyes and pharmaceuticals.[7]

Taken together, the strength of German patent laws, university chemistry departments, and industrial research made a formidable combination. By the turn of the century, German firms were the clear leaders in the manufacture of dyes. In 1913, before the disruption to German trade caused by World War I, German firms accounted for over 75 percent of the world's production of dyes. Moreover, half of all the dyes manufactured outside Germany were made with intermediate products from that country.[8] German firms essentially controlled the worldwide market for dyes, and at the time it seemed they would continue to do so indefinitely.

American Dye Manufacture Prior to 1914

Prior to World War I, the dyes used by the American textile industry came almost exclusively from Germany. From the mid-1880s on, German companies had a near monopoly on the sale of dyes in the United States, their dominance being due to their chemical expertise. They employed large numbers of highly trained chemists and also worked closely with scientists at the German technical universities. The quality of their products was consistently high, and prices were kept low by high-volume production. German firms also entered into cartel agreements, sharing patents and dividing markets by agreement. American firms, unable to obtain tariff protection, could not compete with imported dyes. A few small American companies manufactured natural dyes and specialty chemicals, but they were marginal players in the market.[9]

German dyes were distributed in the United States by importers. Although typically owned by an American, each import firm was closely tied to one in Germany. The agreements between the American and German firms often involved profit sharing and the exchange of stock. In many cases the American firms were independent in name only, since contracts contained option clauses allowing the German firm to buy a controlling interest in the import firm at any time. A few German companies set up manufacturing plants in the United States or bought out American competitors and then operated their plants, but this never accounted for more than a small share of the market.[10]

The American importing firms provided a high level of service to their customers. Salesmen were trained in helping customers select the correct dye and could teach dyeing techniques. Some importers maintained small laboratories and plants in which they could do research and mix chemicals from Germany to solve specific customer problems. Most salesmen and laboratory staff either came from Germany or

[7] Beer, pp. 70–93.
[8] Dean B. Ivey, Origins of the American Synthetic Dye Industry 1865–1925 with Special Emphasis upon Government Policy. Master's thesis, University of Delaware, 1963, p. 34.
[9] Kathy Steen, Confiscated Commerce: American Importers of German Synthetic Organic Chemicals, 1914–1929. Unpublished manuscript in possession of author, 1994, pp. 1–9.
[10] Ibid.

were trained in Germany. As a result of this expertise, most American textile firms were satisfied with German dyes and did not support efforts to protect American dye manufacturers through tariffs.

The Impact of World War I

With the outbreak of World War I, the situation in the United States changed radically. Cut off from German dyes by the Allied blockade, American importers had to scramble to meet demand. The resulting shortages led to what was called the "dyes crisis." American firms scoured the world for dye stocks, buying surplus German dyes from as far away as India and China. These sources were exhausted by late 1915, and the resulting high prices led to a proliferation of small American dye manufacturing firms. By the end of the war, most of these companies were out of business, but the survivors were able to supply much of the American textile industry's needs.

During and immediately after the war, these new American firms were able to convince the U.S. government to impose import tariffs on dyes and other organic chemicals. They were aided in this effort by the close links between the manufacture of organic chemicals (such as dyes) and the manufacture of explosives and other war-related materials. In essence, tariffs to protect dye manufacture were justified on national security grounds, that is, the need to maintain a peacetime industrial base useful for wartime conversion. As a result, American firms retained a large market share even after German firms reentered the market following the war.

The German chemical firms were accused both before and during the war of having conspired to suppress domestic American manufacturers, and so causing the dyes crisis. In the general atmosphere of anti-German propaganda at the end of the war, these accusations were widely believed, in part because there was some truth to them. American dye manufacturing firms were able to exploit this anti-German feeling when they argued for tariff protection in the period just after the war.

These American firms hired a large number of chemists, including many of the German and German-trained individuals who had worked for the import companies before the war. These men were valued for their knowledge of manufacturing and application techniques and were well paid and treated as professionals by their employers.[11] As a result, by 1921 for the first time there existed a distinct group of American textile chemists, whose loyalties were to American firms rather than to German manufacturers and their American import houses.

As a group, these chemists were intensely patriotic, in part to compensate for having worked for German companies. To avoid being seen as collaborators, many of them stressed the importance of their work to the American war effort and distanced themselves from their former German employers. They also were highly conscious of their status as scientists and saw themselves as being in the forefront of an effort to rationalize and improve their industry. To sum up, they formed a group created by

[11] See, for example, Leander Ricard, "A History of the Dye Industry in Rensselaer." *Textile Chemist and Colorist*, v. 26, n. 8, August 1994, pp. 23–26.

the peculiar circumstances of World War I and the dyes crisis. By the early 1920s, these men were ripe for an organization that would channel their desire to prove their patriotism and help them carry out their aspirations for scientific research as a solution to the problems of the dyes trade. They were the men who came together in 1921 to found the American Association of Textile Chemists and Colorists. Shaped by their wartime experience, they looked forward to the first meeting of the AATCC with anticipation. They would not be disappointed.

Chapter 2

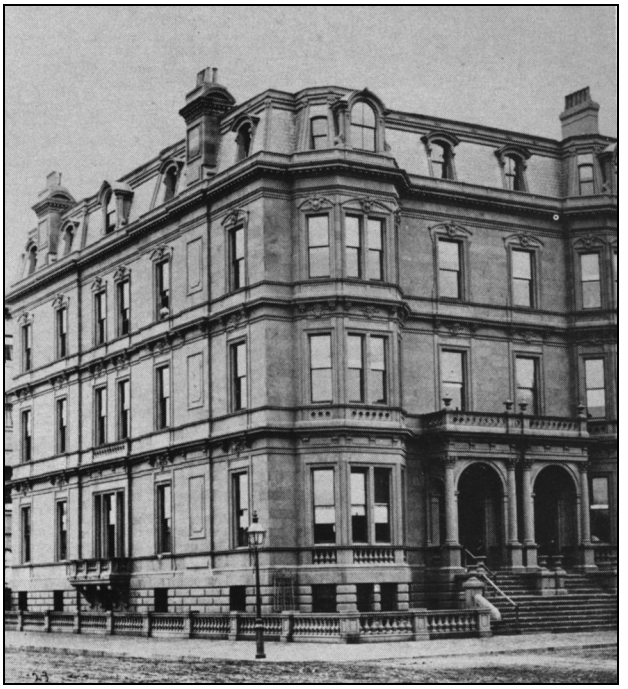
Louis A. Olney and the AATCC (1921–1928)

This chapter describes the events surrounding the organization and chartering of the AATCC and its activities under the presidency of Louis Olney. It includes a brief description of the backgrounds of the major participants, a detailed look at Louis Olney's background as a professor at Lowell Textile School and editor of *American Dyestuff Reporter (ADR)*, and an outline of the activities of the Association in its early years. Also discussed are the various sections organized during the period and their activities.

Founding the AATCC

At three o'clock in the afternoon, November 3, 1921, Louis Atwell Olney called to order a meeting at the Engineer's Club in Boston. The 140 men in the room, representatives of the major American dye manufacturing and textile firms, had just elected him chairman by acclamation, and they settled back to hear what he had to say. After thanking the audience for their presence, Olney came straight to the point. "We have come together this afternoon to continue and complete the work of organizing the American Association of Textile Chemists and Colorists." With those words, Olney called into existence a new professional society, one dedicated to promoting "the increase of knowledge of the application of dyes and chemicals in the textile industry."

The men who founded the AATCC had a variety of motives for their participation, such as improving textile education, learning about research in textile chemistry, or making professional contacts. However, they all shared one common goal: increasing the prestige of the dyeing profession. The initial structure and activities of the AATCC reflected that goal. By setting high standards for membership, holding professional meetings, publishing papers, and sponsoring research, the founders of AATCC sought to emulate the many other professional societies that had been founded in the United States during the forty or so years before World War I. By supporting



Engineer's Club, Boston
Site of the First Meeting of the AATCC, November 3, 1921

scientific research and publication, the leadership of AATCC sought to use the increasing prestige of science in American society to their advantage. The early history of the AATCC demonstrates the importance of science and scientific ideals in the professionalization of dyeing.

It is clear from the historical record when the AATCC was founded, and it is also clear what the Association's goals were, but why it was founded in 1921 is less clear. Part of Olney's inspiration might have been drawn from Sir William Henry Perkin himself. Fifteen years before, Olney had played a prominent role in hosting Perkin who was on a tour of the United States, sponsored by the American chemical industry in celebration of the golden anniversary of Perkin's discovery of mauve, the first synthetic dye.[1] By international standards, the founding of the Association appears to have taken place at a relatively late date. By the mid-1880s, Germany, France, and England all had professional societies for colorists.[2] The first multinational colorist's

[1] Herbert T. Pratt, "Sir William Henry Perkin Visits America." *Textile Chemist & Colorist*, v. 20, n. 11, November 1988, pp. 25–32.
[2] Maurice Tordoff, *The Servant of Colour: A History of the Society of Dyers and Colourists, 1884–1984*. West Yorkshire: Society of Dyers and Colourists, 1984, p. 2.

Louis A. Olney (back row, right) with Sir William Henry Perkin (front row, right) at The Country Club, Brookline, Massachusetts, October 11, 1906

association, the Verein der Chemiker-Coloristen, was founded in 1908, and that society sponsored a series of international conferences prior to World War I.[3]

The lag in the time of the AATCC's establishment cannot be explained by the lack of a market in the United States for the skills of dyers and colorists. The American textile industry had already been in existence for well over 100 years when the AATCC was founded. Moreover, ever since the development of aniline dyes in the mid nineteenth century, laboratory chemistry had become increasingly important in the development and proper application of dyes. The number of individuals who attended the AATCC's first meeting and the Association's rapid growth after its founding indicate the strength of the American dyeing and finishing industry.

In fact, a number of attempts had been made prior to 1921 to found an American society for individuals involved in the dyeing and finishing trade. The most notable of these took place in 1910–1911, when several American members of Great Britain's Society of Dyers and Colourists sought to set up an American section of that organi-

[3] Ibid., p. 166.

zation. The proposal was eventually rejected by American industry, primarily on patriotic grounds, but there seems to have been little effort to set up an American society instead.[4]

What, then, had changed in the United States that led to the enthusiastic response to the founding of the AATCC in 1921 and the Association's subsequent growth? Three factors seem to account for this change in heart. First, the considerable increase in the size of the American dyes manufacturing industry brought about by World War I changed the nature of the employment of American textile chemists. Second, editorials of the *American Dyestuff Reporter,* a trade magazine for the dyeing and finishing trade founded in 1917, focused attention on the possible benefits that would come from an American society. Finally, and most important, the personal activities of Louis Olney in organizing and leading the AATCC in its early years ensured the Association would survive.

The Dyes Crisis

The American dyes crisis, described in Chapter 1, led directly to the creation of an American dye manufacturing industry capable of supplying American textile firms with the vast majority of their dye needs. By 1921, the dyes crisis had had two noticeable effects. First, the proliferation of American dye manufacturing firms meant that professional chemists in the dyes trade were no longer strongly linked to German firms. It appears that these individuals were thus more ready to look to an American professional society for technical and business opportunities, opportunities that previously had been controlled almost exclusively by German firms.

The second effect was new concern with quality control among textile manufacturers. Many of the dyes manufactured by American firms in response to the wartime dye shortage were of poor or inconsistent quality. As a result, textile companies that before the war had relied on the technical advice of the American import firms found that they had to develop independent sources of information and test results. It is no accident that one of the first activities of the new AATCC was to establish uniform testing methods for dyes.

The *American Dyestuff Reporter*

While the dyes crisis and the growth of the American dyes manufacturing industry created the context for the AATCC, it was the editorial campaign in the *American Dyestuff Reporter (ADR)* that motivated the Association's founders to meet. The

[4] Elvin Killheffer, Historical—AATCC. Undated typescript in AATCC Archives, Research Triangle Park, N.C. Internal evidence indicates it was prepared after 1936.

American Dyestuff Reporter had its origins in the dyes crisis in the United States.[5] By 1915, the quality of the products of the newly established American dyes firms left a great deal to be desired, and there was a need for an American publication that textile manufacturers could turn to for assistance.

In the summer of 1916, the monthly trade magazine *Dry Goods Guide,* published by the Hewitt Publishing Company, began to cover the dye trade. Textile manufacturers and dyehouses, that were having great difficulty in finding reliable information about the availability and quality of dyes, increasingly turned to the pages of this publication for the latest news. As a result, the magazine began to attract advertising from dye manufacturers and dealers. By early 1917, coverage of the industry had become a substantial part of the magazine's content.

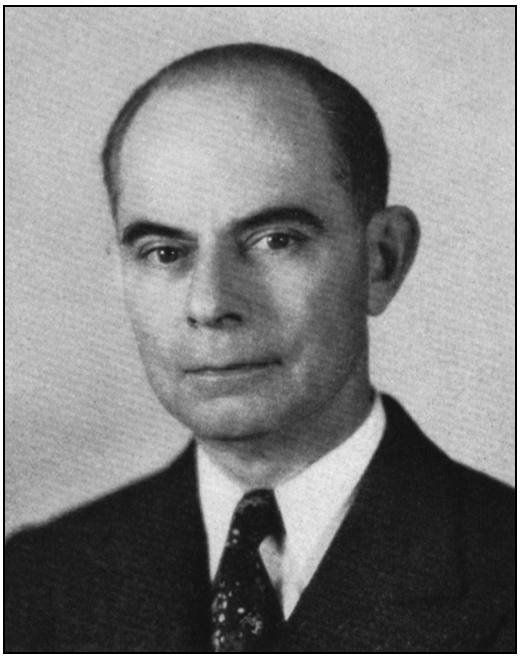
A. P. Howes, the magazine's advertising manager and editorial director, saw there was demand for a publication focused exclusively on the dyes industry and that would be published more frequently. After discussions with advertisers, Howes persuaded his boss at Hewitt Publishing to set up a weekly newsletter called the *American Dyestuff Reporter*. The first issue was released on October 8, 1917. Substantial advertising commitments from a number of firms, most notably the National Aniline & Chemical Company, meant that the new publication was profitable almost immediately.

The Hewitt Publishing Company began to have financial problems at about the time *ADR* became profitable. Knowing of Hewitt Publishing's problems, Howes purchased *ADR* in exchange for stock he already owned in Hewitt Publishing. Howes then formed the Howes Publishing Company, that took over publication of *ADR* on July 1, 1918.

The primary editorial focus of the publication in its early years was support of tariff protection of the infant American dye industry. As Howes recalled later, by early 1920 tariff protection was assured, and *ADR*'s role as a source of information and "propaganda" was no longer necessary. Moreover, as the post-war consolidation of the American dyes industry continued, the industry became increasingly interested in technical instead of political questions. The return of the German dye producers to the American market renewed interest in improving quality and improving dyeing methods.

In the course of his job, Howes spent a great deal of time talking with leading industry figures, and he sensed these changes coming. As a result, he decided to supplement *ADR*'s weekly newsletter format with a monthly technical publication that addressed problems in dyeing and finishing. In mid-1920, he began to look for an editor for this new feature, since neither Howes nor any of his employees at *ADR* had any technical background in textile chemistry. *ADR*'s principal competitor at the time, *Color Trade Journal*, was edited by J. Merritt Matthews, a Ph.D. chemist and author of a popular handbook of textile fibers and two books on dyeing, so Howes felt he had to have an editor with similar qualifications to compete.

[5] The following description of the origins of *American Dyestuff Reporter (ADR)* is based on A. P. Howes, "Reporter Passes Quarter Century Mark." *ADR*, v. 31, n. 25, December 7, 1942, pp. 583–593.



A. P. Howes, Publisher of the *American Dyestuff Reporter*

Howes initially had little success in his search. Eventually he approached Louis Olney, professor of chemistry and dyeing at the Lowell Textile School.[6] Olney was initially reluctant to accept the position Howes offered. Olney was a busy man, since in addition to his teaching duties he also was involved in running a number of textile-related firms in the Lowell area. His wife was particularly opposed to Olney's taking the editing position; she begged Howes in private not to offer him the post.

Despite his wife's efforts, after a personal meeting with Howes, Olney agreed to a temporary appointment as editor of the technical section. The temporary appointment soon turned into a permanent one, and Olney was to serve as editor of the *American Dyestuff Reporter* for over twenty years.

Not long after Olney became editor, Howes asked him why there was no American organization similar to the Society of Dyers and Colourists in England. Olney, who had been involved in a number of efforts to set up an American association, replied that for one reason or another all efforts to organize in the past had failed. During 1910 and 1911, a number of the alumni of the Philadelphia Textile School met in New York to discuss the possibility of setting up an American society for textile chemistry. One proposal was to form an American section of the British Society of

[6] The Lowell Textile School became the Lowell Textile Institute in 1928. It is now known as the University of Massachusetts at Lowell.

Dyers and Colourists (SDC), another was to set up a textile chemistry section within the American Chemical Society (ACS). When Olney's opinion was solicited in late 1911 by Frederick Dannerth, a Philadelphia-area consulting textile chemist, Olney opposed the idea of an American section of the SDC and favored setting up either a section within the ACS or an "independent American Society." Olney, Dannerth, and others actively corresponded about this idea over the next three years, and Olney and Dannerth compiled a list of fifty prominent chemists they planned to ask to help found the society. They were about to take definite action when the start of World War I forced them to postpone their plans. In 1918, Olney sent a list of names of American textile chemists to ACS, and in 1919 the Dyes Division of ACS was founded with Olney as a member. However, the Dyes Division devoted itself to questions of dye manufacture rather than dye application, and Olney and his fellow textile chemists soon became dissatisfied and ceased attending meetings of the division.[7]

Howes encouraged Olney to make another attempt at organization, and he promised the editorial support of the *American Dyestuff Reporter*. After an extended discussion, Olney agreed to try again. Howes then wrote an editorial, based on the discussion he had had with Olney, that appeared in the June 1921 technical supplement of the *ADR*. The editorial entitled "Wanted: A Technical Association of the American Textile Industry" stressed the potential benefits for industry of such an association.[8] The most prominent of these was the opportunity to set up a mechanism to establish scientific standards for testing dyes and textiles.

Howes continued to editorialize about the need for an American association, publishing supporting articles in July and August 1921.[9] In early September, he published a long editorial by Louis Olney that focused again on the benefits of standard methods for testing dyes.[10] Olney had published on this subject before, but in the new editorial he stressed that an association of some sort was essential for developing and propagating these test methods.[11]

The editorials drew a positive response from the *ADR* readership, and, at Howes' urging, Olney sent out invitations to approximately twenty individuals prominent in textile chemistry asking them to meet to discuss the possibility of setting up an association. The meeting, held at the Engineer's Club in Boston on August 26, 1921, was the first step in the founding of the AATCC. A second, larger meeting was held in New York City the next month in connection with the annual Chemical Exposition, at which committees were formed to draw up a constitution and plan the scope of the Association's activities. These efforts culminated with the inaugural meeting of the AATCC in Boston on November 3, 1921, when the Association was formally established.

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[7] L. A. Olney to E. Killheffer, November 21, 1934, AATCC Archives.
[8] *ADR*, v. 8, n. 23, June 6, 1921, p. 22.
[9] "Regarding a Technical Textile Association." *ADR*, v. 9, n. 1, July 4, 1921, p. 22; "Chemists Favor Technical Textile Association." *ADR*, v. 9, n. 5, August 1, 1921, p. 22.
[10] Louis A. Olney, "Standard Methods of Dye Testing and an American Association of Textile and Color Chemists." *ADR*, v. 9, n. 10, September 5, 1921, pp. 17–19.
[11] Ibid. For Olney's earlier views, see Louis Olney, "What of the Future?" *ADR*, v. 7, n. 11, section 2, September 13, 1920, pp. 11–14.

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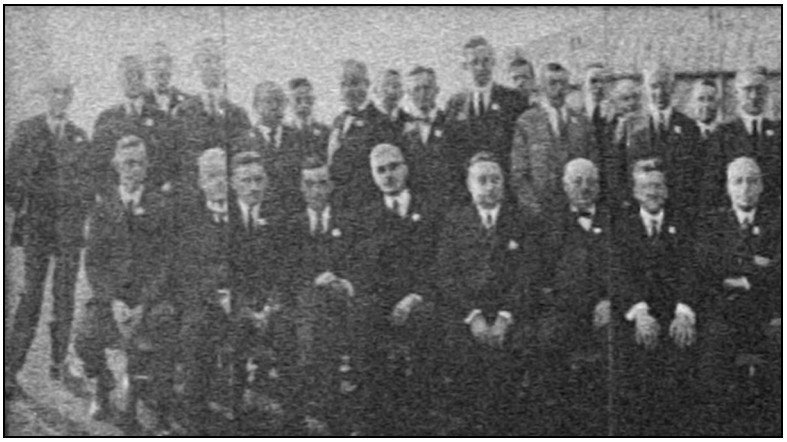
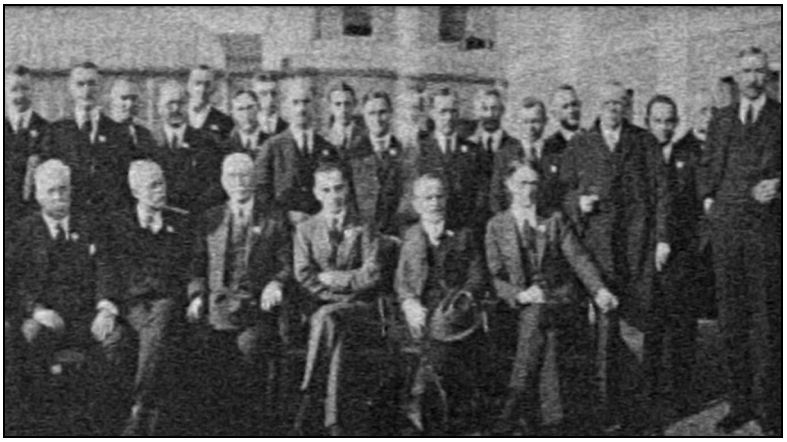
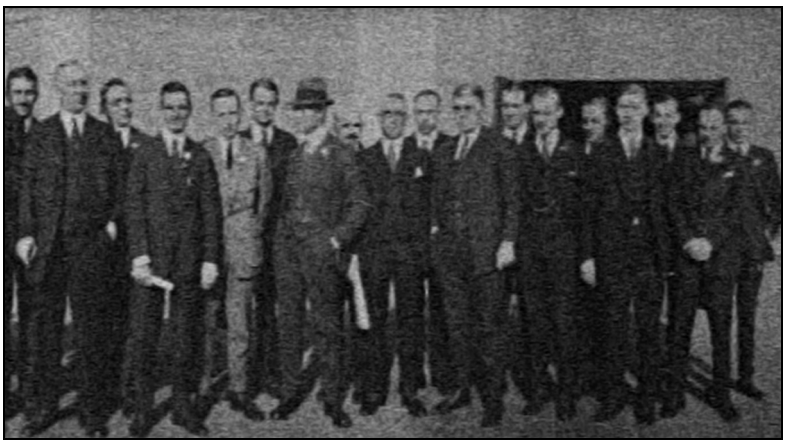






Earliest Known Photo of an AATCC Meeting (Second Annual Meeting)
Hotel Pennsylvania, New York, December 2, 1922

One of the first acts of the new association was to accept an offer from A. P. Howes to publish the transactions of the AATCC in the pages of the *American Dyestuff Reporter*. Although it was unusual for a professional society to publish its proceedings in a trade journal, Olney and others felt that the offer was financially advantageous to the AATCC, enabling the Association to reach its membership at a low cost and no financial risk.

The move was not without its critics. Other publications that covered the textile trade were quick to claim that the AATCC was not a truly independent organization, but a creation of Howes, and intended to boost circulation of the *American Dyestuff Reporter*. In their view, there was no independent demand for an American association of dyers and chemists; it was all the creation of the Howes Publishing Company.[12]

There appears to be at least some truth to these accusations; Howes' primary interest in supporting the AATCC appears to have been the opportunity to publish papers given at AATCC meetings. These provided a ready source of editorial content for *ADR*. Moreover, the link with AATCC meant that Howes could expand his circulation to include new members of the Association, raising his potential advertising rates.

Despite this appearance of purely mercenary interest, the overall relationship between Howes Publishing and the AATCC proved beneficial to both sides, at least in the period prior to World War II. The cost to AATCC of publishing its Proceedings in *ADR* was much lower than having an independent journal, and *ADR* enjoyed not only increased circulation but increased prestige as well. Howes and Olney became close personal friends, and as a result the conflict between the two organizations was minimal. Clearly, both Howes and the Howes Publishing Company benefited from their early support of the AATCC.

Louis Olney and Founding the AATCC

While A. P. Howes may have been responsible for initiating the meetings that led to the founding of the AATCC, the early survival and growth of the Association were due largely to the efforts of Louis Olney. Olney's unique combination of personality, professional position, and stature within the textile community were crucial to AATCC's early success. Olney served as president of the Association from 1921 to 1927, as chairman of the Research Committee from 1921 to 1947, and as a member of over thirty subcommittees of the Association prior to his death in 1949. He was intimately involved with all facets of the organization's activities and played a major role in its success.

Olney was already well known in the textile community when he helped found the AATCC in 1921. Educated at Lehigh University in chemistry (B.S. 1896; M.S. 1908; Sc.D. 1926), he was one of the first instructors hired by the Lowell Textile School

[12] E. Killheffer to L. A. Olney, November 17, 1934, AATCC Archives.

after that school was founded in 1895.[13] Olney was appointed professor of chemistry and dyeing and director of the Department of Chemistry and Textile Coloring in 1897. He held that position for 47 years, becoming professor emeritus in 1944. Due to the small size of the Lowell faculty, Olney taught most of the chemistry and textile finishing classes himself. As a result, he had personal contact with many individuals who went on to careers in the textile industry, since Lowell was the leading American textile school in the years prior to World War II. By the time Olney retired, according to one author, there was at least one of his students "in every dyeing and finishing plant in the country, as well as a long list of those who have gone with dye and chemical manufacturers, testing and service laboratories, and synthetic yarn manufacturers."[14]

Olney's activities were not limited to teaching. Through the night classes he taught at Lowell Textile school, Olney became acquainted with many of the dyers who worked in the Lowell area. He was a consultant for a number of firms and went on to become involved with the management of several. He served as president of Wannalancit Textile Company, Stirling Mills, and the Lowell Institution for Savings. Although after 1921 his professional society involvement was focused on the AATCC, prior to that time he had been very active in the American Chemical Society and was a charter member of the American Institute of Chemical Engineers. As a result, he knew many prominent individuals in the American chemical industry. His appointment as editor of the technical section of the *American Dyestuff Reporter* further widened the circle of his acquaintances.

However, it was what Olney brought to these relationships that was perhaps most important. According to those who knew him, Olney was an energetic and outgoing man. He made friends easily and appears to have been able to disagree with others about professional matters without personal animosity entering the picture. Despite his prominence, he was modest and approachable; his students at Lowell Textile School remembered him as a father figure, willing to give advice and encouragement.[15]

It is not surprising therefore that there was such a positive response to Olney's call for the founding of a textile chemistry association. Although industrial conditions were favorable because of the new American orientation of domestic dye suppliers and users, and the publicity in *American Dyestuff Reporter* was useful, the men who came together to found the AATCC came at Olney's personal invitation. Olney's stature is demonstrated by the unanimity with which he was proposed as the first president, and by his re-election as long as he sought the office. When Olney gave up the presidency in 1927, it was for reasons of health not because of a drop in his popularity. Olney was able to use his stature to shape the initial direction of the AATCC during his presidency, and the AATCC would follow that path throughout his lifetime.

[13] This account of Olney's career is based on Rudolph D. Deanin, "Louis Atwell Olney: Pioneering Textile Educator and Founder of the AATCC." in *Manmade Fibers: Their Origin and Development*, Raymond B. Seymour and Roger S. Porter, editors, London: Elsevier Applied Science,1993, pp. 11–17.
[14] N. A. Johnson, *Chemical and Engineering News*, v. 21, October 10, 1943, p. 1620.
[15] George J. Mandikos interview by Mark Clark, March 15, 1994, AATCC Archives.

The Olney Presidency

What, then, did Louis Olney and his fellow founders hope to accomplish with their new organization? Although the AATCC worked on a number of issues during the years of Olney's presidency, two matters occupied most of the member's time. The first issue was internal: how should the AATCC be structured, with the primary focus on standards for membership. The second issue was external: establishing standard test methods for dyes. The ways these issues were defined demonstrate the importance of science and technology in shaping the development of the AATCC.

Defining Membership (1921–1929)

The concern with membership predates the formal founding of the AATCC. In his September 5, 1921, editorial, Olney had advocated three membership categories:

1. Regular or active members
2. Junior or student members
3. Sustaining or corporation members.[16]

Regular members would include "textile chemists, color chemists, dyers, bleachers, and finishers who have had five years of continuous experience in their particular line of work." Junior members would be students or apprentices who planned "to follow such pursuits as would eventually make them eligible for active membership."[17]

Olney advocated keeping dues low for these two membership categories, apparently to help keep membership as large as possible. He felt that the primary contribution of these members would be their service to the organization through volunteer work rather than monetary contributions.

Sustaining members, on the other hand, were to be drawn from textile and dye manufacturing firms. Rather than having fixed dues, these companies were expected to contribute money to the organization "in proportion to [their] capitalization or importance in the industry."[18] The moneys from these corporate contributors would fund research on test methods and other topics of interest to the textile industry. Olney pointed out that only corporations could afford to put up the sums required to fund such research. In return, the firms could expect to benefit both directly and indirectly from the results of that research.

When the AATCC was formally organized, the Association followed Olney's recommendations closely as far as individual memberships were concerned. The constitution that had been drawn up in advance of the November 3, 1921, meeting defined two categories of individual membership: active and junior. Only active members could vote; they had to be at least twenty-six years old and have at least five years experience as textile chemists or a related chemical field associated with textile dyeing,

[16] Louis A. Olney, "Standard Methods of Dye Testing and an American Association of Textile and Color Chemists." *ADR*, v. 9, n. 10, September 5, 1921, p. 18.
[17] Ibid.
[18] Ibid., p. 19.

bleaching, or finishing. Unlike many other scientific and technical societies founded around this time, there were no minimum educational requirements. Junior members were those employed in those fields who did not meet the age or experience requirement or who were students studying to be textile chemists. Both active and junior members had to be actively engaged in work or study related to textile chemistry.

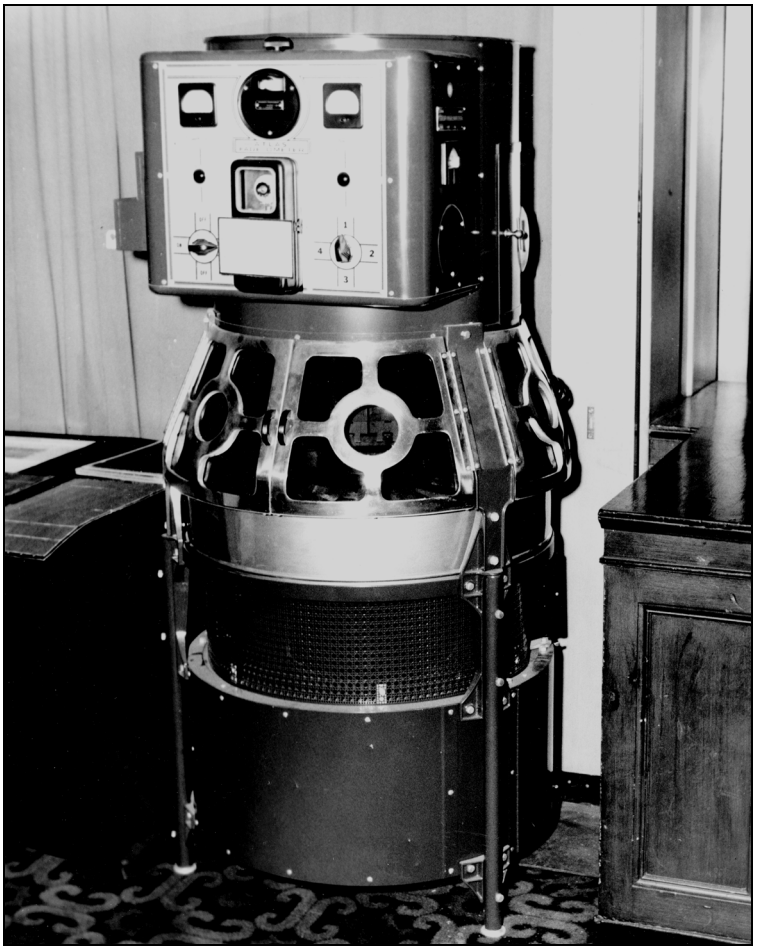
What is significant about these categories is that there was no provision for membership of individuals interested in the purposes of the Association who were not textile chemists, broadly defined. There also was no provision for corporate membership, despite Olney's earlier advocacy. Why? Although no record of the debate that took place prior to the approval of this section of the constitution survives, later comments by those involved in the leadership shed some light on why membership was restricted to working textile chemists and students of textile chemistry. It appears that the founders of AATCC wished to exclude salesmen and other businessmen in the dyeing and finishing trade. According to one source, the founders felt that the participation of salesmen and businessmen would detract from the scientific nature of the Association.

The concerns about the membership of salesmen had nothing to do with the educational qualifications or experience of the individuals involved. Rather, they centered around perceptions of personality. Salesmen in the chemical trade were seen as primarily motivated by money rather than an abstract desire for knowledge. Science, as the founders of the AATCC conceived it, required participants in technical discussions to set aside their business interests and participate as professionals. In their eyes, salesmen were likely to use AATCC meetings as a means of making contacts and closing deals. This would detract from the scientific character of these gatherings.[19] Another unspoken component of the prejudice against salesmen appears to be the lingering hostility toward former employees of American firms that had distributed German dyes prior to World War I, many of whom had become sales representatives for American dye manufacturers.

As the Association grew during the 1920s, companies in the textile and dye trades put pressure on the AATCC to admit technical representatives and chemical salesmen. The debate centered on what constituted active participation in the dyeing and finishing industry, as companies sought to broaden the definition to include individuals whose jobs involved chemistry only peripherally. The Association established a corporate membership category in 1923, primarily to accommodate Atlas Electric Devices, manufacturer of the Fade-Ometer, a device widely used to test the light fading of textiles. Corporate members had all the privileges of active membership except the right to vote. The AATCC did not create an associate membership category until 1929, but by that time the definition of those eligible for membership had broadened to include most salespeople and some business owners, provided they met the five-year experience requirement.

The change appears to have been the result of pressure by a number of members of the governing council who were interested in seeing the AATCC grow at a rapid pace. William Cady, who served as vice president of the AATCC from 1921 to 1924, described the process this way:

[19] Killheffer, p. 6.



Early Fade-Ometer

"In those early days, when Hadley [Walter E. Hadley, AATCC Secretary, 1921–1928] read off the name of an applicant whose technical experience was extremely limited, old man Durfee [Winthrop C. Durfee, AATCC Treasurer, 1921–1929] would growl in an audible undertone, 'He's all right,' but before the Council had a chance to vote, Scott [Walter M. Scott, AATCC Councilor at Large, 1921–1934] would remark in his quiet way, 'Hadn't we better look into his qualifications a little bit further?' and after a little discussion the Secretary would be instructed to write to the applicant and seek further information. It is a pity that there had not been more of the Scott type on the Council in those days to keep the bars up."[20]

[20] W. Cady to E. Killheffer, November 8, 1934, p. 2, AATCC Archives.

Although Scott and others tried to keep the AATCC a small, exclusive organization, membership continued to grow through the efforts of Durfee and his allies. By the end of Olney's presidency in 1927, the AATCC had expanded from 264 charter members to a total of 974 members in all categories.[21]

Activities

The result of this expansion of membership was to create a differentiation in the activities of the AATCC between the national organization and the local sections. While the national meetings and publications remained centered on technical activities, local sections increasingly added social activities to their technical meetings. This split within the AATCC has persisted, in varying degrees, to the present day.

The rise in importance of the local sections was due in part to geography. When the AATCC was first started, most textile finishing firms were located in the northeastern United States. Louis Olney pointed out in 1921, that of all dyeing, bleaching, finishing, and printing industries, 80 percent were located within a 175-mile radius, that included Boston, New York, and Philadelphia.

Not surprisingly, the first local sections were set up in this same area. The first section formed was in Rhode Island approved by the first AATCC governing Council meeting November 18, 1921, only fifteen days after the AATCC itself was formed.[22] A New England Section, centered on Boston, was approved at the second Council meeting less than a month later, and at the third meeting a New York Section (including northern New Jersey) was recognized in early January.[23] The following June a section centered on Philadelphia was set up that included Pennsylvania, southern New Jersey, Maryland, and Delaware.[24] Only twenty-three (5.6%) of the AATCC's 408 members at the end of 1922 did not belong to one of these four local sections.

An even greater geographic concentration is evident among the individuals who initially organized the AATCC. Of the twenty-one men who served on the first committees that set up the Association, twelve were from Massachusetts. The rest were from Connecticut, Rhode Island, New York, New Jersey, Pennsylvania, and Delaware.[25]

As a result of this concentration, the annual meeting and other activities of the Association took place almost exclusively in the Northeast during the early years of the AATCC. The following list of sites for the AATCC annual meeting from 1921 to 1929 shows this pattern: Boston, New York, Providence, Philadelphia, Boston, Charlotte, New York, Providence, and Philadelphia. Moreover, between 1921 and 1929,

[21] *1927 Year Book of the American Association of Textile Chemists and Colorists*, Howes Publishing Co., New York City, p. 46 (hereafter called *Yearbook*, or *AATCC Yearbook*).
[22] 1st Council Meeting, November 18, 1921, AATCC Council Minutes, AATCC Archives.
[23] 2nd Council Meeting, December 9, 1921; 3rd Council meeting, January 13, 1922; AATCC Council Minutes, AATCC Archives.
[24] 8th Council Meeting, June 9, 1922, AATCC Council Minutes, AATCC Archives.
[25] The actual count is Massachusetts 12, New Jersey 3, and one each in Connecticut, Delaware, New Hampshire, New York, Pennsylvania, and Rhode Island. See "Proceedings of the Inaugural Meeting." *ADR*, v. 9, n. 3, December 5, 1921, pp. 17–18.

the Council met in Boston fifty-three times, four times in New York, and once each in Philadelphia and Charlotte.

Annual meetings of the 1920s were characterized by a focus on scholarly papers and discussions of technical topics.[26] They were held over a weekend, with the participants arriving on Friday afternoon for an informal reception on Friday evening. Saturday mornings were normally devoted to the presentations of papers, with the afternoon given over to panel discussions or more papers. A dinner banquet with speeches completed the scheduled activities.

By the mid-1920s, the local arrangements committee normally added an optional series of trips to local textile plants on Friday for early arrivals.[27] Friday evening technical meetings were added in 1926. At first the Friday evening period was used only for open discussion, but in 1928 this was changed to the presentation of formal papers. This change was apparently made to accommodate the increasing numbers of papers being presented—up from eight or nine in the early 1920s to as many as seventeen by 1930. The pattern established in the late 1920s for annual meetings would continue essentially unchanged until World War II.

Papers presented at the meetings were published in *American Dyestuff Reporter*. Although no subject dominated the presentations, two general types of papers were most common. The first type focused on testing and test methods and grew out of the interest of Olney and others in this topic. These papers typically proposed new methods for testing or, less commonly, ways of standardizing previously existing tests. The second type of paper dealt with the solution to particular problems in the dyeing or finishing of a specific fabric, often suggesting which brand-name product to use. Many of these papers focused on the usefulness of a particular chemical additive in improving the production process. In general, most papers tended to be practical rather than theoretical in nature, though grounded in an understanding of basic chemical processes.

The meetings of local sections mirrored the activities of the national meetings in the early 1920s. Each section held between six and nine meetings a year, and these meetings typically took place in the evening, involving dinner and the presentation of one or two technical papers. The meetings were normally held either at the local Engineer's Club or a university such as the Massachusetts Institute of Technology or the University of Pennsylvania. Beginning in 1923, each section also sponsored an annual outing, normally during the summer months, that involved such sporting activities as golf and tennis. These outings took place at local country clubs and occasionally included a technical program.

In the second half of the 1920s, mirroring the general movement of the American textile industry, an increasing proportion of the Association's membership was drawn from the South. The Southern Section was established in 1924, incorporating all the territory south of the Potomac River and east of the Mississippi River.[28] In 1927, the last year of Olney's presidency, the Southern Section was divided into the Piedmont

[26] See the collection of annual meeting programs in the AATCC Archives.
[27] These trips are first mentioned in the programs in the AATCC Archives.
[28] 25th Council meeting, September 26, 1924, AATCC Council Minutes, AATCC Archives.

and South Central Sections. By then, 192 (19.7%) of the Association's 974 members were outside the four northeastern sections.[29]

The new southern sections operated in a somewhat different fashion from their northern counterparts. Because they covered a much larger geographical area, they held fewer meetings per year. During the late 1920s, both the Piedmont and the South Central Sections met no more than three times per year. However, in contrast to the evening meetings of the northern sections, the southern meetings were all-day affairs, held at a resort hotel, and normally involved a golf outing as well as technical papers. Typically, three papers were presented at each meeting. The meetings also included a formal dinner, usually with a speech by a visiting national officer of the Association.

By the end of the 1920s, a pattern for AATCC meetings had emerged that would persist until the early 1950s. The national meeting remained focused primarily on presentation of technical papers, with formal entertainment limited to a banquet (only one national meeting program prior to 1946 included dancing in the entertainment).[30] Local meetings, although they retained some technical content, increasingly focused on social activities, although the particular form of the meetings varied between sections. Moreover, the annual outing became increasingly elaborate affairs that excluded technical content. In the words of one observer, "Fun and fellowship reigned supreme and the cares of the technical world were entirely forgotten."[31]

Test Methods

At the same time that the AATCC's administrative apparatus was being organized, some members of the Association were planning for the implementation of a technical program. Olney had explicitly advocated a scientific model for the textile coloration industry in the editorials he published in support of the founding of AATCC.[32] He sought to replace the industry's traditional craft-oriented culture, which stressed secrecy and practical experience, with a science-oriented culture that stressed the open exchange of knowledge and scientific testing and research. In particular, he felt that standardized test methods based on systematic research were essential for improving the competitive position of American industry.

Olney's proposals were greeted enthusiastically, in particular those for the development of test methods. A Research Committee was set up at the first Council meeting, with Olney as chairman, a position he held until 1946. Although archival material related to the Research Committee during this period is scarce, anecdotal evidence indicates that Olney dominated the committee and set its agenda. The com-

[29] *1927 AATCC Yearbook*, p. 45.
[30] Program of the Fifteenth Annual Meeting, December 6–7, 1935, Chattanooga, Tennessee, AATCC Archives.
[31] Henry D. Grimes, "History of the Northern New England Section." *ADR*, v. 35, n. 24, December 2, 1946, p. 595.
[32] Louis A. Olney, "Standard Methods of Dye Testing and an American Association of Textile and Color Chemists." *ADR*, v. 9, n. 10, September 5, 1921, p. 19.

mittee moved quickly after its foundation to encourage the development and publication of test methods.

The first methods were published in the *1923 Yearbook of the AATCC* and covered colorfastness testing for dyed or printed silk, wool, and cotton fabrics. The methods covered both domestic and mill washing processes, as well as colorfastness to chlorine for cotton. But they were the result only of committee work and, apparently, were not as yet considered "standard." The primary external activity of the AATCC during the 1920s was to establish a consensus mechanism to develop standard methods for testing that could be accepted across the industry. By the end of the decade, the Association had developed additional standard colorfastness tests for machine laundering, stoving, and the first tests for man-made fibers (rayon and cellulose acetate). Ten other subcommittees were in the process of developing test methods.[33]

The demand for these test methods had been created by the poor quality of some of the domestic American dyes produced in the wake of the dyes crisis of World War I. American textile manufacturers that before the war could rely on the technical support of the German dye firms and their importers found themselves unable to distinguish between good and bad products. Without recognized standard test methods, firms could not resolve disputes about dye quality. Although some firms did develop their own methods, without a mechanism to publicize and update them they did not gain wide acceptance.

To ensure that its test methods did not suffer the same fate as previous ones, the AATCC differentiated its methods by basing them on scientific methodology. A review of AATCC test methods from this period show that the authors used formal technical language and detailed exacting descriptions to foster quantitative objectivity. Although the final judgments about how well a sample performed in a test method were based on subjective comparisons with standard samples, the language used in the methods tried, to the extent possible, to ensure that the tests were fully objective and precise.

It is important to note that lack of precision in the tests did not mean that they were useless or that the AATCC committees that developed them were engaged in some sort of deceptive practice. Far from it. The growth of the AATCC during the 1920s and the increasing corporate support that the Association enjoyed demonstrate that the tests were proving useful to the membership. What is important here is that the AATCC was trying to move away from subjective measurements and toward more objective measurements, and members defined that move as scientific. As a result of the AATCC efforts in developing these standard test methods and Howes Publishing in printing and distributing them, the methods began to be used throughout the textile industry, and the AATCC began to be identified as the standard source of scientific expertise about textile chemistry.

[33] *1930 AATCC Yearbook*, pp. 70–132.

Conclusion

By the end of Louis Olney's presidency in 1927, the AATCC had established patterns that persist to the present day. First, the tension between the business and scientific objectives of the Association was resolved as a draw—neither side would totally dominate. Second, although internally the Association was sometimes split between those with scientific and business interests, externally the AATCC was identified with technology and scientific method. The development and distribution of test methods established the image of the AATCC as an objective professional association focused on scientific method.

The origins of the American Association of Textile Chemists and Colorists are similar to those of many other professional societies that began around the turn of the century. The rising prestige of science in the early years of the twentieth century encouraged many professionals to found their own societies and associate themselves with scientific values. The initial desire to restrict membership in the AATCC to scientific workers only and the development of test methods that used technical language demonstrate the founders' desire to take advantage of a larger social movement. This early scientific orientation and focus on the benefits of research set the pattern for the AATCC's development through the 1940s.

Chapter 3

Research and Development (1921–1945)

One of the central missions of the AATCC from its founding in 1921 to the present has been the development, validation, and constant updating of standard test methods for the textile industry. These methods are widely accepted, not only within the United States, but also in many other parts of the world. Companies selling textiles in the U.S. market must understand and use AATCC test methods if they wish to compete successfully.

According to the American Society for Testing and Materials (ASTM), a "standard" is a concept that has been established by authority, custom, or agreement to serve as a model or rule in the measurement of quality or the establishment of a practice or procedure. A "test method," on the other hand, is a definitive procedure for the identification, measurement, and evaluation of one or more qualities, characteristics or properties of a material, product, system, or service that produces a test result.[1] Standard test methods are not standards for materials and do not give pass or fail results. Rather most standard test methods rate a sample on a continuum, such as how much sunlight exposure is required to cause a dyed textile to fade or how much abrasion a piece of cloth can withstand.

The result of an AATCC standard test method is most often a grade, typically on a scale from 1 (a great change or difference) to 5 (no significant change or difference). The AATCC does not take any position on how the quality of a particular sample is represented by the test result. It is up to the buyer and seller involved to decide what test result the sample must give to be acceptable. The AATCC's focus is on the test method itself, specifically whether the method is scientifically valid for the property being measured, whether it is reproducible, and whether the test result is consistent when measurements are made at different laboratories.

This chapter gives a general overview of how the AATCC developed test methods between 1921 and 1945, the organizational structure that published and maintained

[1] *Compilation of ASTM Standard Definitions.* West Conshohocken, Pa.: ASTM, 1990, p. 462. *Annual Book of ASTM Standards.* West Conshohocken, Pa.: ASTM, 1995, v. 7.01, p. 48.

these test methods, and the technical program that the AATCC undertook to support test method development. The chapter also provides the basis for understanding how the AATCC went about developing the hundreds of test methods it promulgated over its first seventy-five years and why those test methods have become so widely accepted. Chapter 15 examines in detail the workings of three typical test method committees from their beginnings through 1996: Colorfastness to Light, Colorfastness to Washing, and Colorfastness to Crocking.

The Development of Test Methods in Europe

Although the informal testing of textiles for colorfastness has no doubt been taking place since the first piece of cloth was taken from a dyebath, the establishment of standard testing methods based on scientific criteria is a relatively recent development. The first formal inquiry into standards setting appears to have been conducted by the British Association for the Advancement of Science in the early 1890s.[2] That Association set up a committee composed of textile manufacturers and prominent chemists, most notably William Henry Perkin. The primary focus of this committee was to refute claims that synthetic dyes were not as colorfast as natural dyes. The committee published its results in 1894, noting:

> "Our experiments have already abundantly proved that the popular opinion that the coal tar dyestuffs include only such as yield more or less fugitive [easily faded] colours is entirely false; indeed, it is perfectly safe to assert that coal tar is the source from which the greatest number of colours fast to light are derived at the present time."[3]

Although the committee was able to dispel much of the hostility toward synthetic dyes, its methods were criticized for being too imprecise. In the case of colorfastness to light, for example, the experimenters gave only times of exposure to the sun, without reference to time of year or weather. Critics called for the establishment of some standard for light intensity that would allow one dye to be compared with another.

Despite continued discussion, the British textile industry took no further action, and the first set of test methods for colorfastness was developed in Germany. These methods had their origins at the Fifth International Congress for Applied Chemistry held in Berlin in 1903. At the Congress, delegates discussed the question: What standards should be adopted in testing colouring matters for their fastness?[4] The results of these discussions were published, and led eventually to the founding of the German Fastness Commission.

In 1911, the commission adopted a five-grade fastness scale, with 1 being least fast, and 5 most fast. This was modified to an eight-grade scale in 1912 for colorfastness to light only. After extensive development, the test methods were published in

[2] Maurice Tordoff, *The Servant of Colour*. Bradford, West Yorkshire: Society of Dyers and Colourists, 1984, chapter 2.
[3] Ibid., p. 134.
[4] Ibid.

1914 in the German journal *Chemiker Zeitung* and in abstracted form in the *Journal of the Society of Dyers and Colourists* in England. The test methods covered a variety of situations including colorfastness to light, washing, and rubbing, along with many others.[5] The committee listed dyes in each category that were typical of the grades 1 to 8 for colorfastness to light and of 1 to 5 for other tests.[6] Higher numbers indicated better performance.

Contemporary observers saw these methods as a considerable improvement over previous ones but noted that there was still room for improvement. They suggested changes in the materials used in testing, and in the standards used for comparison. Even so, the German standards proved to be extremely influential, establishing a five-grade scale as standard. These German test methods also provided the baseline from which test methods in other countries, including the United States, were developed.

After World War I, German researchers continued to develop colorfastness test methods. British fastness ratings of dyes, first published in 1924 by the Society of Dyers and Colourists in their *Colour Index*, were based on German test methods. However, the British rated dye fastness in the opposite sense from the Germans, with a rating of 1 being best and increasing numbers indicating poorer performance.[7]

By the late 1920s, research into colorfastness to light and washing had become an international topic. Professional societies in the textile and dyeing industries throughout Europe sponsored technical investigations of the topic. In 1934, a modified version of the German standards was adopted by many European countries. These standards used a series of specific dyes as the standards for each step on the colorfastness scale, with the degree of fading determined by comparison.

American Test Methods Before 1921

Efforts to establish the colorfastness of dyes by standard tests began much later in the United States than it did in European countries. This was due to the nature of the American market. Unlike Britain and Germany, where there was considerable competition between dye manufacturers, in the United States the German and Swiss firms acted along the lines of a cartel, controlling competition through informal agreements. As a result, dye manufacturers were not compelled to advertise colorfastness as a selling technique. At the same time, customers were not interested in test methods, since the German and Swiss dye manufacturers were willing to guarantee the quality of their products. As outlined in Chapter 1, the European firms, through their American representatives, worked closely with the American dyehouses, providing them with scientific and technical support. American textile firms relied on German quality control methods to ensure the colorfastness of their goods.

[5] The following is a complete list of the German test methods: fastness to light; washing of dyed cotton in contact with undyed cotton and dyed wool in contact with undyed wool or cotton; water; rubbing; ironing; sulfur; perspiration; alkali; acid boiling; acid, scouring, chlorine, and mercerizing (cotton); bleaching, milling, carbonizing, potting, steam pressing and sea water (wool). Tordoff, p. 135.
[6] Some test methods listed typical dyes only for grades 1, 3, and 5.
[7] Tordoff, p. 136.

This system broke down soon after the start of World War I. Cut off from German dyes, American textile firms turned to American manufacturers, most of whom were small start-up firms that produced copies of German dyes. The dyes shortage also revived the market for traditional natural dyes, extracted from plants and other sources. Although natural dyes had been largely supplanted by synthetic dyes, the general shortage made them competitive again.

This new situation meant that consumers could no longer rely on manufacturers for quality control. Many of the new American firms were inexperienced, and the composition of their products varied widely. Lacking the scientific training and technical experience of the German producers, they were unable to produce consistent dyes. Moreover, all dyes (both natural and synthetic) were subject to variation, since their composition depended on the quality of the raw materials used. As a result, textile manufacturers were faced with considerable uncertainty and were hungry for information on the availability of high-quality dyes.

The response of the textile industry was twofold. First, firms bid up the price of those German-produced dyes that were still on the market, whether from prewar stocks or the small amounts that were imported by special arrangement with the British government. By 1916, however, these sources had been essentially exhausted, and the manufacturers were forced to take a different path. The second response was to demand higher quality from the American manufacturers and haul them into court when their products failed to perform as advertised.

A major barrier to complaints, however, was the absence of generally recognized standards of colorfastness to light and washing. The German standards that had been developed before the war were available, but they depended on increasingly unavailable German dyes as comparison standards. Moreover, the German test methods had been widely criticized on technical grounds, for example, by failing to distinguish between exposures at different times of the year and at different humidities. Other test methods were proposed by American manufacturers, and numerous informal demonstrations took place at trade shows (wash tests that pitted American against German dyes were common during the war), but none was widely accepted. As a result, buyers could not be assured of dye quality and felt frustrated by the lack of concrete information. As described in Chapter 2, A. P. Howes was able to take advantage of this demand for data. His publication, *American Dyestuff Reporter*, catered to dye consumers by providing information about dye manufacture and availability.

After the war ended, German firms began to return to the American market, but for political reasons they were unable to re-establish their prewar dominance. The newly created American domestic dye manufacturers prevailed on the government to establish a tariff that would allow them to successfully compete with the Germans. As a result, textile firms were faced with the problem of quality control, because they couldn't rely on their prewar practice of only buying from German firms. American dye manufacturing firms also were motivated to establish standard test methods that would allow them to overcome long-standing prejudice in favor of German products (if they could demonstrate that their quality was as good).

A. P. Howes was in constant contact with many leading figures in the wet processing industry, and he sensed the increasing interest in test methods. Soon after hiring Louis Olney as editor of *ADR*, they discussed his views on testing and test methods. The result was an article by Olney that appeared in the September 13, 1920, issue of *ADR*.[8] In it, he described the then-existing state of colorfastness testing and presented a series of arguments in favor of developing standard test methods. He pointed out that although both domestic and foreign manufacturers had developed "rather elaborate systems," they were intended for their own use and were not mutually compatible. Moreover, they were intended for the use of manufacturers and dealers and did not meet the needs of dye consumers. Olney stressed the economic losses that resulted from the lack of a standard system.

Olney then laid out what he felt was essential to the development of a series of test methods that would be widely accepted. First, the interest and participation of both manufacturers and consumers of dyes were needed. Second, those involved would have to sponsor "accurate research and experimental work extending over a considerable period of time." Finally, there would have to be sufficient funds to carry out the work. Although there is no mention of the establishment of an organization to coordinate the research and publish the test methods that would be developed, its formation is implicit in Olney's description. Olney later referred to his article as a major link in the chain of events that led to the founding of the AATCC because it led to the first discussions of how to develop and administer test methods.[9]

Over the next several months, Olney and Howes received many responses to the article, several of which were published in *ADR*. Dr. Walter M. Scott, head chemist for the silk goods manufacturer Cheney Brothers, wrote a description of the test methods he had developed for use at his firm.[10] The tests included colorfastness to light, water, acid, alkali, and scouring. According to Scott, Cheney Brothers had a file of standard test results for over 600 dyes. In the same issue, an unsigned editorial praised Scott's work and suggested that other firms would benefit from adopting his system.[11] The editorial went on to stress the even greater benefit if standard test methods were adopted industrywide.

Howes continued to publish articles on a regular basis calling for standard test methods, and it appears that these articles played no small role in creating a climate of opinion that favored the creation of the AATCC. In the case of academic chemists like Olney, *ADR* was in a sense preaching to the choir because American chemists were familiar with the work going on in Europe and were eager to duplicate it in the United States. As a result, the articles and editorials were aimed at convincing factory managers and business owners of the utility of standard test methods.

[8] Louis A. Olney, "Standard Dye Tests and Standard Records–A Plea." *ADR*, v. 7, n. 11, Section 2, September 13, 1920, p. 18.
[9] Louis A. Olney to Elvin H. Killheffer, November 9, 1934, AATCC Archives, Research Triangle Park, N.C.
[10] Walter M. Scott, "Standard Methods for Testing Dyestuffs." *ADR*, v. 7, n. 15, Section 2, October 11, 1920, p. 14.
[11] Editorial, "Standard Dye Tests." *ADR*, v. 7, n. 15, Section 2, October 11, 1920, p. 27. Internal evidence suggests that this editorial was written by A. P. Howes.

There were two reasons for this approach. First, Olney and his fellow chemists knew that if the set of test methods they developed was to be successful, it would have to be widely adopted. All their work would be in vain if the methods were not used in the marketplace. The primary argument that Olney and Howes used in *ADR* to convince this group was to stress the practical utility of standard test methods. In particular, they pointed to cost savings made possible by more consistent products and the possibility of selecting suppliers on the basis of quality. They also stressed the advantages of standard test methods in litigation, allowing manufacturers to protect themselves.

The second reason for the direction Howes and Olney took was less explicit in their writings, but for Olney in particular it was just as important. To establish standard test methods, a considerable amount of development work would have to be done. Someone had to pay for that work, and textile firms were the logical source of funds since the American government was not yet a major player in industrial research. To convince textile management of the importance of research, the editorials in *ADR* stressed the potential of research and development for improving the productivity of the textile industry.

Early AATCC Test Methods (1921–1923)

The campaign in *ADR* was ultimately successful and led to the formation of the AATCC in late 1921. The organization immediately set about establishing a program for developing and publishing standard test methods. The membership also voted to establish several committees related to these activities, including a Library Committee to gather bibliographic information and a Committee on Publication to disseminate results.[12] The single most important committee, however, was the aptly named Committee on Research, that initiated and coordinated all research work of the Association.[13]

Olney was the first chairman of the Research Committee and continued to serve in that position until 1946. As a result, he was able to guide the research agenda of the AATCC from 1921 until then. His primary focus was on the development of standard test methods. Although he and his fellow committee members hoped to broaden their program, financial limitations dictated that test method development would dominate at first. It was not until the early 1930s that the AATCC expanded its technical program beyond test methods.[14]

The Research Committee was the largest AATCC committee throughout this period and was clearly the center of AATCC activities. It grew from nineteen members in 1923 to thirty-eight in 1928, and by the early 1940s had over seventy (no other AATCC committee had more than five members during this period). Research

[12] These two committees were combined in 1923 and then absorbed by the Research Committee in 1928.
[13] "Proceedings of the Inaugural Meeting." *ADR*, v. 9, n. 23, December 5, 1921, p. 19.
[14] *1946 AATCC Yearbook*, Lowell, Mass.: AATCC, p. 120.

Committee members tended to be the most active AATCC members: many were officers at the national level and they published articles in *ADR* on a regular basis.

The Research Committee began its work immediately after the founding of the Association. In February 1922, committee member Wallace J. Murray of Arthur D. Little Inc., published a bibliographic survey of literature related to colorfastness.[15] Murray and others published more detailed surveys of particular test methods over the next year. These articles served to outline the problems involved in colorfastness testing and those areas that needed more study.[16] The consensus that emerged was that methods for establishing colorfastness to washing and related wet processes presented little trouble and that test methods for this sort of fading could be developed easily.[17] On the other hand, colorfastness to light proved to be much more problematic, and committee members agreed that more research was necessary.

On the basis of this consensus, the Research Committee approved the publication of a series of provisional test methods. The first, which covered colorfastness of wool to fulling, scouring, and washing, was published in *ADR* in May 1922.[18] These test methods were derived almost directly from the German textbook by G. Schultz, modified only by the inclusion of American rather than German dyes as the standard for comparison.[19] The wool method was soon followed by similar tests for cotton and silk, also published in *ADR*.[20] These tests were based on a combination of textbook examples and original work done at American mills.[21]

All three test methods used comparisons with a set of standard dye types, selected for their performance in previous colorfastness tests, to rate dye performance. What is striking, especially in contrast to test methods published in more recent years, was the general nature of the instructions. They were based on experience and qualitative factors rather than strict quantitative laboratory methods. Rather than exact instructions, the test methods used such descriptions as "stir gently with a glass rod" or "without losing character of color or depth of shade to a greater degree than the standards of this division." While test times and temperatures were specified for some processes, they were not for others, especially drying operations. Moreover, the apparatus used to perform a test was not specified.

Although the AATCC was attempting to develop more accurate and scientific tests, and the language used in the test descriptions was often scientific in form, in reality these tests often depended as much on human judgment in the analysis of results as on purely objective criteria. The thrust of AATCC research over the next

[15] Wallace J. Murray, "A Bibliography of Literature on the Fastness of Dyes." *ADR*, v. 10, n. 4, February 13, 1922, pp. 123–124.
[16] Wallace J. Murray, "The Development of Tests for the Fastness of Dyestuffs." *ADR*, v. 10, n. 7, March 27, 1922, pp. 231–232; George Emmons, "Fastness of Basic Dyes to Light." *ADR*, v. 10, n. 8, April 10, 1922, pp. 265–267; E. Greenhalgh, "Testing and Standardizing Dyes." *ADR*, v. 10, n. 11, May 22, 1922, pp. 381–383.
[17] "Fifth Research Committee Meeting." *ADR*, v. 10, n. 10, May 8, 1922, pp. 331–332.
[18] Ibid., pp. 332–34.
[19] G. Schultz, *Farbstofftabellen*, 5th edition, 1920 reprint, cited in "Provisional Method on Fastness of Dyed Wool to Fulling, Scouring, and Washing." *ADR*, v. 10, n. 10, May 8, 1922, pp. 332–334.
[20] "Provisional Method on Fastness of Dyed Silk to Washing, Scouring, and Fulling," *ADR*, v. 10, n. 11, May 22, 1922, pp. 374–375; "Provisional Method on Fastness to Washing, Soaping, Laundering and Fulling of Dyed and Printed Cotton Against White Cotton." ADR, v. 10, n. 13, June 19, 1922, pp. 443–444, 449–450.
[21] Ibid.

seventy-five years would be to gradually reduce the degree of human involvement in decision making in the testing process, an effort that still continues.

In late 1929, the Research Committee began to broaden the scope of its work beyond colorfastness tests when three subcommittees were formed to consider ability of a fabric to resist penetration by water; methods for determining copper, manganese and iron in cotton fabrics that were to be rubberized; and methods for determining sizing and finishing materials in fabrics. These new subcommittees appear to be the direct result of a poll of the membership returned by 88 members (out of 1,154) taken in February 1929 as to their interest in various topics (see Table 3-1).[22] The following year, subcommittees for color standardization, bibliography, and fabric shrinkage were formed, which completed the need to address the members' the most pressing interests since committees on colorfastness already existed.

Between 1925 and 1962, the first year research committees were numbered, no fewer than eighteen committees had been formed and discontinued for which there was no 1962 counterpart. These committees were as diverse as Standard Soils for Detergency Tests, to Pilot Plant Equipment, to Coordinating with the Government on Uniform Fabrics, to Nuclear Radiation. A list of all Research Committees is given in Appendix 6.

Test Methods and the *AATCC Yearbook* (1923–1945)

In 1923, the AATCC, in cooperation with Howes Publishing, began to publish a yearbook. Ancestor of the present-day *Technical Manual*, the *Yearbook* contained a directory of members, a list of American-made dyes, and annual reports by the various standing committees of the Association and the various subcommittees of the Research Committee. The *Yearbook* was published annually between 1923 and 1945, with the exception of 1935 at the height of the Great Depression (a combined 1935/1936 edition was published the following year).[23]

From the beginnings of the Research Committee, Olney had appointed subcommittees to supervise the development of specific test methods. The reports of the subcommittees in the yearbooks for the most part contained either approved or prospective test methods. Some committees, such as the Subcommittee for Fastness to Light, published only research progress reports in the first years of their existence, though eventually they did issue test method descriptions. Over time, the description of the test methods became more formal. In 1937 the test methods were moved from the committee reports to a separate section of the *Yearbook*. The comprehensive test method numbering system currently used was not adopted until 1949, but the post-1937 listing is similar to the order within which the test methods were listed later.

[22] *1929 AATCC Yearbook*, New York City, Howes Publishing Co., p. 129.
[23] There is a complete set of yearbooks for the period 1923–1945 in the AATCC Archives. Due to the loss of all correspondence and other documentation related to the Committee on Research for the period prior to 1945, the following section is based primarily on the committee reports in these yearbooks.

Table 3-1. Member Interest in Various Research Topics
Based on a Survey Taken February 1929

Number of Members Interested	Research Topic
51	Survey of research in the textile industry.
39	Fastness of dyed textiles to light.
39	Fastness of dyed cotton to washing, laundering and fulling.
36	Bibliography of textile chemistry.
29	Color standardization and measurement.
25	Fastness of dyed wool to washing, laundering, fulling, scouring, mill washing, crabbing, steaming and decatizing.
25	Methods of testing waterproofed textiles.
23	Fastness of dyed silk to washing, laundering and fulling.
21	Vulcanized textiles.
14	Dyes or dyeing.
11	Fibers (not including identification).
7	Detergents; Scouring.
6	Methods for testing other materials than dyes on textiles.
4	Printing problems.
4	General rayon problems.
4	Oxycellulose.
4	Analysis of finishes on fabrics.
3	Shrinkage.
3	Analysis of mixed fibers.
3	Identification of fibers.
2	Perspiration.
2	Dye testing.
2	pH control–general.
20	General and miscellaneous suggestions.

The chairmen of these subcommittees typically were individuals with experience in the area their committee covered. For example, Dr. Walter M. Scott, of Cheney Brothers, Manchester, Connecticut, had published widely on the problems of dyeing silk, and he was selected to chair the Subcommittee on Fastness Tests for Dyed Silk. Scott accepted the post in early 1922 and held it until the major reorganization of committees that took place in the mid-1940s (see Chapter 5). This was typical for this period; most subcommittees had had only one or two chairmen in the years before 1945.

Given the small size of the AATCC before the 1940s, this continuity in office was understandable. With only a limited number of members who had the time, technical training, and interest in doing the work that needed to be done, the Association was forced to conserve its resources by permitting enthusiastic individuals to spend years in office. Although one might reasonably have expected problems with empire building or research failure as enthusiasm waned over time, surviving evidence indicates that the system worked smoothly. It appears that this was largely due to Olney and other members of the Research Committee closely supervising the work of the subcommittees and coordinating their efforts. In particular, Olney's dogged interest in textile research seems to have communicated itself to the other members of the committee and inspired their direction.

One notable side effect of this system was that each new area of research spawned a new subcommittees to deal with it. The number of subcommittees increased from five in 1922 to twenty-two in 1932 to forty-one in 1945.[24] The data in Table 3-2 from *AATCC Yearbooks* give some idea of how the number of subcommittees steadily increased as new test methods were explored.

The onset of the Great Depression initially forced the AATCC to cut back its research program as income declined, but beginning in 1931 the Association began to receive regular grants from the Textile Foundation. The Textile Foundation was founded in 1930 by the federal government and funded by profits from the sale of assets of German dye companies seized in the United States during World War I.[25] The money allowed the AATCC to hire two research associates in addition to the one associate who had been funded by money from corporate memberships. Two of these men were employed at the Lowell (Massachusetts) Textile Institute, the third was assigned to the Bureau of Standards in Washington, D.C.

Over the next five years, the AATCC continued to solicit grants from foundations. By 1937, support from the Textile Foundation had tripled, and the Association also was receiving money from the Chemical Foundation, the Eavenson & Levering Company, and the Throwsters Research Institute. The income produced allowed the AATCC to support seven full-time research associates: three at the National Bureau of Standards, one at Lowell Textile Institute, two at Brown University, and one at the University of Chattanooga.[26] That year proved to be the peak of the AATCC's prewar research program. Sponsorship income dropped after 1937 as firms failed to renew

[24] See *AATCC Yearbooks* for 1923, 1932, and 1945. Twenty committees in 1945 were reference committees, the remainder research committees.
[25] Williams Haynes, *American Chemical Industry*, v. V, New York: D. Van Nostrand, 1954, p. 174.
[26] *1937 AATCC Yearbook*, pp. 87–88.

Table 3-2. New Research Subcommittees Formed (1923–1930)

Year	Subcommittee
1923	Fastness to Washing, Scouring, and Fulling (Wool)
	Fastness to Washing, Scouring, and Fulling (Silk)
	Fastness to Washing, Soaping, Laundering, and Fulling of Dyed and Printed Cotton Against White Cotton
	Fastness to Chlorine
1924	Fastness to Perspiration (preliminary method)
	Fastness to Light (research only)
1925	Fastness to Acids and Alkalis
	Fastness to Carbonizing
	Fastness to Sea Water
1926	Wash Fastness for Rayon, Celanese, and Similar Fibers
1928	Fastness to Crocking
	Fastness to Stoving
	Fastness to Degumming of Dried Silk
	Standardization of Launder-Ometer
	International Cooperation (SDC)
1929	Fastness to Light (preliminary method)
	Waterproof Standards
	Rubberized Fabrics
	Determination of Sizing and Finishing
	Survey of Research
	Bibliography
1930	Color Standardization
	Shrinkage of Textiles
	Identification of Rayon Types
	Materials of Construction of Dyeing and Finishing Machinery

their contracts. This caused a temporary disruption, as the Association scrambled to increase corporate sponsorship, which it had neglected because of steady support from the Textile Foundation. Fortunately, the increased prosperity brought about by military spending associated with World War II meant that more firms were willing to become corporate members. This income allowed continuation of the research program, though at a much reduced scale. (See Chapter 4 for more details of the AATCC's research program.)

Conclusion

As a result of AATCC research and development work, guided by Louis Olney's example, the AATCC rapidly established itself as the primary source for standard test methods for colorfastness in the textile industry. By the time the AATCC released its first *Yearbook*, the great demand for copies of test methods meant that Howes Publishing made money on the publication from the very beginning. AATCC test methods were widely used by the late 1920s, and the AATCC's position was strengthened by its close association the U.S. government's procurement offices during World War II. By 1945, the AATCC was firmly established as the source of test methods for the wet processing industry.

The AATCC's test methods also were influential outside the United States. In the early 1920s the Society of Dyers and Colourists (SDC) in England studied the test methods in the *AATCC Yearbook*, and it motivated several British researchers to develop their own methods.[27] In 1925, the SDC contacted the AATCC and suggested that international standards for colorfastness were desirable. The SDC favored the adoption of the work of the German Echtheitskommision as a basis for further discussion.[28] However, it was the work of the AATCC's committee on colorfastness to light that persuaded the British, as well as the Germans, to compromise on a set of standards. The SDC also copied the AATCC's Launder-Ometer and used it in their own work.[29] This prewar cooperation set the stage for the increased involvement of the AATCC in setting international standards after World War II.

[27] Tordoff, p. 135.
[28] Ibid., p. 136.
[29] Ibid., p. 139.

Chapter 4

The Lowell Years (1927–1945)

The End of the Olney Presidency

At the 1925 annual meeting, Louis Olney was reelected as president for the fifth time. The vote was nearly unanimous; out of 318 ballots, 308 named Olney as their choice, nine were blank, and only one named another person. Olney expressed his appreciation to the assembled members, but asked that this be the last time he was so honored. He wanted to spend more time with his work on the Research Committee and believed he could do more effective work there than as president.[1]

Olney also had a more private reason for wanting to step down—his health was failing. He never had a particularly strong constitution, and by early 1926 the strain of his work for the Association, combined with his duties at Lowell Textile School and as editor of *ADR*, began to show. He began to miss more and more Council meetings and relied on others to perform his duties. In particular, he regularly asked Elvin H. Killheffer to preside at Council meetings and to represent the Association on official business.[2]

Despite his desire for relief, Olney did not get his wish immediately. In late 1926 he was re-elected to the presidency again, although he did not attend the annual meeting due to illness (the first he had missed in his time as president), sending his regrets by telegram.[3] It was not until the 1927 annual meeting that he was finally able to retire, his place being taken by Killheffer who had served as a vice president since 1925. Olney left office by his own choice; it seems likely he could have remained president for as long as he wished to. At the business meeting on the opening day of the conference, just after the election results were announced, Olney

[1] Election of Officers." *ADR,* v. 14, n. 22, December 28, 1925, p. 878.
[2] Elvin H. Killheffer, Historical–AATCC, undated manuscript (circa 1935), AATCC Archives, Research Triangle Park, N.C.
[3] Sixth Annual Banquet." *ADR,* v. 15, n. 21, December 13, 1926, p. 828.

seemed happy as he laid aside his burden, thanking those who had helped him rather than pointing to his own accomplishments.[4]

That evening Olney made his final address to the Association as its president. As he came to the podium, the audience rose and gave him a standing ovation. Olney's response was typically modest. After the applause died down, he directed attention away from himself, again crediting others for the success of the AATCC and downplaying his own role. He then turned to the main topic of his speech, the future direction of the Association.

In light of his decision to step down and devote more time to the Research Committee, it is not surprising that Olney called for more research, both within the AATCC and in cooperation with international organizations. In particular, Olney wanted the Association to sponsor research into the fundamental principles of textile chemistry and dye application. In light of a growing public demand for garments with greater colorfastness to light and washing, Olney felt that the AATCC could increase its influence by developing test methods that would be accepted by all. With a modest investment of approximately $20,000 from the corporate members of the Association, Olney was sure that a creditable program could be set up. After thanking the members of the Research Committee for their efforts, Olney closed by appealing to the membership to help the Finance Committee raise money for the research program he had outlined.

Olney's speech set the pattern for the AATCC's activities over the next thirty years with the Association funding technical work on both dyes and textiles at Lowell and other locations. Much of this work was related to the development of standard test methods but not all. During the same period, the AATCC increased cooperation with organizations in other countries, particularly the Society of Dyers and Colourists in Great Britain. Although no longer president, Olney continued to set the AATCC's direction from his position as chairman of the Research Committee, and even after his death in 1949, his philosophy determined the Association's policies until the late 1950s.

Administrative Changes

Olney's successor as president, Elvin H. Killheffer, supported the idea of increased research. Killheffer was interested primarily in setting up a formal institutional structure for research, as distinguished from the volunteer-based efforts that the AATCC was then directing. In particular, he wanted to convince managers within the textile industry that research was worthwhile and that they should fund it collectively. He believed that their apathy toward research was largely because they individually lacked the resources to fund a meaningful effort or had no knowledge of how to plan it if they had the money.

Killheffer was a consistent advocate of organized research funded by industry and supervised by the AATCC. He discussed the possibility of founding a permanent labo-

[4] Seventh Annual Meeting." *ADR,* v. 16, n. 21, December 12, 1927, p. 764.

ratory and a fund to pay for it with many people within the AATCC's leadership, including Olney, William H. Cady, and others. He also talked to managers at various major textile firms, and he traveled to AATCC sectional meetings, giving addresses advocating his ideas. Killheffer's efforts were instrumental in the establishment of the United States Institute for Textile Research in 1930, a development described in more detail later in this chapter.

During his time in office, Killheffer also supervised a number of changes in organizational and procedural matters. At the February 3, 1928, meeting, the Finance Committee, chaired by Percival J. Wood, was established to oversee the Association's financial affairs. Up until that time, financial matters had been handled by the Association's treasurer, Winthrop C. Durfee, a consulting chemist from Boston. The new committee was not intended to take over everyday operations; rather it was charged with supervising Durfee's work and establishing general financial policy in cooperation with him.[5]

The committee was established for two reasons. The first was practical. Durfee had suffered a prolonged illness the previous year and had fallen behind in his work.[6] Moreover, the Association's income was increasing as membership grew, and the AATCC was beginning to solicit funds for research as well as collect membership dues. As a result, the Association's monetary affairs were now more complicated, and Durfee's illness had shown that the AATCC was unprepared to handle them in his absence. The committee was to serve as a backup to ensure continuity in the event of future problems. The second reason was more theoretical. Olney, Killheffer, and other AATCC leaders wanted to expand the research program and that required money. The Finance Committee was given the task of studying how that money could be collected and distributed.

Council also took a number of actions with respect to financial matters. The treasurer was bonded for the first time, paying the premiums for the bond out of the general treasury. It also established procedures for transfer of money between the treasurer and the secretary and set up a regular internal audit that was to be carried out by three Association members.[7] This system was eventually replaced in 1937 by a yearly external audit by Price, Waterhouse & Company.[8] Finally, Council established two entirely separate accounts, one for general revenues and one for monies derived from corporate memberships and other sources to be devoted to funding the research work of the Association.

These changes in financial arrangements reflected the Association's growth from a small organization with membership concentrated in New England to a much larger national one having increased legal and financial responsibilities. The growth resulted in a more formal structure, with written procedures replacing verbal agreements among friends. This trend continued during Killheffer's presidency. On February 6, 1929, the AATCC was formally incorporated in Massachusetts. Council took this

[5] "Fiftieth Council Meeting." *ADR,* v. 17, n. 3, February 20, 1928, p. 117.
[6] "Forty-Seventh Council Meeting." *ADR,* v. 16, n. 18, October 31, 1927, p. 680.
[7] "Fiftieth Council Meeting." *ADR,* v. 17, n. 3, February 20, 1928, p. 117.
[8] "Treasurer's Report." *1938 AATCC Yearbook,* New York City, Howes Publishing Co.: p. 77.

action due to the impending contract with Atlas Electric Devices to license the design of the Launder-Ometer (see Chapter 15).[9] The following year Council negotiated a formal contract with the Howes Publishing Company, replacing the letter of agreement that had served as the basis for publishing the Proceedings of the Association in *American Dyestuff Reporter* (see Chapter 6).

By the time Killheffer left office in 1930, the AATCC had successfully managed the transition to its new status as a national organization. Despite the onset of the Great Depression, the Association continued to grow, and under the leadership of the next three presidents (Percival J. Wood of Royce Chemical Company, 1931–1932; Robert E. Rose of E. I. DuPont Company, 1933–1935; and William H. Cady of United States Finishing Company, 1936–1937), the AATCC continued to concentrate on expanding research funding.

One indication of the strong commitment of the Association's leadership to research was its role in the founding of the Textile Research Institute in 1942. In 1929, the AATCC appropriated $1,000 to develop the idea of a general body to do research in the textile industry. In May 1930, with the cooperation of the Textile Research Council1[10] and others, the U.S. Institute for Textile Research was founded to conduct research of a broader scope than could any of the independent organizations. Apparently, the Institute accomplished little during the Great Depression, but in 1937, it proposed to the Textile Foundation that a Textile Research Institute (TRI) be formed. When the proposal became a reality in 1942, the $1,000 AATCC had donated originally became part of TRI's endowment.[11]

In 1937, the continued growth of membership led to the revision of the Association's constitution and bylaws. The AATCC had been operating under the constitution adopted at the inaugural meeting. The continuing need to change this document to contend with changes in the Association's circumstances led to the balloting of amendments on a yearly basis from 1921 on. By the mid-1930s, debates over the constitution's structure led President Cady to recommend the appointment of a committee to perform a comprehensive review and recommend changes. The committee was approved by Council at its February 5, 1937, meeting, and Cady appointed its members immediately afterward.

Chaired by William R. Moorhouse, manager of the National Aniline & Chemical Company and a charter member of the AATCC, the committee, over the next eighteen months, produced a draft of a new constitution. After review by the Association's national officers, the draft was published in October 1938.[12] Following discussion by the membership and several minor changes, the new constitution was approved by letter ballot of the membership and adopted at the April 21, 1939, meeting of Council.[13]

[9] "Fifty-Fourth Council Meeting." *ADR,* v. 17, n. 19, November 12, 1928, p. 249.
[10] The Textile Research Council was formed by about twenty American members of Great Britain's Textile Institute to promote research in the United States.
[11] "The American Association of Textile Chemists and Colorists: Its History 1921–1946." *ADR*, v. 35, n. 24, December 2, 1946, pp. 564–565. Norman A. Johnson, "Thirty-Five Year History of the AATCC." *ADR*, v. 45, n. 18, August 27, 1956, pp. P667–P668.
[12] "Proposed New Constitution." *ADR,* v. 27, n. 20, October 3, 1938, pp. 548–549.

The new constitution was not a radical change, but rather a considerable simplification of the document it replaced. Many minor provisions, such as the collection of annual dues and the structure of local sections, were moved from the constitution to the Association's bylaws. This made changes in the Association's organization easier to adopt and eliminated the need for constantly changing the constitution for relatively minor matters. The objectives of the Association were included in the new constitution unchanged from their previous version, and provisions for membership, governance, and election procedures were essentially the same as the earlier version, although language was simplified.

The only significant changes were in the composition of Council and the amendment process. Under the old constitution, each local section elected one councilor. These councilors, along with the president, two vice presidents, the treasurer, and six councilors-at-large, made up the governing body of the Association. Under the new constitution, the position of councilor-at-large was eliminated. In its place, a system of proportional representation based on the number of senior members in each section was instituted, with each section guaranteed at least one councilor.

The new system of proportional representation was most likely a reaction to the unbalanced nature of the previous system of councilors-at-large. Between 1921 and 1929, thirteen of the eighteen men elected to this office were from New England. No other region elected more than one councilor-at-large during this period. Although representation became more nearly proportional between 1930 and 1938, the last year of the old constitution, the New England region continued to be overly represented. During the same period, the Philadelphia Section (ancestor of the current Delaware Valley Section) elected only two councilors-at-large between 1921 and 1938, a much smaller proportion than its membership would have received on a strictly proportional basis.

The new constitution had an immediate impact on the distribution of council membership. Both the New York and Philadelphia sections benefited, since they were the largest sections. On the basis of membership, they had three members of Council each through the early 1940s. New York was then awarded another Council member, giving it the most councilors of any section. The two New England sections, Northern New England and Rhode Island, had their representation reduced as a result of the new constitution; the other sections remained essentially where they were before the change.

In the long run, the new structure for Council led to the changes in AATCC policy that occurred in the 1960s. As the textile industry increasingly moved to the South, the southern sections, particularly the Piedmont Section, enjoyed an increased voice in Association affairs. In particular, the move of the AATCC headquarters from Lowell, Massachusetts, to Research Triangle Park, North Carolina, in 1964 was a direct result of the growing power of the sections in the South.

[13] "The American Association of Textile Chemists and Colorists: Its History, 1921–1946." *ADR*, v. 35, n. 24, December 2, 1946, p. 567.

The new constitution also made the amendment process more difficult, requiring a petition be signed by at least twenty-five senior members before it could be presented to Council (the previous constitution required only ten signatures). Amendments then had to be approved by two-thirds of the Council and by two-thirds of the senior members in a letter ballot. Since under the new constitution the Council could change the bylaws by a simple two-thirds vote, the ultimate result was that government of the AATCC was simplified, and the need for letter balloting of the membership was reduced.

The final major administrative change at the AATCC prior to 1945 was the reorganization of the Research Committee structure that was initiated in 1943 and completed in 1944. As described in Chapter 3, the committee was reorganized to decentralize power and rationalize the test method approval process. Most notably, the Executive Committee on Research was established as the central body for setting research policy and coordinating the efforts of the test method research committees. These changes were made in anticipation of Olney's retirement as chairman of the Research Committee, and resulted in a new structure and a test method numbering system essentially the same as that used currently.

Taken together, the administrative changes that took place between 1927 and 1945 reflect two changes within the AATCC. First, the Association made the transition from a small, essentially New England based organization to one with national scope and membership. The resulting increase in membership, budget, financial complexity, and regional diversity of interests led directly to the need for more formal management structures to deal with the resulting conflict of policy and organizational direction. The incorporation of the Association, the formal contract with the Howes Publishing Company, the new constitution, and the reorganization of the Research Committee were all part of this trend.

The second change is directly related to the first. As the AATCC grew, the role of Louis Olney changed. Prior to 1927, Olney was involved in both administrative and research activities. After turning the presidency over to other hands, he concentrated almost exclusively on the technical side of the Association's business. Although a member of Council by virtue of his status as past president, he did not participate actively in Association politics, leaving those matters to others. Moreover, although he headed the Research Committee, he encouraged the participation of others and increasingly delegated authority, particularly after 1940. Rather than clinging to power, Olney made his intention to retire from Association affairs clear well beforehand and arranged an orderly transfer of power. As a result of Olney's and others' efforts, by 1945 the AATCC had the administrative structure in place that would successfully carry it through the post-war period, a structure that allowed for active participation by all of the AATCC's interest groups.

Funding for Research

Olney's influence is also clearly seen in the development of the Association's research program. The AATCC's leadership had been interested in textile research from its

founding. The primary focus of that interest had been related to test methods, as described in Chapter 3, but as time went on the Association broadened its mandate to include basic technical work on dyes and textiles.

Funding for research activities came from a variety of sources. Since 1925, members had been asked to contribute to the Members' Research Fund which had been established in preference to increasing dues as a way to help pay for research.[14, 15] A small portion of the money was used to fund prizes for articles published in *ADR* (see Appendix 28), but the vast majority went to fund research projects and the salaries of AATCC-sponsored researchers. The research fund raised $1,419 in 1925[16] and contributions from corporate and individual members remained at roughly that level until 1929, after which individual contributions declined.[17]

To supplement individual contributions, the Council began to transfer monies from general revenues to the research fund in 1926.[18] In 1928 this transfer was formalized by dedicating the income from corporate dues to the research fund, a move that was accompanied by an increased effort to solicit corporate donations. As a result, the research fund enjoyed an annual income of between $2,500 and $3,000 between 1926 and 1931. Expenses were generally less than income, so the fund maintained a reserve in excess of $2,000 throughout this period.

The Research Committee initially made nominal grants to AATCC members to help pay for research. The first grants went to Harold C. Chapin, assistant professor of chemistry at Lowell Textile School, and Arthur K. Johnson, an instructor at Lowell Textile School, who presented the results of their work at the 1925 annual meeting.[19] Their papers were later published in *ADR*.[20] Both Chapin and Johnson used the laboratories of the Lowell Textile School for their work. Over the next ten years, the Research Committee continued to provide small sums to individual researchers, primarily to help pay for work related to the development of test methods.

However, member contributions were spotty and Corporate memberships did not become a major source of funds until the advent of World War II (Table 4-1). Prior to that time, the largest source of research money was the Textile Foundation organized in 1930 by the federal government and funded by profits from the sale of the U.S. assets of German owned dye companies seized during World War I.[21] The AATCC received these grants during the years 1931–1939. After their loss the Association began to increase its solicitation of corporate members for financial support. As a result of these funding patterns, AATCC expenditures for research peaked in 1937. The loss of funding from the Textile Foundation resulted in major cutbacks and a consolidation of research activities at the Lowell Textile Institute. In response, the

[14] *1925 AATCC Yearbook*, p. 56.
[15] "Questionnaire." *ADR*, v. 16, no. 7, May 2, 1927, p. 114.
[16] *1926 AATCC Yearbook*, p. 41.
[17] Treasurer's reports in the *1927–1935 AATCC Yearbooks*.
[18] *1927 AATCC Yearbook*, p. 47.
[19] *1926 AATCC Yearbook*, p. 54.
[20] H. C. Chapin, "Effect of Alkalis on Wool: The Importance of pH." ADR, v. 14, n. 22, December 28, 1925, pp. 859–861; A. K. Johnson, "Quantitative Studies of the Actions of Alkalis (Caustic Soda) on Rayon Silks and of Their Relative Hygroscopic Qualities." *ADR*, v. 14, n. 22, December 28, 1925, pp. 866, 875–878.
[21] Williams Haynes, *American Chemical Industry*, v. V, New York: D. Van Nostrand, 1954, p. 174.

Table 4-1. Pattern of AATCC Research Funding from 1925 to 1946

Year	Textile Foundation	Corporate Memberships	Other Corporate	Individual and General Funds	Total	Expenditure
1925	0	0	0	$1,419	$1,419	0
1926	0	0	0	2,750	2,750	0
1927	0	0	$ 500	459	959	$ 899
1928	0	$2,890	0	0	2,890	2,461
1929	0	2,265	0	595	2,860	3,611
1930	0	2,972	0	2,000	4,972	3,819
1931	$3,750	2,061	0	0	5,811	6,593
1932	5,000	1,613	0	1,000	7,613	8,370
1933	6,450	2,872	0	0	9,322	9,806
1934	6,200	1,379	0	2,000	9,579	10,060
1935	8,800	1,673	900	0	11,373	9,576
1936	12,875	2,331	5,100	0	20,306	17,899
1937	16,375	2,373	3,600	197	22,545	20,745
1938	10,667	2,530	0	265	13,462	11,675
1939	2,500	2,285	0	232	5,017	5,540
1940	0	2,715	0	108	2,823	4,393
1941	0	3,040	0	1,712	4,752	6,888
1942	0	5,938	0	131	6,069	5,252
1943	0	6,348	0	145	6,493	5,671
1944	0	19,162	11,500	322	30,984	7,566
1945	0	35,524	0	870	36,394	14,634
1946	0	36,950	0	1,365	38,315	24,623

Association began to stress fund raising from corporate sources. The rising profits of textile firms as a result of wartime military contracts meant that firms were increasingly willing to donate, and by 1944 total research funds available exceeded the 1937 high. However, wartime shortages of materials and labor meant that the AATCC could not spend these new funds as fast as they came in. As a result, the revival of the Association's research program did not reach full flower until after the end of World War II.

Research Activity

With his pending retirement from the presidency in late 1927 and his desire to spend more time building up the AATCC's research program, Olney began to lay the groundwork for future changes. In particular, he wanted to establish a permanent research program and hire a full-time staff member for research. At the Council meeting on April 29th, there was considerable discussion about what sort of person or persons were needed to carry out the growing research program. The consensus that emerged was that the man chosen should be of "high caliber" and capable of carrying out his duties independently. It was eventually decided to make use of the growing research fund by hiring a full time research associate for one year. The appropriation of $750 for research work made at the previous Council meeting was rescinded, and in its place a motion to spend $2,000 for a full-time research worker was approved.[22] After some discussion about where he should work, the Council settled on the Bureau of Standards (NBS), largely due to the efforts of William D. Appel. As an associate chemist at the NBS and a member of the AATCC's Research Committee, Appel had been involved with the AATCC's research program on colorfastness to light since 1924.[23] Appel convinced the Council that the Bureau's laboratory offered an excellent environment for collaboration between NBS and the AATCC establishing a link that would persist until the early 1950s.

In June 1926, the AATCC hired William C. Smith as the Association's first researcher. Smith was assigned to the Washington, D.C., laboratory of the National Bureau of Standards as part of that agency's cooperative research program. Under that program, the Bureau furnished its laboratory space and equipment to the AATCC free of charge; the Association was responsible only for Smith's salary.[24] Smith, a graduate of the Lowell Textile School, proved to be a productive worker, collaborating with Appel over the next several years on a series of research projects related to colorfastness to light and washing. He published an average of one paper per year in *American Dyestuff Reporter* until his resignation in 1934.[25]

The number of paid researchers continued to increase. In 1930 the AATCC hired Earle R. McLean, a graduate of Lowell Textile Institute, for two months as an assis-

[22] "Forty-Fifth Council Meeting." *ADR,* v. 16, n. 10, June 13, 1927, pp. 380–381.
[23] *1924 AATCC Yearbook*, p. 34.
[24] *1927 AATCC Yearbook*, p. 61.
[25] "Index of Authors." *ADR*, v. 17–24, 1927–1934.

tant to Smith.[26] Afterward, McLean was hired by the Mellon Institute for Industrial Research as a research fellow and eventually went on to a career in industry as a research chemist. The next year the AATCC received a $5,000 grant from the Textile Foundation. The Research Committee decided to hire an additional researcher, Milton Harris, to work at the Bureau of Standards on fundamental research. The committee also hired a research assistant, Bertil A. Ryberg, to work at Lowell Textile Institute under the direction of the chairmen of the various subcommittees on testing. In 1933 the Committee added a fourth man, Sivert N. Glarum, who worked on projects at Brown University. When Smith left in 1934, he was replaced by Sidney M. Edelstein who carried out work on mercerization at the University of Chattanooga.[27]

The AATCC by this time had grown increasingly dependent on grants from the Textile Foundation, which paid for well over half of the research program. In 1932, the Textile Foundation provided $5,000 out of the $8,370 expended on research. By 1935, the amount rose to $8,800 out of $9,575.[28] In 1935, the AATCC employed a total of eight researchers. Milton Harris and three research assistants (Arthur Smith, Arnold Sookne, and Henry A. Rutherford) worked at the Bureau of Standards on the chemistry of wool fibers. Edelstein continued his work at Chattanooga, where he was joined by William Pope. Lee R. Ellenburg was a research assistant at Alabama Polytechnic Institute. Pope and Ellenburg collaborated with Edelstein on studies related to mercerization and Ryberg worked at Lowell Textile Institute on the quantitative determination of fibers in mixtures.[29]

The men that the AATCC employed were an exceptional group, many of whom went on to have successful research careers in the textile industry. Harris, after a stint as the director of research at the Textile Foundation, founded Harris Research Laboratories in 1944, a major independent textile research and development service, and in the 1960s and 1970s he served on a variety of governmental and industry advisory boards. Harris became a member of the National Academy of Engineering, and was awarded the Olney Medal, the AATCC's highest award, in 1945; the ASTM's Harold DeWitt Smith Award in 1966; and the Society of Chemical Industry's Perkin Medal in 1970.[30] Several of the other AATCC researchers later worked for Harris. Rutherford was assistant director of Harris Research Laboratories very briefly and then was hired in 1947 to head the textile chemistry program at North Carolina State College. There he became the Cone Mills Distinguished Professor of Textile Chemistry and continued to head the program until 1973.[31] Arthur Smith, after a brief period as director of research at a small midwestern woolen mill, worked for Harris Research Laboratories as a research associate. In the 1950s he left that position to become technical director for Chatham Manufacturing Company.[32] Sookne,

[26] Louis A. Olney, "A History of the Research Committee." *ADR,* v. 35, n. 24, December 2, 1946, p. 575.
[27] Ibid.
[28] *1932 AATCC Yearbook*, p. 56; *1935–1936 AATCC Yearbook,* p. 72.
[29] 1*935–1936 AATCC Yearbook*, p. 83.
[30] "Milton Harris," *American Men and Women of Science,* 14th ed., New York, N.Y., R. R. Bowker, 1979, p. 2032.
[31] "Henry Ames Rutherford," *American Men and Women of Science,* 14th ed., New York, N.Y., R. R. Bowker. 1979, p. 4363.
[32] Membership Directories, *1940–1968 AATCC Yearbooks.*

after a long research career at Harris Research Laboratories, in 1969 became director of chemical development for Burlington Industries. He was awarded the Olney Medal in 1960 and the Harold DeWitt Smith Award in 1971.[33]

In 1944 Edelstein founded the Dexter Chemical Corporation, a manufacturer of specialty chemicals for the textile industry, and eventually became a very wealthy man. A lover of history and a collector of rare chemistry books, he funded two annual competitions in historical scholarship: the Dexter Award given by History of Chemistry Division of the American Chemical Society and the Dexter Prize given by the Society for the History of Technology. Ryberg left the AATCC after World War II and worked for many years in the textile research department of Procter & Gamble.[34] Glarum worked as a research chemist for Rohm and Haas Company from 1937 to 1946, before joining Ciba Products Corporation. In 1952, he became Ciba's chief chemist. In 1959 he left that job for the Southern Research Institute, where he stayed until he retired in 1971.[35] The distinguished careers of this group indicate the AATCC's leadership's commitment to research and its desire to hire bright promising people to do significant work.

The work of these researchers was published regularly in *ADR* under the sponsorship of the Research Committee that also sponsored the publications of outside researchers as well. But as the number of AATCC-funded research associates and assistants increased, their work dominated the publication schedule. The number of articles rose from one to two a year in the 1920s to a peak of nineteen in 1937 (fourteen of which were written by AATCC-sponsored researchers), declining afterward due to reduced funding (Table 4-2). It is important to note that while much of the research carried out under this program had to do with analysis of textiles, it was not directly related to standard test methods. Rather it was general research into questions of broad interest to the textile industry.

In 1938 the Textile Foundation ended support for applied research of the sort being carried out by the AATCC, redirecting its money to fundamental research.[36] The program at the Bureau of Standards was taken from the AATCC and turned over to the direct supervision of the Textile Foundation Advisory Committee.[37] The Textile Foundation also decided to move research at other sites to the Bureau of Standards laboratory in Washington, D.C. To ease the transition, the Foundation agreed to provide an additional $5,000 to the AATCC for the 1938–1939 fiscal year—the last $2,500 was received and spent by the Association in early 1939. After that, the Textile Foundation provided no further research funds.[38]

The results were devastating for the AATCC's research program. The Association was forced to cut back drastically on the number of researchers employed, and the

[33] "Arnold Maurice Sookne," *American Men and Women of Science*, 14th ed., New York, N.Y., R. R. Bowker, 1979, p. 4803.
[34] Membership Directories, *1940–1968 AATCC Yearbooks.*
[35] "Sivert N. Glarum," *American Men and Women of Science*, 13th ed., New York, N.Y., R. R. Bowker, 1976, p. 1524.
[36] Since the two organizations had different fiscal years, some of the funds transferred were credited to its 1939 budget by the AATCC.
[37] *1938 AATCC Yearbook*, p. 88.
[38] 1*939 AATCC Yearbook*, pp. 93–94.

Table 4-2. Articles Published by the Research Committee (1922–1945*)

Year	Total Articles	By AATCC Researchers
1922	1	0
1923	1	0
1924	1	0
1925	5	0
1926	0	0
1927	3	0
1928	1	1
1929	1	0
1930	0	0
1931	4	2
1932	7	4
1933	5	4
1934	10	5
1935	2	1
1936	13	10
1937	19	14
1938	13	12
1939	8	4
1940	8	1
1941	0	0
1942	1	0
1943	2	0
1944	4	0
1945	6	1

**1946 AATCC Yearbook,* pp. 125–131.

remaining research program was entirely centered at the Lowell Textile Institute. In response to the crisis, the Research Committee drafted a report on its past activities, focusing on the work sponsored by the Textile Foundation. The report, published in the *1939 AATCC Yearbook*, outlined a program for future applied research in three areas. One, a thorough examination of all existing test methods with a view toward making them more useful to the textile industry and consumers. Two, continued applied research into problems of interest to the textile industry, with a particular focus on translating the theoretical work sponsored by the Textile Foundation at the Bureau of Standards into practical results suitable for commercial application. Three, cooperation with scientific and trade organizations on a consulting basis.[39]

Due to the shortage of funding caused by the withdrawal of Textile Foundation support, the Research Committee was forced to focus its efforts on the first of these three goals. Bertil A. Ryberg, who had been one of the AATCC's first research associates, was hired in May 1940 as associate director for research and so became the AATCC's first permanent employee.[40] During the early 1940s, Ryberg was also the Association's only funded researcher. As a result, he carried out a variety of duties, including meeting with textile and consumer groups to acquaint them with the AATCC's test methods.[41]

The AATCC and World War II

Over the next five years, the Association was able to gradually expand its research program due to two factors. First, the Research Committee instituted an active program of fund raising from corporate members. Olney and his associates had initially hoped that voluntary contributions from industry would make up for the money lost when the Textile Foundation withdrew support, but they were disappointed by the lack of response. As a result, in 1941 a fund raising campaign was started, involving both the Research Committee and individual members soliciting corporate contributions. The campaign proved successful: corporate donations doubled between 1940 and 1943 and quintupled by 1945. The new contributions more than made up for the funds lost when the Textile Foundation ended its support, and by the end of World War II the Association was once again ready to carry out an independent research program.

Second, the AATCC could expand its textile research because of the demand generated by the U.S. military. American troops fought in a wide variety of climates, and their uniforms and other equipment had to both survive abuse and function properly. During the war, the AATCC's research work focused on service to the military. Even before the United States entered the war, the Association became involved in a government program to standardize the dyeing of fabrics for uniforms. Representatives of the AATCC attended the first meeting of the Committee Cooperating with the

[39] "Report of Research Committee." *1939 AATCC Yearbook*, pp. 92–95.
[40] "127th Council Meeting." *ADR*, v. 29, n. 10, May 13, 1940, p. 250.
[41] Ibid.

Government on Uniform Fabrics at the Army Quartermaster Depot in New York on July 8, 1941. The committee, better known as the Olive Drab Committee, had been organized at the request of the Office of the Quartermaster General to investigate ways of improving the colorfastness of olive drab fabrics to weather, light, perspiration, and dry cleaning.[42]

The committee included representatives of both dye manufacturers and textile manufacturers, as well as members of the Quartermaster Department. At the first meeting, they discussed the properties of some eighteen dyes used to produce olive drab. This list was narrowed to seven that the committee believed held the most promise for improved results. On the instructions of the committee, 150 samples were produced, using combinations of these seven dyes. Tests by the AATCC at Lowell under the supervision of Bertil Ryberg narrowed the field to five that showed superior colorfastness properties. Unfortunately, four of the five samples used imported dyes that were not permitted in government contract work.[43]

The committee then tested a second series of 137 dyed samples, of which 11 were selected for further development. Tests at Lowell showed that six samples had outstanding colorfastness, and these were recommended to the Quartermaster Department. The committee found that substituting these dye combinations would improve the quality of woolen fabrics being delivered under existing contracts without disrupting production. The committee produced its final report in July 1942, and it was subsequently published in the *1942 AATCC Yearbook*.[44]

From the beginning of the war, other AATCC committees began to cooperate with the government on textile-related research and test method questions. The most prominent of these were the Committee on Sulfur Dyed Textiles and the Committee on Mildewproofness of Textile Fabrics, both of which worked with the military to develop new fabric test methods. Other committees acted primarily in an advisory capacity.[45]

During the war the AATCC also began to coordinate its work with other agencies involved in standards and testing. In April 1941 the American Standards Association had set up Sectional Committee L14 on Fastness of Colored Textiles. The AATCC was a cosponsor of the committee, along with the American Society for Testing and Materials (ASTM).[46] Work on the standards developed by this committee continued during the war, but the AATCC also was an active participant in the revision of Commercial Standard CS 59 for the Federal Trade Commission (FTC). Issued by the FTC as Commercial Standard CS 59-44 January 1944, the standard was intended to be the basis for any subsequently released commercial labeling requirements for textiles. The majority of the test methods described in CS 59-44 had been developed by the AATCC.[47]

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[42] Louis A. Olney, "A History of the Research Committee." *ADR,* v. 35, n. 24, December 2, 1946, pp. 575–576.
[43] Ibid., p. 576.
[44] Louis A. Olney, "Report of the Committee Cooperating with the Government on Uniform Fabrics." *1942 AATCC Yearbook,* pp. 104–109.
[45] "Report of the Research Committee." *1943 AATCC Yearbook,* p. 89.
[46] Ibid.
[47] "Report of the Research Committee." *1944 AATCC Yearbook,* p. 91.

The need to fulfill its commitments to the military and the increasing contributions of corporate members allowed the AATCC to expand its full-time staff, which by 1945 included four people. Bertil Ryberg continued as associate director of research. The three people he supervised were G. Robert Thompson, Research Associate, and George J. Mandikos and Mary P. Shelton, Research Assistants.[48] Later that year, Harold W. Stiegler was appointed as director of research. Steigler moved immediately to take advantage of the research funds that had accumulated during the war, hiring six additional staff researchers in less than a year.[49] Independent research had returned as a central AATCC program. (See Chapter 5 for details of the postwar research program.)

Between 1927 and 1945, the AATCC had one consistent objective: the development of a permanent institution doing work on both test methods and applied research of interest to the textile industry. Despite the temporary setback caused by the withdrawal of funding by the Textile Foundation and the need to satisfy the demands of the military, by 1945 the Association was finally ready to implement its plan on the scale originally intended. Funded by a broadly based program of corporate contributions, Olney's dream of an organization devoted to the best in textile research seemed to be at hand. How that dream played out is covered in the next chapter.

Changes in Organizational Structure

During the war, the AATCC made a number of changes in committee structure to assist the government. A subcommittee on fabrics for military uniforms was established, and the AATCC pushed forward development of test methods of interest to the military, such as mildew proofing, fire resistance, and water repellency. Under the press of wartime business, several subcommittees were relegated to the newly created "Reference" status.[50] These were, by and large, concerned with test methods that had been completed and were being used but that were not the subject of ongoing development. Each Reference Committee had a chairman who was appointed to answer questions, but no other members were assigned and the committees did not meet. This concept proved to be so useful it was continued after the war and is still in effect.

By 1944, the AATCC had begun to make plans for the postwar period. Anticipating Louis Olney's intentions to gradually withdraw from his duties with the Research Committee (Olney had retired from the Lowell Textile Institute in early 1944), Council changed the rules for committee service. Beginning on July 1, 1944, subcommittee chairmen were limited to three-year terms, and voting membership was limited to no more than three subcommittees at the same time. With the steady increase in AATCC membership brought about by the war and the aging of the generation that

[48] "Report of the Research Committee." *1945 AATCC Yearbook*, p. 96–97.
[49] "Report of the Research Committee." *1946 AATCC Yearbook*, p. 121.
[50] *1944 AATCC Yearbook*, p. 90.

had founded the Association a quarter-century before, it was increasingly clear that major changes in leadership and research direction were in store.

Publications

In contrast to the considerable changes in the organization and research objectives of the Association between 1927 and 1945, there was considerable stability in publications. The Proceedings of the AATCC continued to be published in *American Dyestuff Reporter*. Although there were occasional complaints about the quality of the editing of papers, the membership was generally satisfied with the service provided by the Howes Publishing Company. Louis Olney continued in his position as editor, and he and A. P. Howes became increasingly close personally. By 1945, Howes had added Olney to the board of directors of his company. Their relationship would remain close until the two men's deaths in the late 1940s.

The *AATCC Yearbook* also continued essentially unchanged during this period, aside from a continuous increase in its physical size. The increase in the number of test methods approved by the Association meant that the page count of the *Yearbook* went from a little over 300 in 1927 to nearly 800 in 1945. The arrangement of contents and the format of the test methods remained almost unchanged, however.

The Society of Dyers and Colourists

Although the AATCC's publications remained essentially unchanged, during this period their contents led to the Association's most significant relationship with another organization. The annual listing of American dyes in the *AATCC Yearbooks* attracted the attention of the Society of Dyers and Colourists (SDC) in the early 1940s, when that society was planning to update its publication, the *Colour Index*. The result was an agreement in 1945 to collaborate on the development and publication of a second edition.

The AATCC had first worked with the SDC in 1925, when the AATCC's Research Committee began correspondence about establishing uniform standards for dye testing in the United States and Great Britain.[51] As described in Chapter 3, the AATCC and SDC went on to cooperate on the development of test methods for colorfastness to light during the late 1920s and 1930s.

The AATCC's attention had been apparently attracted by the publication in 1924 of the *Colour Index*, the first comprehensive post-World War I guide to dyes and dye application. A complete listing of dyes and pigments used in dyeing, printing, and paints, the *Colour Index* replaced other reference works as the most authoritative guide.[52] All dyes listed in the Index were classified by chemical composition as well as by commercial name. The *Colour Index* also included information on preparation,

[51] *1925 AATCC Yearbook*, p. 56.
[52] Maurice Tordoff, *The Servant of Colour,* Bradford, West Yorkshire: Society of Dyers and Colourists, 1984, p. 122.

application, colorfastness, and references to relevant scientific literature. With listings for over 20,000 commercial products from over 100 firms, the new publication was an immediate commercial success.

The AATCC had initiated a similar program at about the same time. The *1924 AATCC Yearbook* contained a list of the roughly 1,700 dyes manufactured in the United States, arranged by commercial name (this is the ancestor of the *AATCC Buyer's Guide*). The list also gave the name of the manufacturer of each dye, and the German equivalent of that dye by Schultz Number where available. The Schultz Number was the number assigned to each type of dye by the German reference work *Tabellarische Übersicht der Kunstlichen Organischen Farbstoffe* by G. Schultz and P. Julius, first published in 1888 and updated four times between then and 1914.[53] Publication of the list was the direct result of a survey of AATCC members who wanted a reference that would allow them to select American equivalents of the German dyes they had been using.[54] The following year the list also included the *Colour Index* number for each dye along with the Schultz number.[55] In 1930 the Schultz numbers were dropped, recognizing that the *Colour Index* had become the standard reference work for dye classification.

The AATCC's annual list of American dyes also was very popular, largely because the more comprehensive *Colour Index* was not updated regularly. Aside from a supplement released in 1928, there was no effort to make ongoing changes in the original version.

In contrast, the AATCC's annual list was kept current, with new dyes being added every year and those no longer manufactured dropped soon after the producer discontinued them. In 1933, a list of textile chemical specialties was added to the *Yearbook*. This included about eighty nondye chemicals used in textile processing, listed alphabetically by trade name and by end use: bleaching agents, detergents, dyeing assistants, and the like.

Since the trade name list also gave the chemical nature of the product and the manufacturer, the lists of dyes and chemicals provided textile firms with up-to-date commercial information in a simple and easy-to-use form. By 1933, the list of dyes had grown to over 4,000 items and an index by *Colour Index* number had been added. The list of chemicals also had grown to about a 1,000 products sold under roughly 300 trade names.

The AATCC's annual dye and chemical lists eventually provided the basis for the most notable collaboration between the Association and the SDC, the preparation of the second and third editions of the *Colour Index*. During the meetings in 1943 that led the SDC to establish an editorial committee for the second edition, members of the SDC's Council called attention to the AATCC's work and suggested that the Association be included in the effort. The AATCC ultimately agreed, and the first meetings between the AATCC and the SDC took place in 1945. Subsequent developments are described in Chapter 5.

[53] Ibid.
[54] *1924 AATCC Yearbook*, pp. 130–31.
[55] *1925 AATCC Yearbook*, p. 152.

Sections

In 1926, the AATCC had five local sections: Rhode Island (established 1921), Northern New England (1921), New York (1922), Philadelphia (1922), and Southern (1924). Except for the Southern Section, all the sections were centered around a city–Providence in the case of Rhode Island, Boston for Northern New England, and their respective cities for the Philadelphia and New York Sections.

The large geographical separation between the members of the Southern Section meant that it was the first to divide. AATCC members from Alabama, Georgia, and Tennessee (most of whom were west of the Appalachian Mountains and isolated from the rest of the Southern Section) petitioned Council in 1927 after an organizational meeting in Chattanooga, Tennessee. The split was approved, and the new section was named the South Central. The other portion of the section inherited the Southern Section's charter, though it changed its name to Piedmont to avoid confusion.

The continued growth of the AATCC outside New England and the rise of the textile industry in the South led to the formation of two more sections. The Midwest Section was established in 1929. It was similar to the other northern sections in that membership was centered around the city of Chicago. Most of the charter members of the Midwest Section were members of the Spectrum Club, a local organization for individuals interested in color. In contrast to the AATCC, the Spectrum Club was "purely social" in nature, and as a result the transition to sectional status was easy (members of the club voted unanimously to join the AATCC).[56]

The last regular section to be formed before 1945 was the Southeastern Section in 1931. Carved out of the Piedmont and South Central Sections, the Southeastern had its origins in an attempt to form a competing textile chemistry organization centered in the South. Charles E. Mullin, head of the Division of Textile Chemistry at Clemson College in South Carolina, had been actively trying to reduce the AATCC's hold on its southern members. He felt that the AATCC was dominated by "Yankees" and that southerners and the southern textile industry would benefit from a separate southern organization. On May 9, 1931, several prominent southern members of AATCC met at the Textile School of the Georgia School of Technology (now the Georgia Institute of Technology) in Atlanta to discuss the possibility of breaking away. They took no action, postponing the decision until later. Olney, Killheffer, and several other senior figures in the Association got wind of the plan and through personal appeals to the more conservative of those contemplating division managed to avoid a break.[57]

In the wake of this crisis, most of the men who had met in Atlanta gathered in Columbus, Georgia. They set up the Southeastern Section, adopting bylaws and electing officers. They then held a technical session, listening to three papers on bleaching and one on sulfur dyes. The meeting was even reported in the June 27 issue of *Textile World*. Clearly, the new section was a resounding success, and the crisis of Southern defection had been avoided.

[56] Arthur T. Brainerd, "History of the Mid-West Section." *ADR*, v. 35, n. 24, December 2, 1946, p. 606.
[57] Elvin H. Killheffer, p. 9; William H. Cady to Elvin H. Killheffer, November 21, 1934, AATCC Archives, pp. 1–2.

Unfortunately, the whole affair was completely unconstitutional as far as the AATCC was concerned. Article XIII of the constitution clearly called for twenty-five members to petition Council prior to the formation of a section. Council would then rule on whether the new section was desirable, and only if it approved would a temporary chairman be appointed and sent to run a meeting at which the section would be organized. In this case, the report in *Textile World* was the first time the Council heard about the matter. There was no prior planning. To make matters worse, the new section had elected a junior member as chairman, something forbidden by the constitution.[58]

At the Council meeting the following October, there was considerable debate about the legality of the newly formed section. According to William Cady, who was present at the meeting in his capacity as vice president, the members of the Council "hemmed and hawed" over the situation for fear of offending the southern members and perhaps precipitating secession. The Council ultimately decided to ignore the irregularities associated with the section's formation, asking only that the section submit a petition signed by the requisite twenty-five members. Surviving records do not indicate whether the petition was ever actually submitted.[59]

The hostility that some southerners felt toward the "Yankees" in the AATCC was not unwarranted. There were more than a few individuals who, as late as 1931, still felt that the AATCC should remain centered in New England and that there was no need for a truly national organization. These individuals were not part of the senior leadership—both presidents during this period (Olney and Killheffer) were strongly in favor of a national organization and worked toward that end—but they did manage to make their views known.[60]

The most notable example of the rivalry between sections was the establishment of formal geographical boundaries to distinguish one section from another. Prior to 1932, sections were not formally defined, but they were associated with a geographical center, usually a major city such as New York or Boston. Members had the option of belonging to whatever section they liked, regardless of where they lived (and still do). In 1932, to avoid future conflicts over the establishment of new sections, formal geographical boundaries were established between all the sections and published for the first time in the *1932 AATCC Yearbook*.[61] Unless a member specifically requested otherwise, he or she was assigned to the section of his or her residence. The change reflects the growing importance of intersectional rivalry, a rivalry that would culminate with the establishment of the Intersectional Paper Competition in 1940. The contest provides local sections an opportunity to contribute original research findings to the wet processing literature while at the same time engaging in friendly competition. Papers are judged for originality, scientific value, and presentation. Section rivalry is best typified by the long-running Intersectional Paper Competition Box

[58] Ibid.
[59] William H. Cady to Elvin H. Killheffer, November 21, 1934, AATCC Archives, p. 2.
[60] Killheffer, p. 9.
[61] *1932 AATCC Yearbook*, p. 67.

Score (Table 4-3) in which the Rhode Island Section is clearly the leader. Yearly winners are given in Appendix 29.

The activities of section members at their meetings continued along the lines established in the early 1920s. As described in Chapter 2, sectional activities during this period centered around social events, albeit with some technical content. In the northern sections, namely New York, Philadelphia, Northern New England, and Rhode Island, section members were close geographically and so met on a regular basis. In the New York Section, for example, monthly meetings were limited to a single evening, with dinner followed by the presentation of a paper. With over 1,100 members by 1945, the New York Section could easily support such a regular program of meetings. The majority of the papers presented during this period were broad in scope, addressing political and economic questions of interest to the textile industry rather than narrow technical topics, and were clearly intended as after-dinner entertainment. Northern sections also typically had one purely recreational meeting a year, usually an all-day golf outing at a resort near their city.

Southern sections such as the Piedmont, on the other hand, had members spread over a much wider area, and so had fewer meetings per year (typically two, occasionally three). These meetings normally took place over several days. Technical papers were presented, but the majority of the time was devoted to some sort of recreational activity, such as horseshoes, tennis, or golf.

This period also saw an increase in the number of student sections of the Association. Prior to 1927, there was only one student section, that of the Lowell Textile School, established in 1922. In early 1930, students in the School of Textiles at North Carolina State College petitioned Council for a charter, and it was granted. The Philadelphia Textile School set up a student section in 1936, followed by the textile program at the New Bedford Textile School (now the University of Massachusetts at Dartmouth) in 1942. The student sections met several times a year and brought in speakers from industry to talk about issues in the textile industry.

General Meetings

The once-a-year general meetings of the AATCC continued to focus on technical papers during the 1930s and early 1940s in contrast to the more social orientation of sectional meetings. Unlike the post-World War II period, there were no formal exhibits by manufacturers. This is not to say that there were no attempts to sell products at the meeting; salesmen took advantage of the gatherings to entertain privately both current and potential customers while discussing their product lines. Since this entertainment always included alcohol and sometimes prostitutes, the AATCC's leadership was concerned about its image.[62] A number of attempts were made to limit such activities, most notably a motion was passed by Council in 1937 that "entertainment in private rooms during the Annual Convention be dispensed with."[63]

[62] The use of alcohol and prostitutes by salesmen as sales inducements was described to the author by several longtime AATCC members who prefer to remain anonymous.
[63] "114th Council Meeting." *ADR*, v. 26, n. 26, December 27, 1937, p. P844.

Table 4-3. Intersectional Paper Competition—Box Score as of 1996

Section	No. of Entries	First	Second	Third	Total Points
Rhode Island	31	12	4	6	103
Piedmont	29	7	6	6	87
Southeastern	32	6	5	6	81
Northern Piedmont	18	7	4	1	60
Northern New England	24	3	6	2	58
Palmetto	14	2	7	3	49
Gulf Coast	15	2	4	4	43
Delaware Valley	13	2	3	4	38
Midwest	20	1	3	2	35
Metropolitan	9	4	2	–	31
South Central	17	3	–	–	29
Hudson-Mohawk	4	1	1	1	13
Pacific	2	–	–	–	2

On the basis of 1 point for each entry in the ITPC since 1940, 2 points for each third place finish, 3 points for each second place finish, and 4 points for each winning entry, the Rhode Island Section leads all other sections with 103 points. Point totals for some sections have been distorted over the years by the changing of section boundaries; i.e., Palmetto and Northern Piedmont Sections and the dissolution of the New York, Niagara Frontier, Philadelphia, Washington, and Western New England Sections.

The Ontario Section of the Canadian Association of Textile Colourists and Chemists won first place in 1968 and placed second in 1976; CATCC's Quebec Section won first place in 1986 and 1991, second place in 1993, and placed third in 1961.

Meetings during this period typically were held over two days, usually Friday and Saturday. The cost, aside from travel and hotel accommodations, was low. Prior to 1927 there was no general conference fee. At the October 26, 1928, meeting Council decided to institute for the first time a $1 registration fee for the general meeting.[64] The fee, intended to help defray the general expenses of the meeting, rose gradually over the years, reaching $2.50 by 1944.[65] The fee did not include meals, which were subject to a separate charge until the 1945 meeting.

[64] "Fifty-Fourth Council Meeting." *ADR*, v. 17, n. 19, November 12, 1928, p. 249.
[65] Program, Annual Meeting, October 12, 13, 14, 1944, p. 1, AATCC Archives.

The program of the 1936 meeting in Providence, Rhode Island, is typical of the general meetings during this period. Registration opened at the Providence-Biltmore Hotel at 10 a.m. on Friday. After the Council meeting at 1:30 p.m., the Research Committee met at 2:30. For members not involved in Association politics, there was a afternoon sightseeing tour. After a buffet dinner, attendees listened to a talk on "Art in Textile Design" by Bernice E. Jamieson of the Rhode Island School of Design and then saw a short film about the manufacture of stainless steel. The evening ended with a short program of entertainment.

The next day's program began at 9:30 a.m. with the presentation of the first paper. Six papers were heard before lunch, and after a brief business meeting (now officially the Annual Meeting) where election results were announced, papers resumed at 2 p.m. Another six papers lasted until 5 p.m., and after a two-hour break, there was a formal banquet with a series of speakers. No activities were scheduled for Sunday—presumably everyone went home.

General meetings were popular throughout the 1930s, attracting several hundred attendees despite the economic depression. Meetings took place on a regular basis until 1941. The 1942 and 1943 meetings were canceled due to wartime travel restrictions.[66] As a result, the 1944 meeting in Atlantic City, N.J., was the largest to that date in terms of papers presented. It took place over three days, with registration beginning on Thursday afternoon. Papers were presented on both Friday and Saturday, with simultaneous sessions for the first time to accommodate the many speakers—twenty-four in all.[67]

Also for the first time there was a formal exhibit, though not by corporate members. The United States Army and Navy furnished a selection of materials that AATCC members had helped to develop, and they were on display in the conference hotel.[68] This exhibit provided the stimulus for the first exhibition by AATCC corporate members, which took place at the 1946 meeting.[69] This set the stage for the post-World War II expansion of the conference into a major trade show for the textile industry.

Olney Medal

The impending retirement of Louis Olney led A. P. Howes to establish the AATCC's first major award. Although the AATCC had given prizes for outstanding papers in the 1920s and had used the category of honorary membership to reward some members for long service to the Association, prior to 1944 there was no award to recognize general contributions to textile chemistry.

In late 1943, Howes donated $1,000 to establish a fund, the income of which would be used for an annual award to be known as the "Olney Medal." Howes intended that the award have two purposes. First, he hoped it would "encourage and… afford public recognition of outstanding achievement in, or contribution to, the field

[66] "Annual Meeting Canceled." *ADR*, v. 31, n. 15, July 20, 1942, p. 351; "The Question of Scientific Meetings." *ADR*, v. 32, n. 19, September 13, 1943, pp. 407–408.
[67] *ADR*, v. 33, n. 17, August 14, 1944, p. P352.
[68] *ADR*, v. 33, n. 19, September 11, 1944, p. P390.
[69] Program, Victory Convention, January 3–5, 1946, p. 2, AATCC Archives.

The Olney Medal

of textile chemistry."[70] Second, he wanted it to be a testimonial to Olney and his contributions to the field.[71]

Based on previous discussions with the AATCC leadership, Howes agreed to allow the administration of the award through a committee of five drawn from the Association's senior members. The award was not limited to the recognition of a single contribution, but could reflect the sum total of an individual's contributions.

The donation was accepted by Council with thanks at the October 22, 1943, meeting. An awards committee was appointed and soon after began deliberations. This surprised Howes when he learned of it in June 1944, and he made it clear that he had intended the first Olney Medal to go to Louis Olney and no one else.[72] William D. Appel, the current AATCC President, moved quickly to soothe Howes' ruffled feathers. He forwarded Howes' letter to the committee members and reassured Howes that Olney had always been the leading candidate.[73]

The committee eventually acceded to Howes' wishes. The first Olney medal, a two-inch in diameter gold medallion with Olney's likeness and the inscription engraved on the face of the medal and the awardee's name and year on the reverse, was presented to its namesake at the 1944 annual conference. The presentation was the climactic event of the conference, taking place at the formal evening banquet on Saturday evening, October 14th. It was a fitting climax to Olney's career; he had retired from the Lowell Textile Institute earlier that year and he was making plans to relinquish his position as chairman of the Research Committee. Surely, he felt very

[70] A. P. Howes to Council of the AATCC, September 22, 1943, AATCC Archives.
[71] Ibid.
[72] A. P. Howes to William D. Appel, June 28, 1944, AATCC Archives.
[73] William D. Appel to A. P. Howes, July 1, 1944, AATCC Archives.

proud as he sat at the head table that night, waiting for the presentation. Subsequent Olney medalists are listed in Appendix 25.

In 1995, AATCC received $10,000 from the Roland E. Derby Jr. Memorial Fund to help defray the cost of the Olney Medal. Derby was the Olney Medal recipient in 1980 and his father, Roland E. Derby Sr., was the recipient in 1953. They are the only father/son recipients of any of the three major AATCC awards.[74]

Conclusion

Olney had every reason to feel proud of his accomplishments–the tiny association he had founded in 1921 had grown tremendously under his leadership. It had survived the conflict over the role of southern members and the withdrawal of Textile Foundation funds, and the number of members had grown every year. In 1945 the AATCC had almost 4,000 members, more than ten times the total in the early 1920s. Corporate membership also was at an all-time high, and funding for research had returned to its 1937 high point. Prospects were bright, and Louis Atwell Olney no doubt looked forward with anticipation to the years ahead and the fulfillment of his vision of a vigorous scientific society.

[74] William R. Martin Jr. to George W. Spicer, September 19, 1995, AATCC Archives.

Part II

Growth and Independence (1946–1972)

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Chapter 5

Synthetic Fibers and the AATCC (1945–1956)

Continuing the chronological narrative begun in Chapter 4, this chapter begins with the changes in the Association that occurred after the death of Louis Olney. The chapter then turns to the growing role of man-made fibers in the textile industry, and its impact on test method development. The emphasis is on AATCC's response to new technology, including dyes, finishes, and detergents. The chapter covers the expansion and restructuring of AATCC's southern sections and the growth of the national meeting as an industrial showcase. A description of AATCC's involvement in the 1956 celebration of the Perkin Centennial concludes the chapter.

Organizational Changes

The growth of the AATCC during World War II resulted in an increasingly complex administration. At its 149th meeting on March 23, 1945, Council decided to consider changes in the administrative structure that would deal with the increased responsibilities. Council authorized the president to appoint a committee to consider the questions of a full-time secretary and more adequate laboratory facilities, as well as how to finance such changes.[1] After some discussion and debate, Dr. Harold C. Chapin was appointed full-time secretary on August 1, 1947.[2] He had taught at Lowell since 1920 and had been part-time secretary of the AATCC since 1933.[3]

The formal description of Chapin's duties in the bylaws did not change; he was still responsible for maintaining the Association's records and printed literature, as well as collecting dues and preparing an annual report on membership. Most important, he prepared and approved all vouchers for expenditures by the Association,

[1] "149th Council Meeting." *American Dyestuff Reporter*, v. 34, n. 11, May 21, 1945, p. 214.
[2] "158th Council Meeting." *ADR*, v. 36, n. 20, August 11, 1947, p. 451.
[3] "Dr. Chapin Appointed Full Time Secretary." *ADR*, v. 36, n. 13, June 30, 1947, p. P345.

sending them to the treasurer for payment. However, Chapin had no formal executive authority—that was vested in the president and the Council, and Chapin could only act on their instructions.

To pay for this and other changes, in 1946, the AATCC increased dues for the first time. Dues had not changed since the founding of the Association in 1921: $5 per year for senior members, half that for students. Council increased that to $7.50 on April 5, 1946.[4] Dues were raised again in 1954 to $10 for senior and associate members, primarily to compensate for postwar inflation, and remained at that level through 1956.

The change in Chapin's status and the increase in dues was part of an overall effort to professionalize the AATCC's staff and put the organization's operations, including financial ones, on a more formal basis. The effort in the 1930s to develop a full-time staff had collapsed with the withdrawal of Textile Foundation funding. Growth in membership during the war years, particularly in corporate membership, gave the Association a larger and more stable funding base. Wartime restrictions had limited staff expansion, but with the end of hostilities in late 1945, the AATCC's leadership moved to implement long-wanted changes.

One of its first actions was to appoint Harold W. Stiegler as the full-time director of research in December 1945. Stiegler then was given the funds to hire a permanent staff and equip a laboratory at Lowell. Stiegler's qualifications and the research he directed are described later in this chapter. These new staff members formed, for the first time, a full-time professional core for what had always been a voluntary organization run by the membership. The increasing complexity of supervising this staff and the research projects in which they were involved eventually led the AATCC to hire an executive director in 1956.

In the meantime, the postwar reorganization of the AATCC proved successful. During the late 1940s and early 1950s, the new committee structure established in 1945 (described in Chapter 4) functioned well, carrying out the program originally developed by Louis Olney and his colleagues in the 1930s. So smooth was the development that even Olney's death in 1949 made only minor ripples in the stream of the Association's accomplishments.

In the years after his retirement from Lowell Textile Institute in 1944, Olney continued to reduce his responsibilities within the AATCC. He began to share the running of the Research Committee in 1945 when the Executive Committee on Research (ECR) was set up. On June 6, 1947, feeling that he had successfully managed the transition to new management, he resigned as chairman.[5] In his career he had missed only 2 of 151 meetings of the Research Committee. He cited the existence of the Executive Committee on Research, the appointment of a full-time director of research, and the impending appointment of a full-time secretary as the reasons for his resignation. He continued as acting chairman during the search for a new chairman.[6]

[4] "153rd Council Meeting." *ADR*, v. 35, n. 10, May 20, 1946, p. 258.
[5] "158th Council Meeting." *ADR*, v. 36, n. 16, August 11, 1947, p. P451.
[6] "Dr. Olney Retires as Chairman of the Research Committee." *ADR*, v. 36, n. 13, June 30, 1947, p. P345.

His position was soon taken over by J. Robert Bonnar, technical director at General Dyestuff Corporation in New York. Bonnar initially accepted the appointment on an acting basis, which was converted to a regular appointment on January 9, 1948.[7] In line with the new bylaws, Bonnar's appointment was for three years, beginning January 1, 1948.[8] Bonnar was succeeded by Leonard S. Little, an AATCC charter member and former DuPont executive. At the time of his appointment, Little worked as a textile consultant. Although he lived in Connecticut, his office was in New York City. After his three-year term expired, Little's place was taken by Charles W. Dorn. Dorn had retired recently as the director of the J. C. Penney Research and Testing Laboratory, then located in New York City. During the time he was chairman of the Research Committee, he worked as a textile consultant for Sanitized Inc., also located in New York City.

It is not surprising that all these men were connected to New York City. New York was not only the headquarters of many textile firms, but it was also a major corporate research center. American Telephone and Telegraph had started the trend in 1907, when it moved its Department of Development and Research (the ancestor of Bell Laboratories set up in 1925) to the city.[9] By the 1940s, there were numerous academic and corporate laboratories in the area and, potentially, the AATCC could draw on this assembly of expertise. As late as the 1960s, the vast majority of the chairmen of subordinate test method development committees were from the New York Section.

Olney did not completely sever his relationship with the Association's affairs after his resignation as chairman of the Research Committee. He continued to serve as chairman of the Publications Committee and as editor of *American Dyestuff Reporter*, as well as chairman of the General Committee on the *Colour Index* and as an ordinary member of several other committees.

The Death of Louis A. Olney

Louis Olney's tragic death in 1949 was sudden and unexpected. He and his wife were traveling by car to Florida for a vacation when they were involved in a collision in Jacksonville, North Carolina. She died at the scene; Olney survived the crash but died four days later on February 11 from his injuries. He was 74 years old.[10]

The response of the AATCC was immediate and widespread. A full page obituary appeared in the issue of *American Dyestuff Reporter* that immediately followed his death. At the next meeting of Council, a resolution was prepared and sent to his family. In it, Council gave Olney the formal title of Founder of the Association. This resolution was printed in full in *ADR*.[11] Council also decided to designate the

[7] *1947–1948 AATCC Technical Manual*, New York City: Howes Publishing Co.: p. 77.
[8] "160th Council Meeting." *ADR*, v. 37, n. 5, March 8, 1948, p. 144.
[9] Leonard S. Reich, *The Making of American Industrial Research: Science and Business at GE and Bell, 1876–1926*. Cambridge: Cambridge University Press, 1985, p. 151.
[10] "Louis Atwell Olney." *ADR*, v. 38, n. 4, February 21, 1949, p. 156A.
[11] "166th Council Meeting." *ADR*, v. 38, n. 10, May 16, 1949, p. 405.

Association's library as the Olney Memorial, much of which he had donated to the Association from his own collection after his retirement from Lowell.[12]

The Association was fortunate that Olney had already started to withdraw from many of his duties prior to his death. According to a number of observers, if Olney had died only a few years earlier the affairs of the AATCC would have been left in considerable disarray. In a way, his orderly retirement was Olney's last gift to the organization he loved: it eased the transition to new leadership after his death. There is no question that he could have remained in his position of power indefinitely—he was still widely respected—and his departure reflects his personal modesty and desire to retire from public life. The AATCC was very lucky to have had Olney as its leader for so many years, and the Association's early success was clearly due to his efforts.

Research and the AATCC (1945–1956)

President William D. Appel spoke at the President's Corporate Membership Dinner at the January 3, 1946, annual meeting. His primary theme was the importance of research and development in creating the body of test methods published by the AATCC. He stressed how important test methods were in mill operations, and how expensive it would be to replace them. After reviewing the results of the Association's wartime work on textiles for the government, he explained just how much money the government had saved. According to Appel, government savings resulting from test methods that the AATCC developed for shrink-resistant wool socks would have paid for the entire wartime textile research program several times over. Multiplied by the many projects in which the AATCC had been involved, the benefits to both government and industry were clear.

In light of the utility of the work, he asked corporate members to increase their donations from $35,000 to $50,000 to fund more research work. He pointed out that the AATCC did applied research and planned to continue in that vein, leaving pure science to other organizations, like the Textile Research Institute. Future AATCC research would focus on test method development and support labeling requirements for textiles, both of which had great potential benefit to the textile industry. According to Appel, AATCC test methods were used primarily by the trade, not by consumers.[13]

The AATCC's corporate members responded to Appel's call. Corporate donations rose to nearly $43,000 in 1950, eventually leveling off at a little over $50,000 in the 1960s. These funds supported the AATCC's permanent research staff, allowing income from dues to be used for the growing clerical staff and for publications.

When Leonard S. Little, outgoing chairman of the Executive Committee on Research, looked back on the AATCC's accomplishments in 1946, he could report that Appel's vision had been largely fulfilled. Little had been involved in setting up the ECR in 1944, and he, like Louis Olney and the others who had embraced the new organizational structure, wanted to expand the Association's research activities. This

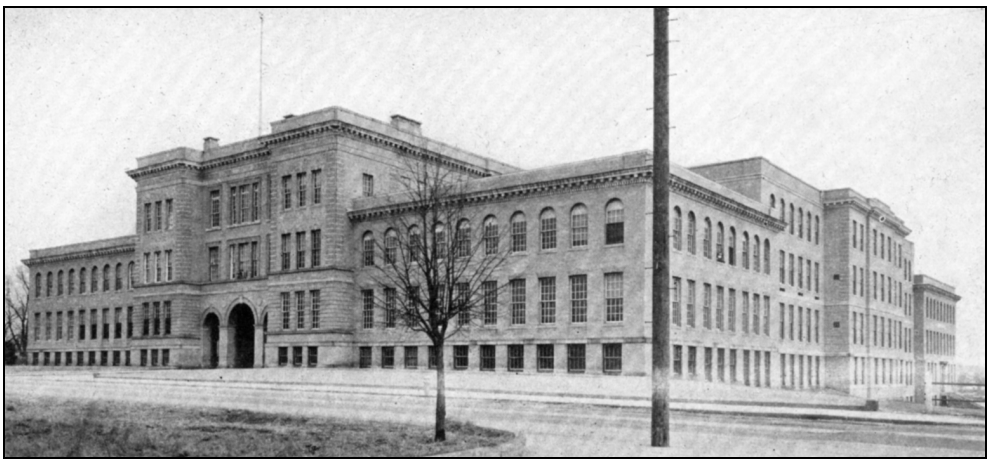
[12] Ibid.
[13] William D. Appel, "The Textile Research of the AATCC." *ADR*, v. 35, n. 4, February 25, 1946, pp. P91–P93.

objective had been accomplished. The number of active research committees had increased from 27 to 35, and the total number of committees (active and reference) rose from 43 to 63. The number of approved standard test methods had more than doubled, from 31 to 67, and the number of AATCC members serving on research committees more than doubled as well, rising from 151 to 359. Most important for Little, however, was the eight full-time researchers working for the AATCC, up from only two in 1943. These changes had been made possible by the increase in research funding, which amounted to $55,000 in 1955. Moreover, the Association had $115,000 in its research reserve fund, cushioning the possible impact of any sudden decrease in income. Little concluded his report by noting:

> "ECR can look forward with confidence to a continued period of expansion in the scope and importance of the Research [sic] developments of AATCC in the field of textiles. It will continue to serve its own members and the entire textile industry in a manner in which they can take great pride. The Progress [sic] made would not have been possible except for the cooperation of such a large group of nationally recognized technologists."[14]

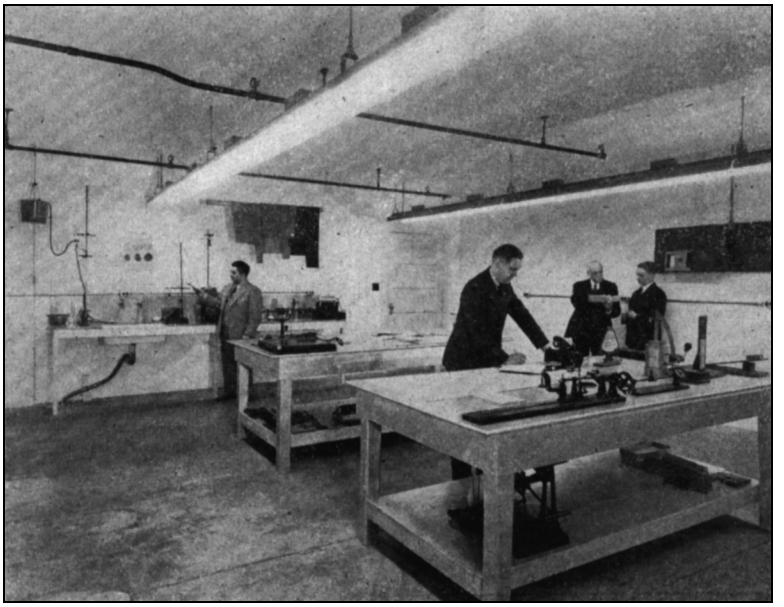
The AATCC Laboratory

What was it that Little and his colleagues had established? The centerpiece of their efforts was the AATCC laboratory at Lowell Textile Institute (LTI). In 1946 this facility consisted of one large and one small laboratory, two offices, a room for color

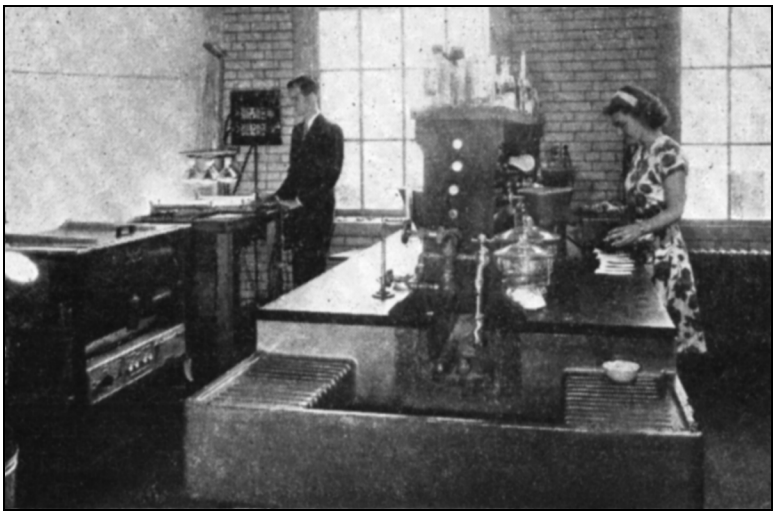


Lowell Textile School, First Home of the AATCC
Lowell, Massachusetts (ca. 1940)

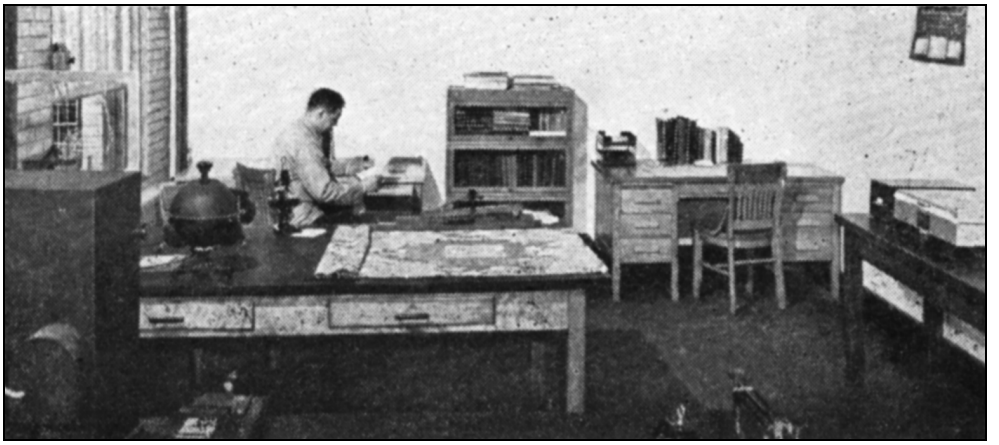
[14] Ibid., p. 93.



AATCC Laboratory at Lowell Textile School (ca. 1946)



AATCC Laboratory at Lowell Textile School (ca. 1946)



AATCC Laboratory at Lowell Textile School (ca. 1946)

Harold W. Stiegler, Director of Research (1945–1960)

measurement and fading, a workshop for making experimental equipment, two storage rooms, and a large conditioning laboratory. Together they occupied a total of approximately 2,500 square feet and contained a variety of testing equipment. The AATCC also had access to LTI's facilities, including the library, other laboratories, a model textile mill, and miniature-size textile finishing equipment.[15]

The Association was given an additional 434 square feet of office and laboratory space by LTI in early 1956 when the LTI Research Foundation moved to another building. This gave the AATCC "an unbroken line of offices and laboratories extending along the entire length of the corridor on the first floor of the Chemistry Building."[16] This expanded space would serve as the Association's home through the early 1960s.

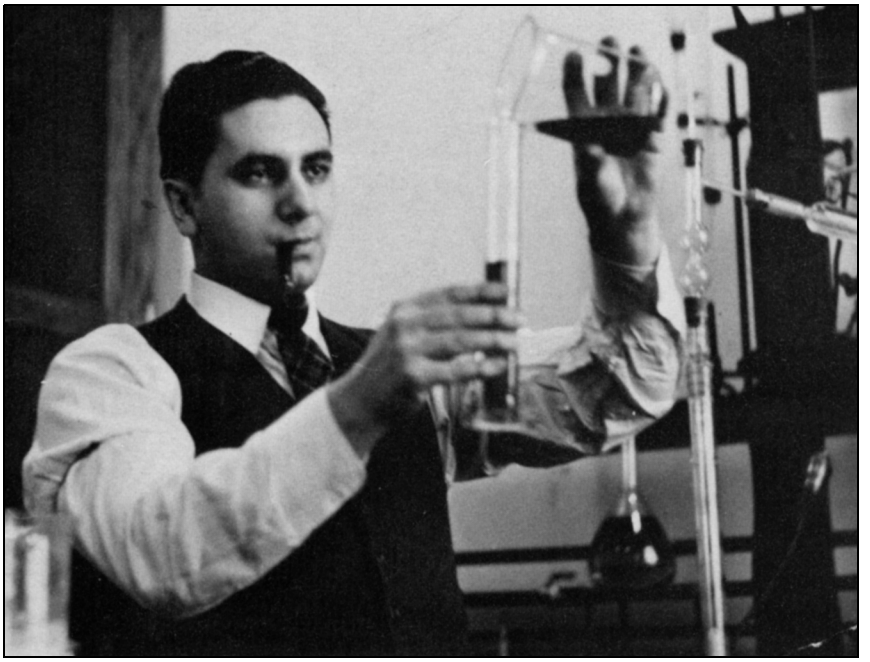
Harold Stiegler, the full-time director of research at the new laboratory, had been hired in December 1945 and would continue to hold the position through the late 1950s. He had done his undergraduate work at Lowell, going on to postgraduate training at MIT. After some time in industry, he returned to school and earned a doctorate in chemistry from Northwestern University. He first became involved with research during World War I, when he worked on development of the poison gas Lewisite. After the war he held a number of positions in industrial research. He was recalled by the Army Chemical Warfare Service in 1942 and served as chief, protective division, technical command until hired by the AATCC in 1945.[17]

Stiegler strongly supported the effort to develop and refine test methods. Due to his industrial research experience, he realized the importance of AATCC test methods for industrial operations. As a result, he followed the lead of the Research Committee and did his best to coordinate the work of the various subordinate committees.[18]

By all accounts a capable scientist and researcher, Stiegler did a good job with the technical aspects of his position. The AATCC's laboratory provided support for the work of a wide variety of the test method subcommittees, and it was his job to coordinate that work with experiments carried out at other laboratories. This involved constant correspondence and face-to-face contact with committee chairmen. There were no complaints about the lab's work during his tenure, and numerous new test methods were developed and published under his supervision.

However, not being comfortable with administrative detail and paperwork, he much preferred to focus his efforts on research and the development of test methods. As a result, he, in effect, removed himself from consideration as a candidate when the position of executive secretary was created in 1956. Despite his age and his ten years of experience at AATCC headquarters, Steigler was not seriously considered for that position.[19]

[15] "AATCC Laboratories at the Lowell Textile Institute." *ADR*, v. 35, n. 13, July 1, 1946, pp. P319–P322.
[16] Ibid., p. P319.
[17] Harold W. Stiegler, "Director of Research." *1956 AATCC Technical Manual*, p. 42.
[18] Harold W. Stiegler, "The Present AATCC Research Program." *ADR*, v. 35, n. 24, December 2, 1946, pp. 586–587.
[19] "AATCC Laboratories at the Lowell Textile Institute." *ADR*, v. 35, n. 13, July 1, 1946, pp. P319–P322.



George J. Mandikos, Technical Director (1961–1985)

Stiegler's primary assistant was G. Robert Thompson, whose formal title was research associate. A graduate of the Lowell Textile Institute, Thompson had worked as a research chemist in industry for several years before joining the AATCC's staff in 1944. His role in the laboratory was primarily supervisory, overseeing the work carried out by several research assistants.[20] Thompson was promoted to the newly created post of administrative manager in 1952, freeing Stiegler to spend more time working with committee members.[21]

At first, actual laboratory work was carried out by two research assistants, George J. Mandikos and Roger R. Griffen. Mandikos was a graduate of Lowell, where he had earned both a BA and an MA in textile chemistry. He was also an assistant instructor on the Lowell faculty and had worked for the AATCC since 1944. His primary area of expertise was water repellency and detergency. Griffen, hired in 1945, only worked for the AATCC for a year. Like Mandikos, he held a Lowell BA and MA, but his expertise was in the development of test methods for colorfastness to urine and perspiration.

Griffen's place was taken by Rita Landry, also a Lowell Textile graduate with a BA and MA in textile chemistry, who worked until 1948. After her departure, Mandikos was the only research assistant. He was joined in the laboratory in 1947 by L. H.

[20] Ibid., p. P319.
[21] Leonard S. Little, "Report of the Executive Committee on Research." *1953 AATCC Technical Manua*l, p. 71.

Table 5.1 AATCC Research Personnel at Lowell Textile Institute (1944–1960)

Person	Date Hired	Title	Comments
Harold Stiegler	1945	Director of Research	Retired 1960
G. Robert Thompson	1944	Research Associate	Supervisor of Research Assistants. Promoted to Administrative Manager, 1952
George J. Mandikos	1944	Research Assistant	Promoted to Research Associate, 1949; to Technical Manager, 1956
Roger A. Griffen	1945	Research Assistant	Resigned 1946
Rita P. Landry	1946	Research Assistant	Resigned 1948
Lester H. Bailey	1947	Research Assistant	Resigned 1949
Edwin P. Johnstone	1947	Research Assistant	Promoted to Technical Manager, 1952; Died 1956
Harlan E. Glidden	1947	Research Associate	Resigned 1959
Charles A. Seibert	1949	Research Associate	Retired 1958
Glen M. Kidder	1949	Research Assistant	Joined Lever Brothers by 1950

Bailey, Edwin P. Johnstone, and Harlan E. Glidden, all research associates hired by Stiegler. Bailey left in 1949 and was replaced by Charles A. Seibert. These men worked on a variety of programs over the years, depending on the needs of the various subcommittees.

Johnstone became technical manager in 1952 at the same time Thompson was promoted to administrative manager. As technical manager, Johnstone was responsible for the day-to-day functioning of the laboratory. Mandikos was promoted to research associate in 1949 and to technical manager in 1956, replacing Johnstone who had died unexpectedly.[22] Glen M. Kidder was hired as a research associate to fill Mandikos' vacated slot but apparently stayed for less than a year. Other than these minor changes, the core research staff at Lowell remained stable during this period (see Table 5-1). In addition to the individuals listed above, temporary laboratory technicians and secretaries, all of whom were LTI students or recent graduates, came and went.

Not all of the researchers supported by the AATCC were at Lowell. For example, in 1946 Jeanne Bull was working at the J.C. Penney Co. laboratory in New York doing

[22] Charles W. Dorn, "Technical Committee on Research." *1956 AATCC Technical Manual,* p. 41.

work on colorfastness to washing under the direction of Charles W. Dorn, chairman of that committee. Margaret J. Travis, also employed by the AATCC, was working on colorfastness at the University of Chattanooga under the direction of Assistant Professor of Home Economics Mary Shelton.[23] However, off-site research declined over time, and by the early 1950s, all research work was being done by men at Lowell.

The AATCC was not unusual in employing so many women as researchers during the immediate post war period. Labor shortages during the war had opened up opportunities for women as scientists and research workers, and after the war was over, many tried to continue their careers. When servicemen returned, however, these women were displaced as social pressure mounted for a return to prewar employment patterns. The AATCC followed a similar path, and—aside from a few part-time laboratory assistants—did not employ female research workers again until the late 1960s. Anne C. Clapp was hired as a technical associate by the AATCC in July 1969. She was the first female technical employee of the AATCC since Rita Landry's resignation in 1948. Clapp had earned both a BS and MS at Florida State University, and had worked as an instructor at the University of Connecticut and as a textile engineer with the Singer Company before joining the AATCC's staff.[24]

In addition to their technical duties, the AATCC's staff also supported the use of existing test methods. Staff members, particularly Stiegler, answered questions from members on how to set up test methods and where to obtain test equipment. The AATCC began to maintain stocks of various test-related apparatus and supplies. This practice began in 1938 with the sale of the dyed blue wool standards used for testing colorfastness to light.[25] Over the next several years the Association added other materials to the inventory and in 1941 began to publish a price list annually in the *Yearbook*.[26] Initially, Louis Olney handled sales in his capacity as chairman of the Research Committee, but after he retired from LTI in 1944 and reduced his workload, the job was taken over by Harold Chapin, the AATCC secretary.[27]

By 1946 the Association's sales items included multifiber cloth, flammability testers, and various types of woven and knit fabrics called for in different test methods.[28] The sales generated by these items represented a small but significant revenue stream. On total sales of $9,500 in the 1945–1946 fiscal year, the Association realized a profit of $1,900 (3% of total revenues).[29]

The AATCC continued to offer such items through the 1950s. However, in 1948 the Association began to publish the addresses of manufacturers of test equipment and the products they offered along side its own price list.[30] In 1950, the Association stopped selling some items, most notably multifiber test cloth, and expanded the listings in the Technical Manual to include prices for equipment not sold by the

[23] AATCC Laboratories at the Lowell Textile Institute." *ADR*, v. 35, n. 13, July 1, 1946, p. P320.
[24] "People," *Textile Chemist and Colorist*, Research Triangle Park, N.C., AATCC, v. 8, n. 8, August 1976, p. 30.
[25] *1938 AATCC Yearbook*, New York City, Howes Publishing Co., p. 96.
[26] *1941 AATCC Yearbook*, p. 182
[27] *1945 AATCC Yearbook*, p. 190.
[28] *1946 AATCC Yearbook*, p. 104.
[29] Ibid., p. 103.
[30] *1947–1948 AATCC Technical Manual,* p. 97.

AATCC.[31] By the mid-1950s, the AATCC was printing comprehensive price lists for Testfabrics Inc. (makers of a variety of standard textiles used in AATCC test methods) and Atlas Electric Devices, as well as shorter lists for three other firms in the Technical Manual.[32]

Synthetic Fibers and Test Method Development

The test methods that the AATCC staff supported with its development work and the sale of test materials continued to increase in both scope and complexity in the decade after the end of World War II. Three trends dominated. First, the increasing use of manufactured fibers led to their inclusion in colorfastness test methods. Second, the AATCC began to develop entirely new test methods, such as for flammability, to address consumer rather than industry concerns. Third, the growing number of chemical treatments and additives used in textile processing led to the development of test methods to evaluate their efficacy.

Prior to World War II, the primary focus of Association test methods was, of course, natural fibers (cotton, linen, silk, and wool). During and after the war, the increasing use of manufactured organic fibers, particularly rayon and nylon, led to the expansion of existing test methods to include the new fibers. However, as late as 1945 only three of twenty-two test methods had been explicitly developed with manufactured fibers in mind.[33] Fourteen other generic methods were listed as being applicable to all fibers but had originally been developed for natural fibers.[34] In contrast, by 1956 over half of all test methods explicitly referred to synthetic fibers, though there were still more methods for natural fibers than synthetic.

Among the new test methods developed for synthetic fibers were procedures for evaluating the electrical resistivity of fabrics and of yarns, as well as tests for shrinkage and wrinkle recovery. These new procedures were developed largely on the basis of consumer demand. Clothing made from synthetic fibers was more likely to develop a static charge, a phenomenon linked to electrical resistivity, and the new test method allowed manufacturers to work to control this problem.[35] Similarly, polyester, nylon, and acrylic fibers were marketed for their wrinkle resistance, creating a need for quantitative evaluation of wrinkling.

The most notable impact of consumer demand on Association test methods was on flammability of textiles. As the result of ongoing accidents involving burning textiles,

[31] *1950 AATCC Technical Manual,* p. 82.
[32] *1956 AATCC Technical Manual,* pp. 53–54.
[33] The three methods for manufactured organic fibers were: fastness to commercial laundering and domestic washing; methods of fiber identification and quantitative separation; and fastness to atmospheric gases of dyes on cellulose acetate rayon. *1945 AATCC Yearbook*, pp. 188–279.
[34] Ibid., p. 189.
[35] In addition to AATCC test methods, companies often developed their own procedures to evaluate problems caused by static buildup. DuPont researchers, for example, used a procedure called the "sail test" to study the performance of nylon used for women's slips. A female test subject, clad only in cotton underwear and a nylon slip, would rub her buttocks against a suspended piece of nylon sail cloth for a prescribed number of times, and then walk across a floor for a set distance. The amount the slip rode up and the voltage of the static charge generated were then measured. Herbert T. Pratt, personal communication with author, June 25, 1996.

flammability became a public issue in the United States in the 1940s, and led the U.S. Congress in 1953 to regulate the industry. As part of the effort to forestall government regulation, the AATCC in 1944 set up a committee to develop a test method for fabric flammability. The Special Committee on Flammability of Consumer Textiles, chaired by Herman E. Hager, technical manager of General Dyestuff Corporation, first met on March 27, 1945. Its primary goal was to develop a test method that would distinguish between "dangerous" and "nondangerous" fabrics. With the assistance of the U.S. Testing Company, the committee designed an automated apparatus for that purpose.[36]

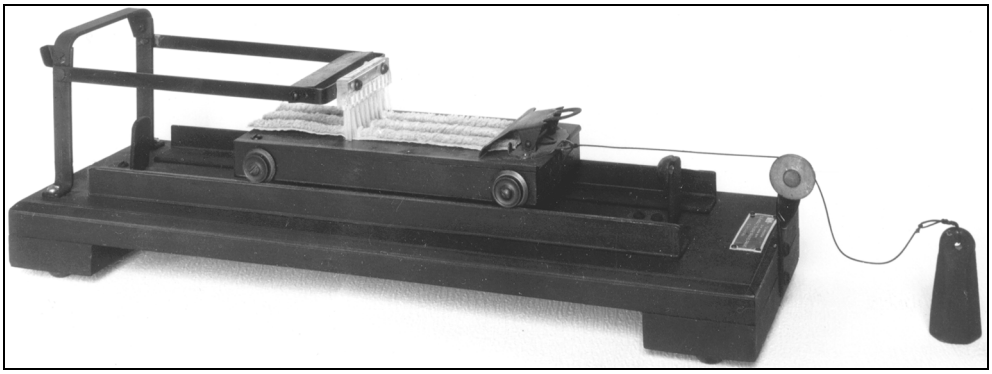
After the apparatus was tested in the AATCC laboratory at Lowell and five industry laboratories, it was adopted by the Research Committee in a tentative test method on April 5, 1946.[37] The test method description was first published in preliminary form in the *1945 AATCC Yearbook* for comment. A corrected and expanded version was included in the *1946 AATCC Yearbook*. In 1947, the method was upgraded from a tentative to a permanent test method.[38]

The Standards Division of the National Bureau of Standards (NBS, now NIST) accepted the test method and promulgated it as a proposed commercial standard in March 1946. The NBS distributed the proposal to approximately 3,000 interested firms and individuals. At a subsequent Congressional hearing on fabric flammability legislation, a number of companies in the cotton trade objected to the adoption of the AATCC test method by the NBS, claiming that the method was not accurate enough and should not be included in legislation. Subsequent tests by the AATCC committee on fabric samples provided by the National Cotton Council demonstrated that the test method was inaccurate for napped and other pile fabrics. As a result, the AATCC committee decided to do further development work. In addition, on January 9, 1948, the Research Committee changed the status of the method back from permanent to tentative, reflecting the need for more work.[39]

The AATCC set up a research program at its Lowell laboratory to refine the test procedure. Beginning in December 1948, AATCC research associate Edwin P. Johnstone was in charge of the investigation. His work demonstrated that, while there was no need for a change in the design of the test apparatus, methods of sample preparation could have a major impact on results. In particular, napped, pile, and chenille fabrics that failed one test would pass another with only minor differences in handling and preparation.[40] As a result, the test method remained tentative while procedures for sample preparation, such as drying and cooling times and fabric surface uniformity, were standardized.

[36] "Report of Special Committee on Flammability of Consumer Textiles." *1945 AATCC Yearbook*, p. 137.
[37] "Report of Committee on Flammability of Consumer Textiles," *1946 AATCC Yearbook*, pp. 138–139. The other five laboratories were the National Bureau of Standards, Washington, D.C.; American Viscose Company, Marcus Hook, Pa.; Industrial Byproducts & Research Company, Philadelphia; J. C. Penney Company, New York; and Princeton Knitting Mills, Watertown, Conn.
[38] *1947–1948 AATCC Technical Manual*, p. 89
[39] Ibid.
[40] *1950 AATCC Technical Manual*, p. 74.

Flammability Test Apparatus



Flammability Test Apparatus

A major problem in sample preparation was lack of uniformity among fabric surfaces. Even minor differences in how a fabric was brushed or combed would affect test results. To deal with this problem, the committee developed another apparatus: a mounted, weighted comb that was passed over the test specimen a set number of times to prepare its surface. After some development work, including replacement of the comb with a bristle brush, the committee was satisfied with the test method's potential repeatability and approved formal laboratory trials.[41]

After Johnstone completed his work on sample preparation, another round of laboratory trials was conducted in late 1950. The new sample preparation guidelines proved successful. They were adopted by the Research Committee in 1951, and the test method was returned to permanent status at the same time. On June 30, 1954, the AATCC test method for flammability was specified in the Rules and Regulations of the Fabrics Flammability Act, which became effective on that date and authorized the Federal Trade Commission to prevent the shipment of highly flammable goods in commerce. The AATCC Committee on Flammability of Clothing Textiles continued to experiment with the method through the late 1950s, looking for ways to improve its accuracy but made no changes.[42]

The development of the Flammability of Clothing Textiles test method marked a milestone for the AATCC. For the first time, consumer rather than industry demand drove the creation of a new method. This set a pattern that would become increasingly common in the 1950s and 1960s, when developments in synthetic fibers and finishing techniques (particularly durable press) would lead to new test methods to deal with the peculiar problems associated with these innovations.

The final new series of test methods developed in the decade after the end of World War II were those that dealt with new types of chemicals used in dyeing and finishing. These test methods grew out of wartime work for the military. As outlined in Chapter 4, the American military's need for uniforms that would function in a wide variety of climatic conditions led to an increased interest in fabric treatments such as waterproofing and mothproofing. Since the chemicals used in these treatments often damaged textile fibers or caused dyes to fade, the military needed to measure these effects. In addition, the wartime demand for increased production made a number of chemicals, such as wetting agents, attractive despite their cost, since they shortened processing times.

It is thus no accident that the first tentative test methods for finishes and wetting agents were published as World War II was ending. The Committee on Evaluation of Wetting Agents published the first draft of its test method "Comparison of Rewetting Agents" in the *1944 AATCC Yearbook*. and a tentative method for comparing detergents was published in 1951.[43] By 1956, there were at least nine different tentative or approved test methods that evaluated dyebath chemicals and finishes.

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[41] Ibid.

[42] In the 1970s, the American Society for Testing and Materials picked up this work and published it as a standard test method. The AATCC dropped the test method from the *Technical Manual* in 1985.

[43] *1944 AATCC Yearbook,* pp. 117, 204–206. A test method for "regular" wetting agents had been first published in 1933. *1951 AATCC Yearbook*, pp. 158–159.

The number of AATCC test methods increased considerably between 1945 and 1956. There are thirty-one separate test methods listed in the *1945 AATCC Yearbook*. The *1956 AATCC Technical Manual* contains seventy-six, a 145% increase in only eleven years. The test methods are more diverse as well. Rather than being focused on the needs of dyers and textile processors, the newer methods addressed the needs of apparel retailers and consumers, a trend that would accelerate during the late 1950s and 1960s.

Despite the considerable effort associated with synthetic fibers and the new consumer-oriented test methods, the AATCC continued to support older methods such as colorfastness to light, washing, and crocking. A detailed history of the development of these methods, believed to be typical of the activities for all methods, is given in Chapter 15.

Test Method Development

Two factors have always been a consistent part of AATCC test method development. First, development is a group activity. From the first, the AATCC used a committee structure that encourages participation by all individuals interested in a method. Prior to 1945, each test method had a controlling committee that was essentially a subcommittee of the research committee. Each subcommittee was responsible for developing a particular test method and writing the test method procedure that appeared in the *AATCC Yearbook*. Each research committee member could belong to and participate in as many test method committees as he or she cared to, though most individuals belonged to no more than two committees. Each test method committee had a knowledgeable chairman who coordinated the committee's efforts and served an indefinite term.

After 1945, individuals were limited to serving as voting members on no more than three research and three technology committees, and committee chairmen could serve no more than three years in a row (later raised to five years).[44] Moreover, committee membership was no longer linked to membership in the Research Committee. In 1944, the Executive Committee on Research (ECR) had been established to set research policy and salaries for paid research personnel, while the Research Committee, newly titled as the General Research Committee, focused on coordinating and reviewing the day-to-day work of the research committees that continued to be responsible for the development of test methods published in the *AATCC Technical Manual*.[45] In 1953, the name of the General Research Committee was changed to Technical Committee on Research, a name still in use.[46]

Since 1944, research committees that have "completed their work" and are no longer meeting have been designated as Reference Committees (RR). These commit-

[44] An AATCC member may participate as a nonvoting member in more than six committees, though this is rare.
[45] *ADR*, v. 35, n. 5, February 14, 1944, pp. P82–P84.
[46] "166th Council Meeting." *ADR*, v. 42, n. 13, June 22, 1953, p. 412.

tees have a chairman, but no members, and can be reactivated at any time if the need arises.

From 1962 through 1971, a few committees that were not involved directly with developing specific test methods, such as the committees on Statistics, Test Fabrics, and Dermatitis, were designated Special Committees (RAS or RRS).

From around 1931 through 1968, test methods that were not fully approved by the Association were designated as Tentative Test Methods as opposed to Official Test Methods that had been "adopted by the Association as standard."

Since 1985, Evaluation Procedures that do not lead directly to a test result and that usually have broad application, such as the Gray Scale for Color Change, have been grouped together in the *Technical Manual* (see Appendix 23) under that title.

Both before and after 1945, committee membership has been open to any interested person who is willing to participate. Although the focus of a test method committee's work is often guided by the personality of the chairman the rules of decision making ensure that all members have a voice in deliberations.

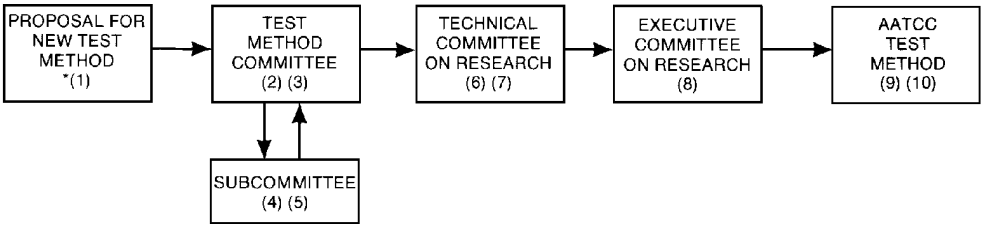
This leads to the second major consistent factor in AATCC test method development: the emphasis on consensus in decision making. From the beginning, the Association has required the substantial agreement of all committee members before a test method is approved for publication in the *Technical Manual*. As a result, AATCC test methods are generally accepted by industry, since they are the result of compromise and negotiation among all parties. The AATCC has used a variety of formal procedures to ensure consensus—a schematic outline of the current system is given in the flowchart on the next page.[47]

Sectional Activities

The activities of the sections in the years following World War II continued along the patterns established before the war.[48] Large sections, centered around the major metropolitan areas of New York, Philadelphia, Boston, Chicago, and Providence, continued to hold short regular meetings six to eight times a year. These were usually evening affairs, with a dinner followed by a paper or panel discussion. Attendance was normally about 150 people. These sections also had one annual outing, held at a resort area during the summer months, which attracted the highest attendance (300–400).

Smaller sections held fewer meetings, though more than in the prewar period. The one exception was the newly established (1948) Hudson-Mohawk Section, centered around Albany, New York, which despite having fewer than 200 members regularly held six to eight meetings a year. The meetings were dinner affairs, followed by a paper. The Hudson-Mohawk Section appears to have been an unusually serious-minded group of individuals: not only did meetings often attract more than half of all

[47] *1996 AATCC Technical Manual*, Research Triangle Park, N.C., p. 381.
[48] The following description of sectional activities is drawn from the reports made by section secretaries published annually in the *AATCC Yearbooks* from 1946 to 1956.



*Numbers in parentheses refer to numbered notes below.

(1) The need for a new test method may be suggested by any individual—member or nonmember.
(2) If the proposed method is within the scope of an existing Test Method Committee, it is referred to that committee for development by the Technical Committee on Research (TCR).
(3) If the proposed method is not within the scope of an existing Test Method Committee, an exploratory meeting is scheduled with public notice inviting all interested persons to attend. If sufficient response is shown, a balanced Test Method Committee is organized by TCR subject to approval of the Executive Committee on Research (ECR).
(4) A Subcommittee is appointed within the Test Method Committee to carry out the development work. Nonmembers as well as members may participate fully in the Subcommittee, including voting.
(5) Following its development by the Subcommittee, a proposed test method is presented to the full Test Method Committee including nonvoting members for consideration and letter ballot. Negative comments of nonmembers are treated equally with those of members.
(6) The results of the Test Method Committee's balloting, including the resolution of any negative votes by members or comments by nonmembers, are forwarded to TCR. With ECR approval, TCR, in turn, offers the proposed test method to its members for letter ballot.
(7) A summary of the development procedure and results of the TCR letter ballot are submitted to ECR.
(8) ECR grants or denies approval of a proposed test method on the basis that all substantially concerned persons (nonmembers as well as members) have had an opportunity to express their views and that these views shall have been considered; also, that there is evidence of the technical validity of the proposed test method.
(9) Upon conformation by ECR, the test method is assigned official designation as an AATCC Test Method, and is approved for publication as such.
(10) At the time of publication of a new test method, public comments are invited in AATCC's official journal. After 90 days, any comments received are referred to the responsible Test Method Committee for response. Copies of the comments and responses are sent to ECR for deliberation. If any substantial questions remain unanswered they are referred through TCR to the responsible Test Method Committee for resolution which is subject to final approval by ECR.

Basic Steps in Developing Test Methods

section members (an unusually high percentage), but it was also the only section during this period whose annual summer golf outing often drew fewer people than meetings with technical papers!

Despite its increased size in the postwar period, the Piedmont Section continued to hold only three or four meetings a year, due to the geographical distribution of its members. One meeting was the summer outing, similar to those held in the large northern sections, which usually attracted around 300 participants. The other meetings were one-day affairs, with the presentation of several papers in an afternoon session, that usually drew 150 to 200 participants. The pattern for the other small sections was similar: three to five meetings a year, with one of those a summer golf outing. Regular meetings were usually attended by 40 to 60 members, the summer outing by as many as 100. Since they met less often, the smaller sections tended to attract a higher percentage of their members to each meeting.

New York continued to be the largest section during this period, reaching a total of over 1,400 members in the early 1950s and then leveling off. It would have been even larger if several smaller sections had not been split off during these years. The Piedmont Section overtook the Philadelphia Section to become the second largest in 1956, due both to its own growth and a drop in Philadelphia's membership after the Washington Section was formed in 1952. Both sections had more than 900 members in the mid-1950s. No other sections came close in size; the Northern New England, Rhode Island, and Mid-West (formerly Chicago, now Midwest) sections all had around 500 members during this period. Only Rhode Island saw any growth, a modest increase of fewer than 100 over the decade.

The growth of the larger sections, particularly the New York Section, led the smaller sections to put forward and pass an amendment to the Bylaws in 1947 that changed the calculations for Council representation.[49] In contrast to the previous rule, that distributed Council representatives among the sections in direct proportion to the number of members in them (with a minimum of one Council member per section), the new rule limited the number of representatives from the larger sections. Under the new system, sections received one Council position per 150 senior members or fraction thereof, but only for the first 600 members. A fifth Council member required an additional 200 senior members, and any further councilors were allocated on the basis of one per 300 senior member increment.[50]

This change was clearly aimed at the New York and Philadelphia sections, the only two having more than 600 members at the time the change was made. The New York Section alone had over 1,000 senior members in 1948, fully 25 percent of the Association's total. Philadelphia was not far behind, with nearly 800 members. No other section had more than 450 members, and most had fewer.[51] The growth of the New York Section also led to the creation of two new sections, Western New England and Hudson-Mohawk, by members who were geographically isolated from New York City and wanted to meet with their local colleagues. The first of these, the Western New England Section, was established in 1948. AATCC members in Connecticut petitioned Council in October 1947 to set up a "Connecticut Section;" the petition was referred to the Committee on Membership and Local Sections for consideration.[52] The Committee recommended that the section be known as the Western New England Section, apparently since many members in the eastern part of Connecticut wished to remain part of the Rhode Island Section. Council approved the recommendation on January 9, 1948.[53]

As a result, the new section consisted of all of New England west of the Connecticut River, some of which had been part of the Northern New England Section. The most important part; however, had been part of the New York Section. The membership of the new section was concentrated in western Connecticut, and worked at the

[49] "157th Council Meeting." *ADR*, v. 36, n. 10, May 19, 1947, p. 263.
[50] "Bylaws." *1947–1948 AATCC Technical Manual,* p. 37.
[51] "Secretary's Report." *1947–1948 AATCC Technical Manual,* p. 30.
[52] "159th Council Meeting." *ADR*, v. 37, n. 2, January 26, 1948, p. 42.
[53] "160th Council Meeting." *ADR*, v. 37, n. 5, March 8, 1948, p. 144.

textile mills and dye manufacturing plants in that region. Not surprisingly, all sectional meetings were held in the southwestern corner of the state. Formed with ninety-seven members, the section increased its membership to 142 in 1949 and grew gradually thereafter, stabilizing at just over 170 members in the mid-1950s.

The second section to split off from New York was the Hudson-Mohawk Section, which first met on September 17, 1948, in Albany, New York, with 132 AATCC members and guests attending. Organization of the section was approved at Council meeting on September 24, 1948.[54] The section was initially known as the Mohawk-Hudson Section while boundaries and a permanent name were discussed. Council appointed a committee to study these issues at the same meeting it authorized the founding of the section. The committee, which submitted its report at the January 28, 1949, Council meeting, recommended that the name of the section be Hudson-Mohawk and that its territory consist of the Mohawk River Valley and all of New York state west to Buffalo, as well as the Hudson River Valley as far south as Kingston. Council approved the recommendation.[55]

Since most of the members of the Hudson-Mohawk Section were close to Albany, most meetings took place in or near that city. Although members were drawn from the carpet and textile mills in the area, one of the main sources of membership was the various dye and textile chemical manufacturers such as General Aniline Works, Ritter Chemical Company, and Surpass Chemical Company, that supplied most of the leadership of the section in its early years.

The next two sections to be founded also dealt with members being too far away from existing sectional meetings. Prior to 1948, only the Mid-West Section contained states west of the Mississippi River (Minnesota, Iowa, and Missouri). The rest of the American West was unorganized. As the textile industry began to open plants in California and the Pacific Northwest, and as AATCC test methods became increasingly well known in the years following World War II, Association membership in the West increased.

The first western section was the Pacific Coast Section, which held its first meeting in Los Angeles on April 28, 1948.[56] Council had approved a petition from a group of West Coast members earlier that month and had set the new section's boundaries to include ten western states (California, Oregon, Washington, Idaho, Nevada, Utah, Colorado, Arizona, New Mexico, and Western Texas).[57] Most of the new members active in the section were from California however, and the initial leadership reflected that. The section's chairman, vice chairman, and treasurer were from Los Angeles and the secretary was from San Francisco. Of the four other persons who, along with the officers, made up the sectional committee (the section's executive body), three were from Los Angeles, and one was from Portland, Oregon.[58]

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[54] "163rd Council Meeting." *ADR*, v. 37, n. 21, November 15, 1948, p. P743.
[55] "165th Council Meeting." *ADR*, v. 38, n. 6, March 21, 1949, p. P262; "Mohawk-Hudson Section." *ADR*, v. 37, n. 22, November 1, 1948, p. P731.
[56] "Pacific Coast Section–Secretary's Report." *1947–1948 AATCC Technical Manual,* p. 26.
[57] "161st Council Meeting." *ADR*, v. 37, n. 8, May 17, 1948, p. 331.
[58] "Pacific Coast Section–Secretary's Report." *1947–1948 AATCC Technical Manual,* p. 26.

This section also has the distinction of electing the first woman as a sectional officer.[59] In 1952, R. Jane Ericson, an executive with Catalina Inc., served a term as section secretary. She did not stand for re-election, but in 1954 the section elected Clarice H. Lindsey, a professor at the University of California, Los Angeles, as secretary. Lindsey was re-elected five times. Only one other woman was elected to sectional office during the 1950s, Margaret Hallinan of National Aniline, who spent 1955 as secretary of the Niagara-Frontier Section.

As one might expect, most of the new section's meetings took place in Los Angeles. Only one of nine meetings held during 1948 and 1949 took place outside of California (in Portland, Oregon). Of the other eight, seven were in Los Angeles, and the summer outing in 1949 was in Glendale, a Los Angeles suburb. An even more telling indication that the group in Los Angeles was isolated from those in Oregon and Washington was that the presentation at the one meeting in Oregon was a film produced by Sandoz Chemical Works Inc. called the "Meta Chrome Story." The same film had been shown the week before in Los Angeles to section members there.

Not surprisingly, section members in Oregon and Washington were not happy about the situation, and in September 1949 they petitioned Council to form a new section centered in their states. Council approved the petition and named the new section Pacific Northwest.[60] Its organizational meeting was held in Portland on November 1, 1949.[61] The existing Pacific Coast Section was subsequently renamed the Pacific Southwest Section.

The membership of the Pacific Northwest Section was drawn primarily from the states of Washington and Oregon but also included Idaho. Its two main textile centers were the cities of Portland, Oregon, and Washougal, Washington, and most of the section's leadership came from these cities during this period, with Portland supplying the majority.

The next wave of new section formation took place in 1953 and 1954. The Washington (D.C.) Section's formation was approved by Council on November 6, 1952.[62] The section was formally organized at a meeting in Washington on January 9, 1953.[63] The section's boundaries were set by Council on April 17, 1953, after discussion by the Membership Committee.

The new section included Maryland and the District of Columbia (previously part of the Philadelphia Section), as well as northern Virginia (formerly part of the Piedmont Section).[64] Many of its members worked for the federal government or for organizations like the National Cotton Council of America or the National Institute of Drycleaning that had its headquarters in or near Washington. The section's members, most of whom had previously belonged to the Philadelphia Section, lived primarily in

[59] Several student chapters had women as officers as early as the late 1930s, usually as secretaries.
[60] "168th Council Meeting." *ADR*, v. 38, n. 21, October 17, 1949, p. 762.
[61] "Pacific Northwest Section–Secretary's Report." *1950 AATCC Technical Manual*, p. 28.
[62] "184th Council Meeting." *ADR*, v. 42, n. 2, January 19, 1953, p. 31.
[63] *1953 AATCC Technical Manual*, p. 26.
[64] "186th Council Meeting." *ADR*, v. 42, n. 13, June 22, 1953, p. 412.

Washington and Baltimore, and most meetings were held in or near Washington. The section was unusual in that it did not have a summer outing during its early years. The reason for this difference is unknown, but one possible explanation is that since government employees were not major customers for dyes and other products, chemical companies (who sponsored outings at other sections) would not fund Washington Section activities.

The last section to be formed in the decade after the war was the Niagara Frontier, organized in mid-1954.[65] The new section was initially known as "Western New York," but the name was changed late that year to accommodate the Canadian members of the AATCC who planned to participate in sectional activities.[66] The territory of the new section was carved out of the New York and Hudson Mohawk Sections and consisted of that part of New York state west of Lake Seneca, as well as "adjacent Canada."[67] The section was centered around the city of Buffalo and the adjacent Canadian cities of Welland and St. Catharines, Ontario, and drew its membership from the area's dye manufacturing plants and textile mills. It was one of the smallest AATCC sections in the mid-1950s, with only eighty-six members in 1956 (only the Pacific Northwest Section with forty-three members was smaller).[68]

During this period the number of student chapters also continued to increase. The Georgia School of Technology (now Georgia Institute of Technology) and Clemson College (now Clemson University) set up student chapters in 1946 and 1947, respectively. In 1948, a chapter was established at the Bradford Durfee Technical Institute (now the University of Massachusetts at Dartmouth), and in 1949 at the New York State Institute of Applied Arts and Sciences. Fairleigh Dickinson College followed in 1951, the Rhode Island School of Design in 1953, and the Alabama Polytechnic Institute (now Auburn University) in 1956.[69]

Little information survives about the activities of the student chapters during this period. It appears that they were limited to arranging for speakers from among local figures in the textile industry. Some student chapters also apparently made field trips to manufacturing plants.

The increase in the number of student chapters was due to an active recruitment policy and recognition by the AATCC (see Appendix 16). The most notable program to further this effort was the annual Student Award. Approved by Council on January 28, 1949, the award recognizes the outstanding graduating senior in textile chemistry at each of the institutions having an AATCC student chapter. Recipients are selected by their school faculties. Each student so recognized receives a free one-year junior membership in the Association and two "outstanding books on textile chemistry" selected by the Student Awards Committee.[70]

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[65] "192nd Council Meeting." *ADR*, v. 43, n. 17, August 16, 1954, p. 524.
[66] "194th Council Meeting." *ADR*, v. 44, n. 2, January 17, 1955, p. 33.
[67] *1956 AATCC Technical Manual*, p. 528.
[68] Ibid., p. 28.
[69] "An AATCC Chronicle, 1921–1971." no date, Drawer 3, AATCC Archives, Research Triangle Park, N.C.
[70] "165th Council Meeting." *ADR*, v. 38, n. 6, March 21, 1949, p. 262. For lists of annual winners, see the *1950–1967 AATCC Yearbooks* and the membership directories since then.

Publications

The decade after World War II did not see any radical changes in the Association's publications, despite the death of the two men who had been most intimately involved in their production, A. P. Howes in 1948 and Louis Olney in 1949. Rather, the changes were evolutionary in nature, reflecting minor changes in editorial emphasis.

American Dyestuff Reporter changed in two ways. First, *ADR* increased the number of photographs it carried. Previously, photographs had only appeared to illustrate scientific papers. Beginning in the late 1940s, however, they were used to illustrate news items as well. Also, coverage of sectional activities increased somewhat, particularly coverage of annual golf outings and other recreational activities.

The second change related to the content of the scientific papers. After the war, the papers increasingly dealt with issues associated with synthetic fibers, such as a series on nylon that appeared in 1946. *ADR* began to publish the results of wartime research, particularly work done for the Quartermaster Corps. By the late 1940s, *ADR* regularly included papers on synthetic fibers and military-related research.

In the January 10, 1949, issue of *ADR*, the magazine *Textile Colorist and Converter* was incorporated into *ADR*. This trade magazine, originally known as *Textile Colorist*, was first published in 1879 by M. Frank.[71] Howes Publishing Company bought the magazine in May 1944 and experimented with its content and format, but when that did not improve the magazine's bottom line, it was combined it with *ADR*.[72] A. P. Howes claimed that his aim was to give readers of both publications "more complete service," but the move was more likely due to financial constraints.[73] The Textile Colorist section disappeared from *ADR* after the March 7, 1949, issue.

During this period, some members of the AATCC leadership became concerned with the quality of the articles appearing in *ADR*. This issue would not come to a head until 1957 (see Chapter 6), but as a result of pressure from some members, in 1949 the Howes Publishing Company decided to sponsor the American Dyestuff Reporter Award in memory of its founder, A. P. Howes. It was initially proposed as a $200 prize for the best paper presented before a local section and subsequently published in *ADR*. After discussions between Howes Publishing and the AATCC's Publications Committee, the description was expanded to allow for the recognition of the best paper presented at any Association meeting and published in the AATCC's Pro-

[71] The editorial office of *Textile Colorist* moved from Philadelphia to New York in June 1922 and publication was taken over by Dr. Frank's son, J. Emil Frank, who had been the business manager since his father's death in 1895. Its content was similar to *ADR*, as was the advertising, but it was published monthly. The magazine was more business-and-dyer oriented than the more technically oriented *ADR*, though there was considerable overlap in the types of articles. Both Franks had close ties to England. As a result, *Textile Colorist* contained many articles by English contributors. Emil Frank died suddenly soon after the move to New York. His widow then sold the firm to Howard S. Neiman, the former editor, in 1923.

[72] In October 1944, Howes Publishing changed *Textile Colorist and Converter* from a technical journal for the textile coloring trade to a "style and business magazine, covering color, design, finish, and merchandising of fabric." Howes changed the layout, introducing more white space and photographs, as well as color captions, making the magazine less like a technical publication. A. P. Howes, "To the Textile Industry." *Textile Colorist and Converter*, v. 66, n. 790, October 10, 1944, p. 7.

[73] Ibid.

ceedings. The first award was made in 1951, and the award was given annually until 1968. (See Appendix 30 for a list of winners.)

The *AATCC Yearbook* was also essentially unchanged during this period. The only notable alteration was a format and name change in 1947. By 1946 the yearbook had swollen in size to 832 pages, and Howes Publishing was falling farther and farther behind in its release. To allow time to change to a new, larger format, the 1947 and 1948 yearbooks were published as a combined edition. In the new format, pages were 8 by 11.5 inches, compared with 6-by-9 inch pages in earlier yearbooks. As a result, the *1947–1948 Yearbook* had only 576 pages, even though it included several new test methods and an expanded membership list.

The name of the new yearbook was also changed, to *Technical Manual and Year Book of the American Association of Textile Chemists and Colorists*. This reflected the increasing number of test methods that were taking up more and more space. Finally, all advertisements were printed in the back of the *Technical Manual*, rather than both the back and the front. This, combined with an enlarged table of contents, made it easier to find the information one sought.

Despite these changes in format, the actual content of the *Technical Manual* was essentially unchanged. The first part contained reports from the various sections, followed by financial data, reports of the research committees, and then the test methods. After a list of American dyes and textile-related chemicals, the contents concluded with the AATCC's membership list. This pattern, established well before the late-1940s, would continue in use until the late 1960s.

The AATCC also began to publish monographs during this time. The first of these, *Analytical Methods for a Textile Laboratory* brought together most of the methods used for analyzing purity of textile chemicals. The book was an immediate success, has gone through three editions (1949, 1968, 1984), and is still sold by the Association. The only other monograph published prior to 1956 was *Application of Vat Dyes*, released in 1953. Both books were included in the AATCC's price list, published annually in the *Technical Manual*, and were sold at a discount to Association members. (See Appendix 21 for a list of all publications.)

General Meetings

The general meeting on January 3, 1946, was the Victory Convention, celebrating the work the AATCC had done for the government during World War II. Fully 1,350 registered, and 800 attended the banquet.[74] In contrast to prewar meetings, the number of scientific papers was higher, and the gathering included (for the first time) exhibits sponsored by the government and a number of large corporations.

During the late 1940s and early 1950s the general meeting continued to grow in size and complexity. The postwar general meetings had 1,000 to 2,000 members in attendance. Moreover, the exhibit portion of the program became increasingly impor-

[74] "Record Attendance at Victory Meeting." *ADR*, v. 35, n. 1, January 14, 1946, p. P1.

tant, as corporate members came to see the meeting as an ideal situation to promote their products to the textile industry. As a result, arranging for accommodations, scheduling events, and running the meeting placed a growing burden on the host section volunteers who did the work.

The effect was essentially to limit the location of the meeting to large cities that had large AATCC sections from which to draw volunteers and that had the hotel facilities to handle the large number of registrants. Between 1945 and 1955, the AATCC met twice each in Atlantic City (1949, 1955), Boston (1946, 1952), Chicago (1947, 1953), and New York (1946, 1951), and once in Portsmouth, New Hampshire (1950). Only two meetings were in the South, both in Georgia (Augusta in 1948 and Atlanta in 1954).

The growing difficulties of putting on this annual undertaking led to a series of proposals to change its format. In 1950, Council considered holding the meeting in Atlantic City every year, rather than at different sites hosted by local sections. The measure was sent out for a letter ballot and was defeated, but the issue of running the conferences did not go away.

In 1956, Council again discussed the annual conference, after it rejected the Niagara Frontier Section's proposal to host the 1960 general meeting in favor of the Philadelphia Section. Bernard Easton, councilor for the Niagara Frontier Section, pointed out to Council that it was very difficult for smaller sections to compete and asked that Council consider some solution, perhaps by setting up a formal rotation of the meeting site between various sections (an informal five-year to six-year cycle had been in place since 1944). Council decided against any formal arrangement, though Niagara Frontier was eventually awarded the 1961 meeting. The issue of sections running the general meeting would continue to be a concern for the AATCC until the mid-1980s, as we will see in subsequent chapters.

The Society of Dyers and Colourists

The AATCC had first collaborated with the Society of Dyers and Colourists (SDC) in 1925, when the Research Committee began to correspond with the SDC about establishing uniform standards for dye testing in the United States and Great Britain.[75] The most notable continuing collaboration between the AATCC and the SDC has been the preparation and publication of the *Colour Index*.

As described in Chapter 4, the SDC published the first edition of the *Colour Index* in 1924. A comprehensive listing of dyes and pigments used in the dyeing, printing, and paint industries, it gave for each dye the chemical name and structure, listed an assigned code number, classified it as to type (direct, acid, vat, and so forth), and described its colorfastness properties. The *Colour Index* rapidly replaced other reference works as the most authoritative guide.[76] A supplement that included an index of commercial names was published in 1928. Although calls for a second edition came as early as 1935, no progress was made, and the SDC continued to reprint and sell

[75] *1925 AATCC Yearbook*, p. 56.
[76] Maurice Tordoff, *The Servant of Colour*. Bradford, West Yorkshire: Society of Dyers and Colourists, 1984, p. 122.

the first edition and its supplement. By the 1940s it was badly out of date and needed revision.

Serious discussions within the SDC about a second edition of the *Colour Index* began in 1942, and by 1943 a preliminary plan for revisions was adopted and an editorial committee was appointed. In the course of these discussions, the AATCC's annual publication of lists of new dyes in its *Yearbook* was brought up. Although the AATCC had been aware of the SDC's work on the *Colour Index* for some time (it had been discussed at the first meeting of the AATCC's Research Committee in December 1921), ongoing research programs and the lack of any effort by the SDC to include the Americans in their project meant that the two groups operated entirely independently.[77]

The Council of the SDC voted in mid-1943 to invite the AATCC to participate in the development of the second edition.[78] The AATCC's leadership accepted the invitation, and after delays caused by World War II, the first meeting between representatives of the two societies took place in autumn 1945 in the United States. The two sides drew up a contract to divide the compilation of data on new dyes between the two organizations, with the AATCC being responsible for assembling data from North America. The AATCC also would market the *Colour Index* in the United States.

Council approved the resulting agreement on October 5, 1945, and made a special appropriation of $3,000 to the Publications Committee to support the project.[79] The SDC agreed in July 1946.[80] William Cady was then appointed by the Research Committee as the AATCC representative in the revision of the *Colour Index*.[81]

By late 1946, the *Colour Index* Editorial Committee had decided that the new edition would be divided into three parts. Part 1 was to contain a listing of all commercially available homogeneous dyes and pigments, grouped by method of application (acid, direct, etc.) and hue. The list would include name, method of application, colorfastness properties, and other usage data. Part 2 was to be a listing of the chemical composition for all dyes listed in Part 1 for which data were available, along with data on obsolete dyes. Part 3 would be an alphabetical index of all dyes in the first two parts, along with a table of cross references. The Index was eventually published in essentially this form.[82]

Work on the *Colour Index* continued over the next several years. A formal agreement on dividing costs of publication and distribution was reached between the two organizations in early 1952. Pre-publication orders were first solicited in 1953, when it was anticipated that the first volumes of the *Index* would appear in 1954. Due to a series of delays, both editorial and production related, the *Colour Index* was not released to the public until December 1956.[83] Updated editions have been subsequently published jointly by the AATCC and the SDC.

[77] Louis A. Olney, "A History of the Research Committee." *ADR*, v. 35, n. 24, December 2, 1946, p. 574.
[78] Tordoff, p. 125.
[79] "151st Council Meeting." *ADR*, v. 34, n. 23, November 5, 1945, p. 440.
[80] Tordoff, p. 126.
[81] "152nd Council Meeting." *ADR*, v. 35, n. 4, February 25, 1946, p. 111.
[82] Tordoff, pp. 126–127.
[83] Ibid., pp. 128–129.

Volunteerism Versus Professionalization

The hiring of an executive officer in 1956 to manage the Association's everyday affairs was the most significant change in the AATCC's history. Not only did it fundamentally alter the way the organization was run, it also precipitated a series of changes that were to have far-reaching consequences. George Paine, the AATCC's first executive secretary (the title was later changed to executive director) would serve from 1956 until 1973. During that time, the AATCC would drastically reduce its technical programs; move its headquarters from Lowell, Massachusetts, to Research Triangle Park, North Carolina; end its relationship with the Howes Publishing Company; and begin publishing its own journal. All these decisions were strongly influenced by Paine, a man who placed his personal stamp on the AATCC in much the same way that Louis Olney had.

Paine's early years at the AATCC are described in Chapter 7; what we are concerned with here is how he came to be hired by the Association. The immediate cause was simple–both the secretary and the treasurer were ill. Harold Chapin, who was sick in the hospital, was forced to miss the 201st Council meeting on April 20, 1956, in Philadelphia. It was the first Council meeting Chapin had missed since he had become secretary in 1933, a remarkable record of dedication.[84] Because of his illness, he had submitted his resignation to the Council. The treasurer, Albert E. Sampson, was also incapacitated. He had suffered a brain hemorrhage and, although recovering, was still unable to carry out his duties.[85] Both men's illnesses had delayed financial actions and had created extra work for other members of the leadership.

But Chapin's and Sampson's absences were only the surface cause; the real reason for the change in management style went much deeper. Raymond W. Jacoby, a recently retired Ciba Company executive and member of the Rhode Island Section, had been elected president in 1955. He set up a President's Advisory Committee to study a number of issues related to the Association's future, including its organization, personnel, research program, and finances. Most of the suggested changes were minor and had been approved at previous Council meetings.[86] The only contention, contemplated changes in the organization of the Association, delayed further consideration of the issue until Council could discuss it in detail.

For Jacoby, the central issue was the limitations associated with volunteer leadership. He felt that the AATCC had managed well in the past under the existing structure, which relied on members to manage and supervise not only the broad policies of the Association, but the everyday administrative minutiae of finance and personnel as well. However, he felt equally strongly that it was time for a change. In his mind there were limits to what could be accomplished mostly with volunteer labor, and the AATCC had reached them. The duties of the AATCC's executive positions were

[84] Minutes, 201st Council Meeting. April 20, 1956, AATCC Archives, p. 1.
[85] Ibid., p. 2.
[86] "195th Council Meeting." *ADR*, v. 44, n. 5, March 14, 1955, p. 164; "196th Council Meeting." *ADR*, v. 44, n. 14, July 4, 1955, p. 454.

becoming increasingly onerous, and as a result well-qualified potential candidates were refusing to run for office because the jobs would interfere with their careers.[87]

Chapin's resignation and Sampson's anticipated resignation created an immediate crisis. Jacoby had been unable to find replacements, and even the idea of combining the two positions so that only one recruit was needed did not yield results. Although at least one person offered to take the job after retirement (three years in the future), there was no one who would fill the slots immediately.[88] Jacoby had already advocated having a full-time administrator within the permanent staff who would take over many of the duties then handled by volunteers. As a result, Jacoby decided to seize the initiative and seek to persuade Council that the new position was needed.

Jacoby received the unqualified support of the President's Advisory Committee in his effort. Past President Henry F. Herrmann, chairman of the subcommittee that had looked at the issue of administration, made the committee's views clear to Council. He pointed out that even though they had actively solicited volunteers and had approached potential candidates, they had been unable to find anyone willing to do either job. He brushed aside several objections raised by those opposed to funding a permanent administrator, such as the high salary contemplated and the potential that such a professional administrator would dampen the Association's volunteer spirit. He then went on to cite a number of advantages of a full-time administrator, such as freeing the research director from dealing with administrative matters that distracted him from scientific duties. Moreover, in Herrmann's view, such an administrator would allow the selection of a president from a region other than the East, since the need for constant close contact with the operations at Lowell would be minimized.[89]

Herrmann's position was supported by other Council members, who reported that they had discussed the matter extensively within their sections and had been unable to find anyone willing to do the work on a volunteer basis. Several members also said that there was a feeling that the positions had become so burdensome that they really should be paid positions and that to try to continue with volunteers was simply antiquated.

A consensus eventually emerged that a paid position be created, and discussion turned to the duties and responsibilities of the new employee. After an extended argument over the exact wording of the position description, Council finally approved a version essentially the same as what President Jacoby had originally proposed. The vote was overwhelmingly in favor: thirty-one to two.[90] The way was now clear to hire a full-time executive to run the Association's everyday affairs.

The changes that took place between 1945 and 1956 in the administrative structure of the AATCC demonstrate the transitional nature of this period. At the beginning, the AATCC's direction was still dominated by a small group of individuals, most notably Louis Olney. Subsequent changes were in response to the AATCC's increasing mem-

[87] Minutes, 201st Council Meeting, April 20, 1956, AATCC Archives, pp. 30–31.
[88] Ibid., pp. 31–32.
[89] Ibid., pp. 33–38.
[90] Ibid., p. 85.

bership, a membership that was also increasingly diverse geographically. By 1956, that growth, combined with the coincidental illnesses of Chapin and Sampson, forced the AATCC to move away from its dependence on volunteer labor. The stage was set for further changes, changes that would substantially alter the very nature of the AATCC.

Conclusion: The Perkin Centennial

By the mid-1950s, the AATCC had become a self-confident and increasingly professional organization. Financially sound and possessed of an organized research program, the Association looked to the future with growing assurance.

Nothing demonstrates this feeling of confidence better than the leading role the AATCC played in the planning and organizing of the 1956 celebration of the Perkin Centennial, the 100th anniversary of the discovery of mauve, the first synthetic organic dye. Planning for the centennial was initiated by the Society of Dyers and Colourists in England in early 1950. Its council set up a planning committee in March of that year, though difficulties in obtaining funding meant that serious discussions of a possible celebration did not resume until mid-1953.

The SDC became interested not because of any internal developments, but because of an invitation from the AATCC to join in the celebration the Association was planning to hold in New York in 1956. The AATCC's planning for the event had begun in January 1953, when Council appointed a committee, with Raymond Jacoby as chairman, to study the matter. The celebration was to be part of the 1956 general meeting, and from the beginning the Association planned to invite other professional and trade organizations to participate.[91]

It is unclear why the AATCC decided to celebrate the Centennial, especially since it appears that the SDC had not discussed its plans with the Association in 1950. According to Ernest Kaswell, the prime mover behind the effort was Raymond Jacoby, who adopted the celebration as a personal cause, though why is unknown.[92] In any case, the AATCC's planning committee began to meet on a regular basis, discussing the details of the celebration. Early on, it was decided to produce a commemorative book, made up of historical articles describing various aspects of the colorant and chemical industries. This was eventually published in 1957 as *The Proceedings of the Perkin Centennial, 1856–1956*.

The committee also invited the participation of a variety of American professional societies and trade associations with links to the dye and textile industries. Twenty-seven organizations were invited in all. According to Jacoby, the only non-American society to be invited was the Society of Dyers and Colourists, due most likely to the close ties between the SDC and the AATCC and because William Henry Perkin was English.[93] The fact that the committee had also invited the Canadian Association of

[91] "185th Council Meeting." *ADR*, v. 42, n. 7, March 30, 1953, p. 208.
[92] Ernest R. Kaswell, personal communication with author, October 1, 1996.
[93] Raymond W. Jacoby to Members of the Perkin Centennial Executive Committee, July 27, 1953, AATCC Archives, Research Triangle Park, N.C.

Textile Colourists and Chemists is interesting in that neither Jacoby nor the other members of the committee considered Canadians "foreign."

By June 1954 all but two of the organizations contacted had agreed to take part, and planning was underway for the series of banquets and ceremonies that would make up the celebration. The participating organizations were asked to send delegates to planning meetings, and several did so. By mid-1955, plans had been finalized for the various sections of the meeting, and there was an active publicity campaign to publicize the celebration to the general public.

As the result of this extensive planning effort, the actual celebration at the Waldorf Astoria Hotel in New York City went off smoothly. Spread out over a full week in twenty sessions, the program included talks stressing the importance of color in plastics, cosmetics, medicine, food, leather, paper, and textiles, as well as the physics and psychology of color, the chemistry and manufacture of dyes, the colorfastness of textiles, and the history of color and dyeing. On Friday, the Perkin Medal of the American Section of the Society of Chemical Industry was presented to Edgar C. Britton of Dow Chemical Company. On Friday, the Perkin Medal of the Society of Dyers and Colourists was presented posthumously to Wallace H. Carothers for his discovery of nylon and was accepted by his widow, Helen. The featured speaker for the meeting, Nobel Prize winner Sir Robert Robinson of Magdelen College, Oxford University, was introduced by Crawford H. Greenewalt, president of E. I. DuPont de Nemours.

The conference attracted a large number of guests, making it by far the largest AATCC meeting until that time. The success of the celebration owed a great deal to the AATCC's efforts and showed how far it had come as an organization since its first meeting in 1921. In the wake of the event, the AATCC's leadership could look to the future with confidence, the Association's position among American professional societies now seemingly secure.

Chapter 6

Getting the Word Out: AATCC and the *American Dyestuff Reporter* (1921–1957)

Between 1921 and 1968, the Proceedings of the AATCC were published in the *American Dyestuff Reporter (ADR),* a trade magazine for the textile dyeing industry. This chapter describes the origins of that arrangement, how it evolved over the years, and the major renegotiation (1957) of the contract between the two organizations.

Relations under Olney and Howes (1921–1947)

The first twenty-six years of the relationship between the AATCC and *ADR* were characterized by legal informality and close personal ties between the principals at the two organizations. In contrast to the 1950s, when the two organizations became increasingly confrontational with one another, the earlier period was essentially harmonious.

Several factors accounted for this lack of conflict. First, the principal individuals involved, Louis Olney and A. P. Howes, enjoyed a close personal relationship. Second, the economic interests of the two parties were similar prior to the early 1940s. Finally, the details of the financial arrangements between the AATCC and Howes were not widely known to the AATCC membership.

Before 1947, the legal relationship between AATCC and *ADR*'s parent organization Howes Publishing Company can be divided into two periods. Between 1921, and 1930, no formal contract existed. The two parties operated on the basis of a September 27, 1921 letter from Howes to Elvin Killheffer, published as part of the Proceedings of the Inaugural Meeting.[1] In it, Howes offered to publish the AATCC's proceedings in *ADR* under a separate heading and send it free to all Association members for six months. After this trial period, he would continue the arrangement if the AATCC would reimburse his publication and distribution costs. By the end of

[1] "Proceedings of the Inaugural Meeting." *ADR*, v. 9, n. 23, December 5, 1921, pp. 27–28.

1921, the reimbursement was fixed at $2.50 per member per year. This was half the regular subscription rate, a figure that resulted from a Post Office requirement that allowed no more than a 50 percent discount if the magazine was to retain its more favorable second class mailing rate.[2]

In 1923 Howes began to publish the AATCC's annual *Yearbook*, again on the basis of an informal letter of agreement. Under the agreement, the AATCC supplied the editorial content, and Howes assumed the entire financial risk. He paid for publication and distribution, recouping costs by selling advertising. Although the Association received no revenue from the *Yearbook*, it did not have to pay for copies sent to members.

The relationship between AATCC and Howes was formalized in 1930. At the 66th Council meeting of AATCC, the Council voted to designate the *American Dyestuff Reporter* as the "official organ of the Association."[3] The Council also authorized drawing up an agreement with Howes Publishing Company, which was signed on November 10, 1930. The one-page contract essentially confirmed what had been worked out in 1921: Howes agreed to publish the AATCC's Proceedings in *ADR* and mail it to members of the Association; the AATCC agreed to pay $2.50 per member per year. This contract continued until 1947.

Both the original 1921 accord and the 1930 contract were very simple documents that left a great deal unsaid. The exact process by which the AATCC's articles were to be edited and published was left undefined, how often *ADR* was published went unmentioned, and no reference was made to how disputes would be resolved. Since the agreement persisted until 1947, there must have been some mechanism by which these potential disagreements could be resolved.

That mechanism was very simple: correspondence and meetings between Louis Olney and A. P. Howes. Olney occupied a unique position of power within the AATCC from 1921 until his gradual retirement in the mid-1940s. As president from 1921 to 1927, and chairman of the research committee from 1921 to 1947, Olney was widely respected by AATCC members. On the other hand, he also was editor of *American Dyestuff Reporter*, a director of the Howes Publishing Company, and a close friend of A. P. Howes. Olney, as defacto representative of AATCC, and Howes, as owner of Howes Publishing, were able work out problems without having to ask the whole membership. As a result, a more formal document was not needed. Olney and Howes knew and trusted one another, and AATCC members knew and trusted Olney–that was the basis for resolving problems.[4]

The informality of these agreements is also explained by the financial circumstances surrounding their signing. When the AATCC was founded in 1921, membership was small, and despite steady growth, remained below 2,000 until 1938. World War II brought a slight increase in the growth rate, but in 1945 the total was still less

[2] See A. P. Howes to Post Office Department, November 10, 1921; E. M. Morgan, Postmaster to Publishers of *ADR*, November 12, 1921; A. P. Howes to Louis A. Olney, November 17, 1921, all in AATCC Archives, Research Triangle Park, N.C.
[3] H. C. Chapin to Robert E. Rose, April 2, 1930, AATCC Archives.
[4] Based on correspondence between Olney and Howes is in the AATCC Archives.

than 4,000. In this context, the arrangement with A. P. Howes and his *American Dyestuff Reporter* must have seemed very attractive. In return for a small annual payment–$2.50 per member per year–Howes provided the AATCC with "as many pages in each issue of *American Dyestuff Reporter* as shall be necessary to adequately report all proceedings of the Association, whether of the parent body, its local sections, or any of its committees."[5] This was much easier and cheaper than the Association publishing its own Proceedings. Moreover, *ADR* already had a substantial circulation, that served as a natural recruiting ground for the AATCC. As a result, the AATCC benefited from the relationship, unusual though it was.[6]

In turn, the Howes Publishing Company benefited from its association with the AATCC. The most tangible advantage was the steady flow of editorial material related to the wet processing industry into the offices of *ADR*. *ADR* published essentially every paper presented at AATCC regional and national meetings during the 1920s and 1930s. This allowed the magazine to focus its efforts on the sale of advertising and saved it from having to employ staff writers or to search for technical papers. The result was higher revenue and lower operating costs, that translated into a substantial competitive advantage over its leading competitor, the *Color Trade Journal*.

A less tangible but no less real advantage was the prestige *ADR* gained as the official publication of the AATCC. AATCC members were leading figures in the wet processing industry, and by reporting on their activities and publishing their papers, Howes was able to establish *ADR* as the leading publication in the field by the mid-1930s.

Since both A. P. Howes and Louis Olney saw the advantages of the relationship and worked hard to keep it going, there was apparently no controversy within the rank and file of AATCC about the nature of the arrangement with Howes between the Association's founding in 1921 and the mid-1940s. The two men had obviously found a formula that worked for them, and as long as they both were living things went well.

Questioning the Status Quo (1947–1956)

This close relationship between Howes and Olney began to change in 1947. As outlined in Chapter 5, Louis Olney gradually reduced his AATCC activities in the mid-1940s. After retiring from Lowell Textile School in 1944, he wanted to spend more time with his wife and family, and he and his fellow AATCC members made arrangements for an orderly transition of power. As part of that transition, and in response to a request by Howes in early 1947 for a more specific agreement, a new contract

[5] Agreement between Howes Publishing Company and the American Association of Textile Chemists and Colorists, November 10, 1930, AATCC Archives.
[6] The AATCC's use of a commercial trade magazine to publish its Proceedings was apparently unique among professional societies in the United States.

between the Association and Howes Publishing was drawn up and signed in July of that year.[7]

The 1947 contract represents a significant shift in the legal relationship between the two organizations. This was evident even at first glance–the new contract was six pages long, five pages longer that the 1930 version. When examined in more detail, the change is even more obvious. In a series of clauses, the 1947 contract sets out a detailed set of procedures for resolving conflict. For example, in the 1930 contract, Howes agreed to provide as many pages for the publication of the AATCC's Proceedings as were needed. The 1947 contract repeated this language verbatim but added the following qualifier:

> The Company [Howes] shall be fully protected in relying upon the certification of the Secretary of the Council of The Association, or any other officer or authorized representative of The Association [AATCC], with respect to any instruction, direction, or approval of The Association as to the nature, volume, and content of the material which shall be printed in AMERICAN DYESTUFF REPORTER. The Company shall be fully protected in acting upon any instrument, certificate, or paper believed by it to be genuine and to be signed or presented by the proper person, or persons, and The Company shall be under no duty to make any investigation or inquiry as to any statement contained in any such writing, but may accept the same as conclusive evidence of the truth and accuracy of the statements therein contained.

This language reflects a new desire to fix responsibility for decision making, something that had not been needed before because of the close relationship between Howes and Olney.

The desire to quantify and fix responsibility for publication of the AATCC's Proceedings also can be seen in the new detailed specifications for the physical appearance of *ADR*. The 1930 contract made no mention of how the AATCC's section of *ADR* should look. In contrast, the 1947 contract limited the section to black-and-white printing and stated that color printing would only be used if the AATCC paid the cost of color plates and half the additional printing costs.

The most notable addition to the contract, however, was a detailed agreement on the *Yearbook* of the Association. The 1930 contract made no mention of the *AATCC Yearbook*, even though it had been published regularly since 1923. In the 1947 contract, Howes Publishing agreed to continue its former practice of furnishing a copy of the *Yearbook* free each year to all members of the AATCC. The contract then went on to detail the book's contents, editorial control, type style and printing, and a number of other matters. The section of the contract devoted to the *Yearbook* ran to over two pages (more than one-third of the total), making this the largest single portion of the agreement.

[7] Louis Olney to Robert Philip, May 5, 1947, AATCC Archives.

That the contract would devote so much space to the *Yearbook* is understandable, given its increasing importance within the Association. From its inception in 1923, the *Yearbook* had had the same structure.[8] It contained an annual report on the activities of the AATCC, including written reports from all of the Association's Council and technical committees, all standard test methods the AATCC had developed for the wet processing industry, a listing of all dyes manufactured in the United States, and an AATCC membership directory.[9]

The *Yearbook* grew considerably in size during the years before 1947. Between 1923 and 1946, the *Yearbook* was published in hardback digest format (5 × 8.5 inches). The 1923 volume was only 138 pages, including 40 pages of advertising. Ten years later, in 1933, the page count had more than tripled, to 425, though advertising was only up by a little less than half, at 57 pages. Advertising had peaked at 61 pages in 1929, and declined for the next four years, no doubt due to the Great Depression. Advertising pages exceeded the 1929 high in 1934 and continued to grow steadily through the 1940s. The *1946 Yearbook*, the last produced under the old contract, had 108 pages of advertising.

At the same time, the number of pages in the *Yearbook* increased as well. In 1940, the last pre-war issue, the page count was 774 pages, almost double what it had been in 1933. Wartime increases in paper prices and editorial changes to compress the size of the membership list meant that the *Yearbooks* between 1941 and 1945 were smaller by nearly 100 pages. But the return of peace meant a surge in advertising and new members, as well as new test methods that had to be printed. The 1946 issue, the last in digest format, weighs in at 832 pages, more than six times larger than the 1923 volume.

Despite the increase in the number of advertising pages sold, the *Yearbook* was not profitable for Howes Publishing. In fact, the situation was quite the reverse. The firm lost almost $800 on the *1944 Yearbook*, and even more on the 1945 edition.[10] The combination of wartime inflation, increased federal taxes, and stagnant advertising sales led to the losses. Profits from other Howes Publishing publications, including *American Dyestuff Reporter*, financed the deficit in the short run, but A. P. Howes was concerned by long term trends. In mid-1945, for example, he suggested to Olney that the AATCC enlist its members to solicit advertising for the *Yearbook* to help Howes Publishing Company cover costs.[11]

The concerns that Howes had about the rising cost of producing the *Yearbook* are reflected in the 1947 contract. The contract contained a provision that limited the increase of text to no more than 10 percent over that contained in the 1946 edition. The AATCC could ask that more text be included, but it would have to compensate Howes Publishing for the cost. The contract also provided that Howes would receive all revenue from advertising in the *Yearbook*.

[8] This description of the contents and development of the *AATCC Yearbook* is based on examination of a complete set in the AATCC Archives.
[9] Test methods are described in detail in Chapter 3, "Research and Development (1921–1945)" and Chapter 15, "Test Method Development: Three Case Studies (1921–1996).
[10] A. P. Howes to Louis A. Olney, July 19, 1945, AATCC Archives, p. 1.
[11] Ibid., p. 2.

The expanded legal language and addition of the section on the *Yearbook* add up to a significant change in tone. In contrast to the almost casual nature of the 1930 contract, which left a great deal unsaid and clearly depended on the good will of the two parties to make it work, the 1947 contract is clearly the product of a more business-like approach. Nevertheless, the financial nature of the relationship was entirely unchanged. In that sense, the 1947 contract was the result of a desire for continuity, committing to paper in detail practices that had been the norm for some time.

The operations of Howes Publishing and the *American Dyestuff Reporter* in the ten years after 1947 were much as they had been in the quarter-century before. *ADR* continued to be published bi-monthly, with a distinctively numbered section of the magazine set aside for the Proceedings of the AATCC. The editorial content of that section was of two types. The first consisted of reports of the activities of the Council and the local sections, as well as detailed reports of the annual meetings of the Association. The second was papers presented at local and national meetings.

It was this second type of material that occasioned the most complaints by members. According to a number of observers, the staff at *ADR* did too little editing of these papers. Manuscripts were printed as submitted by the authors. As a result, the quality of the papers published, both in terms of writing style and scientific value, varied considerably.[12] Howes Publishing felt that it was not responsible for making improvements, since under both the 1930 and the 1947 contracts its only obligation was to print what the AATCC supplied.

Olney and others attempted to deal with this problem in the mid-1940s by recommending an increase in the size and diversity of the Editorial Committee, hoping to make it more active, but they were unsuccessful.[13] With the death of Olney in 1949, the publication process was increasingly in the hands of Howes Publishing, and it appears that members of the AATCC's Editorial Committee had little if any control over the content of *ADR*.

Most AATCC members blamed the Association for this state of affairs. They did so for a very simple reason; they thought that the AATCC owned the *American Dyestuff Reporter* outright and were unaware that Howes Publishing Company was an independent commercial enterprise.[14] There was no single explanation for this misunderstanding, but it appears that a number of factors led to it. First, the cover of *ADR* referred to the magazine as the official publication of the AATCC, a statement that could easily be construed to mean that the AATCC owned *ADR*. Second, the Association's own publications did not make clear the relationship. The agreement between the two parties was not mentioned in the AATCC's constitution or bylaws. Moreover, until 1937 the payments that the AATCC made to Howes Publishing for the distribution of ADR to its members did not appear in the Association's annual financial statement.[15] Finally, Howes Publishing sought to associate itself closely with the AATCC through participation in Association activities. Although there appears to have been no conscious

[12] Henry F. Herrmann to Louis A. Olney, June 11, 1947, AATCC Archives.
[13] William D. Appel to Louis A. Olney, April 21, 1947, AATCC Archives.
[14] Ernest R. Kaswell, Final Report: Howes Publishing Committee, June 19, 1958, AATCC Archives, p. 1.
[15] These financial statements are published in the Association's annual *Yearbook*.

attempt at deception, the combined impact of these factors resulted in an Association membership unaware of how the AATCC's publication efforts actually operated.[16]

The AATCC's leadership, however, was more familiar with the true state of affairs. Acting on the complaints of the membership, various AATCC sectional and national officers questioned the nature of the agreement with Howes Publishing. Their complaints came from two quarters: general membership and sectional leadership. The general membership complained that papers were not of high enough quality, were not of a "practical" nature, and took too long to appear after they had been presented at meetings.[17] (This is still a complaint among some members.) The sectional leadership was dissatisfied with the financial arrangements between Howes Publishing and the AATCC.[18] It was this second issue that eventually led to the renegotiation of the 1947 contract in 1957.

While there was considerable discussion about the Howes Publishing contract within the AATCC leadership, no concrete action was taken until 1954, when Raymond W. Jacoby became a candidate for president of AATCC. In the summer of that year, while he was in the process of seeking election, Jacoby was approached by a man connected with the publishing industry.[19] This man's firm was looking for new magazine markets, and he pointed out that several aspects of ADR made it a very attractive property: the link to a professional society and the bulk of the text was supplied by the AATCC rather than written by an in-house staff. He went on to say that, as a result of these advantages, the AATCC could expect to receive "an appreciable income" if his firm became the publisher.[20]

At the time, Jacoby knew nothing about the contract between Howes Publishing and AATCC, so he was unable to discuss the matter further with the publishing house representative. While Jacoby could have made inquiries, he believed that as a candidate for the presidency, he might be seen as presumptuous or his motives questioned. As a result, he decided to delay his investigation until later.[21]

Shortly after his election, Jacoby was scheduled to attend a meeting of the Appropriations Committee to discuss the finances of the Association. Feeling that he was inexperienced in such matters, he sought advice from the financial officer of a large foundation, and with his help Jacoby went over the budget and investment accounts of the AATCC. The financial officer was surprised that the AATCC derived no income from *ADR*, and pointed out to Jacoby that "numerous associations were practically dependent upon this income for their operation."[22] Jacoby then consulted with the

[16] Howes always admitted the true state of affairs when questioned, and he published at least two articles that described how the agreement between AATCC and Howes Publishing came about. See A. P. Howes, "Reporter Passes Quarter Century Mark." *ADR*, v. 31, n. 25, December 7, 1942, pp. 583–592; "A Brief Outline of the Origin and Growth of the American Dyestuff Reporter." *ADR*, v. 35, n. 24, December 2, 1946, pp. 669–671.

[17] The argument over the balance of "practical" versus "scientific" papers in the proceedings of the AATCC is a perennial one, and dates back at least to the 1940s. See Chapter 11, *Textile Chemist and Colorist, 1969–1996* for a more detailed examination of this issue.

[18] Kaswell, p. 2.

[19] Jacoby did not name the man in the memorandum he prepared in 1956, which is the basis for the following description of Jacoby's actions. A copy of the memorandum is preserved as Appendix 3 of Kaswell's report.

[20] Ibid., p. 2.

[21] Ibid., p. 2.

[22] Ibid., p. 3.

Technical Association of the Pulp and Paper Industry (TAPPI) and learned the financial officer was right and that a publication could be a profitable enterprise for a professional association.

Jacoby then discussed the matter again with his publishing contact. He told Jacoby that his employers had considered the matter further and that they were sure that the AATCC could derive "appreciable" income from its publication. He then asked Jacoby if he wanted a definite proposal. Jacoby asked him to wait, since he believed that it would only be fair to consult with Howes Publishing Company before bringing the matter before the Council.

Jacoby had made up his mind to contact Howes, but before he did so he was called by Myron Reeser, the business manager at Howes Publishing. Reeser asked Jacoby to meet with him and Norman Johnson, editor of *American Dyestuff Reporter*. Jacoby did so the next day, and at that meeting Reeser told him that he had heard that Jacoby had been meeting with another publisher.[23] Jacoby admitted to the meetings and that he had been led to believe that the AATCC should expect to derive revenue from its publication. But he stressed that he had not entered into any formal negotiations. He went on to say he thought it would be a "nice thing" if Howes would look into its operations and make an offer to the Association. Although couched in diplomatic language, it is clear that Jacoby was pressuring Howes Publishing to alter its stance.

Jacoby subsequently met with Ernest Finan, the executive vice president of Howes Publishing. In the course of the long meeting, Finan showed Jacoby audited financial statements for his company. Jacoby saw that Howes was not in a position to provide any additional funds to the AATCC at that time. However, Jacoby pointed out to Finan that another publisher, with overhead spread over more magazines, might be able to make a better offer. He then pressured Finan to come up with a plan that would provide the AATCC with more money by asking him to make a best and final offer. It appears that Jacoby took this hard-line approach because his publishing contact had been unwilling to make a firm financial commitment, fearing it would be used by Jacoby merely as a bargaining tool with Howes.

Jacoby asked Finan to make his offer before January 18, 1956, so that Jacoby could discuss the matter at a President's Advisory Committee meeting. Although Jacoby met with Finan and Reeser before the meeting, he was unable to get them to commit to a final offer. At the Advisory Committee meeting, Jacoby was surprised to learn there had been open discussion about the Howes contract in the Chicago and Philadelphia areas. Frustrated by his lack of progress with Howes Publishing and concerned about the rising dissatisfaction with the contract among the membership, Jacoby decided to ask for an inquiry into the situation. On January 25, 1956, he sent a long memo detailing his negotiations to Vice President Joseph H. Jones, of the Midwest Section, copies of which were sent to all the Association's vice presidents. It was this action that eventually led to the formal series of negotiations with Howes.

[23] Reeser had learned about Jacoby's activities from gossip at the Advertising Club in New York. Kaswell, Appendix 3.

During the next six months, the leadership of AATCC focused on other issues, most notably the hiring of George Paine, the new executive secretary. But informal discussions, both among AATCC members and between Howes Publishing and AATCC officers, continued. Finally, in mid-June, Jacoby asked Henry Herrmann to organize a committee to investigate the Howes contract. With the reorganization of the AATCC's structure that accompanied Paine's appointment, Hermann's committee was made part of the planning process. Although Jacoby and other AATCC officers continued to talk informally with Howes representatives, the installation of Paine and the AATCC's leading role in the chemical and dye industry's celebration of the Perkin Centennial (see Chapter 5) delayed the committee's first meeting until November 14, 1956.

In the letter he sent to committee members before the meeting, Herrmann outlined the terms of the 1947 contract and then discussed the financial potential of a new agreement, either with Howes or another publisher. Herrmann mentioned that there had been an offer having the potential of netting the AATCC up to $35,000 a year under a profit-sharing arrangement. He then outlined three options and arguments in support of each. Hermann's letter was remarkably even-handed and treated all three options equally.

The first option was to leave things as they were and continue to operate under the 1947 contract. According to the proponents of this position, the AATCC was "receiving a full measure of what it had contracted for" and had no reason to make a change. Howes was unwilling to match the financial offer of the other publishers however, so selecting this option would have meant giving up potential revenue.

The second option was to contract with another publisher. The supporters of this position were of the opinion that Howes Publishing derived considerable value from the editorial material furnished by the AATCC, and that AATCC's association with the firm accounted for the success of Howes. They felt that Howes Publishing should share with AATCC the fruits of that success and argued that if Howes was unwilling to do so, the AATCC should find a new publisher.

The third option was the most drastic one. Its supporters believed that the AATCC should assume all responsibility for its own publication and publish it in-house. They argued that over "the long haul" this would be the most profitable course to take. They pointed to TAPPI as an example, which had begun to publish its own journal and was making a profit from it.

The committee met as scheduled on November 14 and agreed to recommend to the AATCC Council that a separate committee be set up to investigate the 1947 contract with Howes. It was suggested that the new committee determine if the contract was equitable and, if not, how it could be changed to make it so. To help in this determination, the committee also recommended that Council appropriate $1,000 to hire a professional consultant to review the contract.

Henry Hermann formally moved for the formation of the "Howes Contract Committee" at the November 16 meeting of the Council. In his statement, he stressed the long-standing relationship the AATCC had enjoyed with the Howes Publishing Company but pointed out that since there was "some question as to the equability [sic] of

[the] contract," it was important to make a formal investigation. The motion passed, authorizing the full $1,000 and empowering President Jacoby to appoint the committee members.

Jacoby selected Ernest R. Kaswell as committee chairman, and Herrmann and Fred V. Traut of Globe Dye Works, Philadelphia, as regular members. Jacoby and George Paine served as ex-officio members. Jacoby later added two members of the Appropriations Committee, Roland Derby and Albert Sampson, as ex-officio members. Derby and Sampson were the current and former AATCC treasurers and assisted in determining the financial details when negotiations began in 1957.

Over the next six weeks, members of the committee met with representatives of several different publishers. The consensus that emerged was that the 1947 contract with Howes was unfair to the AATCC. In fact, every one of the publishers with whom committee members talked recommended that the contract be renegotiated.[24] As a result, the committee decided not to spend the $1,000 appropriation on a professional assessment, since it was already clear that the contract was inequitable.

At this point, the committee decided to initiate negotiations with Howes Publishing. The first meeting took place on January 17, 1957, when the committee met with Reeser, Finan, and Johnson in New York City. The primary topic of conversation was AATCC's dissatisfaction with the 1947 contract. The committee members informed the Howes representatives that they did not have a firm conception of how the contract should be changed, but they believed that, at a minimum, the AATCC should discontinue its payments to Howes. They also felt that Howes should agree to pay the AATCC a fixed amount per member, or make some other financial arrangement, in order to share its advertising revenue. The two groups then agreed to meet again in a month's time after they had considered the matter further.

Prior to that second meeting, Finan, Howes' executive vice president, sent a statement to Kaswell that outlined the position that Howes planned to take.[25] In this document, Finan reviewed the history of the AATCC's relationship with Howes. He stressed the close association between the two organizations and pointed out that Howes had been the first corporate member of AATCC, had contributed money regularly to the Association's research program, and had established the Olney Medal and American Dyestuff Reporter Award. Finan also stressed that the staff of *ADR* provided publicity advice to the Association, funded semi-annual receptions for newly elected AATCC officers, and had increased the size of the *AATCC Yearbook* at no charge to the Association.

Finan then pointed out the pitfalls of changing publishing companies. Any new firm would have to compete with *ADR*, resulting in split revenues and lower potential profits. This also applied to the AATCC's setting up its own publishing venture, with the additional problem of selling advertising to its corporate members.

Taken as a whole, Finan's position paper was an emotional appeal rather than a rational one. It is clear from the text that Finan wanted to preserve this current lucra-

[24] These meetings are described in Kaswell, pp. 4–5.
[25] A copy of this position paper is included as Appendix 7 in Kaswell.

tive deal and that he feared if the AATCC set up a rival publication it would cut into his profits. By appealing to the long association between the two organizations and the intangible benefits Howes provided the Association, Finan hoped to blunt the efforts of the committee to strike a deal that would require Howes to pay more for the privilege of printing the Association's Proceedings.

It is equally clear that Finan knew the AATCC committee members were unhappy with the 1947 contract, and that he had to do something to appease them. Buried at the very end of his ten-page position paper is a most significant paragraph:

> There is, however, still much work to be done, if the Association is to be further advanced. We want to take our proper place in sharing that work and that responsibility. Under a revised financial arrangement, which will make available to the Association a new sum of $... annually, Howes Publishing Co. feels it will again be giving most tangible evidence that no mistake was made, 35 years ago, when the originating members of the Association arranged with this company for the publication of its Proceedings.[26]

If one puts aside the emotional language, one is left with a simple fact: Howes Publishing had agreed to renegotiate the contract. This is in marked contrast to the year before, when Finan had told Jacoby there was no money for any additional payments to the AATCC.

Finan left the exact nature of the new financial commitment vague in the letter he sent Kaswell, naming no exact figure. When the AATCC's committee met with Howes representatives on the morning of February 15, 1957, Finan presented the Howes proposal. It contained two main points. First, Howes offered to pay the AATCC $5,000 per year for publishing rights to the Proceedings, beginning on January 1, 1958. Second, Howes agreed to deliver copies of *ADR* to AATCC members for free, beginning on January 1, 1960. Since AATCC payments for the magazine had reached $18,000 per year, the net result was over $23,000 additional to the AATCC.

The AATCC representatives then withdrew to consider the offer. In general they believed that the offer was roughly the right size, but after discussion they decided that the fixed $5,000 payment for publishing rights was potentially unfair. If advertising revenue dropped, Howes would be hard pressed to meet the payment, whereas if revenue grew, the AATCC would not benefit. They then made a counter proposal to Howes, asking for a 3 percent share of gross advertising revenue, rather than the fixed $5,000 fee. They also asked that payment for *ADR* delivery be reduced by half in 1958, and eliminated altogether in 1959, one year earlier than the Howes proposal, and that the contract include a two-year rather than three-year notice for termination. The proposal was sent to Finan on February 16.

Howes agreed to share the advertising revenue, but proposed a reduction from 3 percent to 2 percent. Howes also proposed that the AATCC continue to pay for copies

[26] E. J. Finan to Ernest R. Kaswell, February 11, 1957, Kaswell, Appendix 7, p. 10.

of *ADR* in both 1957 and 1958, going to free distribution in 1959. The AATCC accepted the change in *ADR* payments but continued to insist on 3 percent of advertising revenue. After a telephone conversation between Kaswell and Finan on April 1, 1957, Finan agreed to the AATCC's terms several days later.

Kaswell and Paine then consulted a lawyer and asked him to draw up the final agreement. The lawyer, James F. Farr, immediately pointed out that the agreement might jeopardize AATCC's tax status as a nonprofit scientific society. In his view, the tie-in of income to the AATCC with advertising revenue, particularly on a percentage basis, would place the AATCC in the tax category of an ordinary business enterprise.

Since neither Kaswell or Paine wanted to precipitate such a change in the AATCC's structure, they were forced to remove from the contract those objectionable features. Payments were structured so that the net payments were roughly the same as they would have been under the advertising-related agreement. In place of payments based on advertising, Howes agreed to pay the AATCC a fixed fee of $3.75 per member per year for rights to publish the Association's Proceedings, and an additional $1.25 for each member address. In return, the AATCC paid $3.75 per member for the delivery of *ADR* and the *Yearbook*.[27] As a result, the AATCC had a net gain of $27,000, almost exactly what the increase would have been under revenue-sharing.

The new agreement was quickly approved by both sides, and the March 29, 1957, meeting of Council accepted it in principle. Drafts of the new contract were passed between Howes Publishing and the AATCC committee over the next several months, with minor changes in wording. The final language was determined at a meeting between Howes and the committee on September 17, 1957, and the contract was signed on October 8, 1957.

Conclusion

Although the signing of the new contract was accompanied by outward signs of goodwill and references to the continuation of a positive relationship of long standing, the conflict that had led to the negotiations was not fully resolved. The AATCC would enjoy an increase in revenue, but questions of control over editorial content were still open. Over the next ten years, the relationship between Howes and the AATCC would become increasingly acrimonious, eventually climaxing in a split that led to the founding of *Textile Chemist and Colorist* in 1969.

What happened after 1957 is covered in subsequent chapters. However, before moving on, consider what the negotiations that led up to the 1957 contract say about the evolution of the AATCC's culture and attitudes. While centered on only one aspect of the Association's operations, the negotiation with Howes Publishing was the first in a series of events that would transform the AATCC over the next decade.

[27] Both sides made payments to the other to preserve the Second Class mail status of *ADR*.

At its center, the controversy over the 1947 contract points out the generational change in leadership taking place in the decade after Olney's death in 1949. The men who founded the AATCC were dying out in the 1950s, and as they left leadership positions, the direction of the Association changed as well. Agreements like the one with Howes were re-examined, and new directions charted. It is no accident that, within a ten-year period, the AATCC hired an executive director, renegotiated the Howes contract, moved its headquarters, and established its own journal. The decade after 1957 would prove to be a controversial one for the AATCC.

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Chapter 7

Adjusting to Change (1957–1963)

This chapter resumes the chronological narrative from Chapter 5. The initial focus is on the innovations that resulted from George Paine being hired in 1956 as the Association's first executive director. Between 1956 and 1963, Paine and his allies on the Council brought about a series of far-reaching changes in the AATCC's administrative structure, culminating in the relocation of the AATCC's headquarters from Lowell, Massachusetts, to Research Triangle Park, North Carolina.

During this same period, continuing changes in test methods were brought about by technical advancements, particularly the increasing use of manufactured fibers and the introduction of permanent press resins. This chapter describes the nature of these changes, including AATCC's links to international standards-setting organizations. The chapter concludes with a description of the continued expansion of AATCC membership, the shift of membership from New England to the South, and the effect this had on national and local activities.

Organizational Changes

Hiring George Paine in 1956 proved to be a watershed action for the AATCC. As described in Chapter 5, Paine's hiring was seen as a solution to the problem of growth and the resulting inability of volunteer leadership to keep pace. Paine proceeded to use the power of his newly created position to reshape the Association. Simultaneously, as the textile industry continued to move out of New England, southern members were increasingly eager to involve themselves with national AATCC politics. The result was a decade of change for the Association, change that would remake the organization Louis Olney founded.

George Paine's personality and background had a great deal to do with his effect on the AATCC's organization. A former military officer, he had spent ten years on the staff of the American Standards Association (ASA) in New York City. The ASA

was primarily a business association that coordinated efforts to set commercial standards. It did not have a laboratory of its own, and when Paine was hired by the AATCC it was only natural that, to some extent, he would want to remake the AATCC in the image of the ASA, by contracting out technical work and replacing the volunteer orientation of the organization with a full-time professional staff.

However, there were other reasons Paine sought to change the way the AATCC was organized. On a professional level, he thought that the AATCC should locate its headquarters near those of other national engineering and scientific societies, most of which were in New York. Moreover, according to his friends, Paine was a confirmed northerner, and thought that civilization ceased to exist south of the Mason-Dixon line. William R. Martin Jr., Paine's successor as executive secretary, playfully suggested that Paine initially shared a view common among northerners at the time, that once one "crossed the Hudson River and headed South [one came] into the land of the aborigine."[1] As a result, he favored a move to New York City rather than the South on personal grounds as well. That New York meant the AATCC would, at best, be able to support only a minimal laboratory apparently did not bother Paine.

The changes Paine wanted to make fitted in with larger trends within the AATCC. In the mid-1950s, the Central Atlantic Region (the New York, Philadelphia, Hudson-Mohawk, and Niagara-Frontier sections) was the dominant political power within the AATCC. The chairmen of the Executive Committee on Research all came from this Region, as did the vast majority of Research Committee chairmen. It also had the largest number of Councilors. As a result, meetings of Council were routinely held in New York City, and that city was the prime candidate when George Paine went looking for a new headquarters location in the late 1950s (see Chapter 8).

Over the next decade, however, the Southern Region became the most powerful politically. Although a majority of committee chairmanships continued to be held by members of other sections, southerners increased their representation considerably. More important, due to the continued membership growth of the southern sections, the number of Councilors from the Southern Region exceeded those from the Central Region in the early 1960s.[2]

Total AATCC membership was essentially constant in the mid-to-late 1950s. In contrast to the ten years between 1935 and 1944, when total membership went from 1,400 to 3,800 (a 270 percent increase), and the decade after that (1945–1955), when

[1] When it later seemed that the AATCC was going to New York, his friend George Keirnan wrote to Paine and said that he knew that Paine was happy about not having to move to the South. See George C. Kiernan to George P. Paine, July 12, 1961, AATCC Archives, Research Triangle Park, N.C. Additionally, George Mandikos and William R. Martin Jr., both of whom worked with Paine in the 1960s, recall that Paine had been reluctant initially to move to North Carolina, though he grew to love the area after actually living there. Mark Clark, Interview with William R. Martin Jr., April 11, 1995, AATCC Archives, Research Triangle Park, N.C., p. 17; Interview with George Mandikos, March 15, 1994, AATCC Archives, p. 29. On the other hand, Ernest Kaswell, who also knew Paine during this period, does not recall Paine as being hostile to the idea of moving to the South and points out that Paine liked the non-metropolitan location of Lowell and did not particularly like the idea of living in New York City. Kaswell does confirm that Paine preferred New York, but believes it was on professional, not personal grounds. Ernest R. Kaswell, Personal Communication, March 14, 1996.

[2] The Southern Region had ten of thirty-eight Council positions in the mid-1950s, or 26 percent. This compares to the Central Region's 37 percent. By the early 1960s, the Central Region had declined to 33 percent, and the Southern Region had increased to 35 percent.

membership grew to over 7,000 (a 180 percent increase), the period between 1955 and 1964 saw a rise to only a little over 7,700, only a 10 percent increase. Moreover, essentially all that growth took place between 1960 and 1964. Corporate membership had slowed as well, and as a result the decade after 1956 saw the AATCC faced with stable revenues rather than growth for the first time since the late 1930s.[3]

Thus, when George Paine was hired and given a mandate to professionalize the headquarters staff, he and the Council were forced to make some tough choices about how to spend the Association's money. By the mid-1950s, the AATCC's headquarters staff had expanded to some twenty persons. Half were secretarial and clerical workers (all female). The rest, with the exception of the executive secretary, were technical employees.[4] Over the next five years, Paine kept the clerical and administrative staff relatively constant, while cutting the technical staff. By 1961 there was only one technical person on staff at national headquarters.[5]

While these cutbacks were taking place, other forces within the organization were working for change. The most notable result of the efforts to change and reorganize the AATCC was the publication of the report of the Study Committee on Long Range Objectives of the AATCC and the subsequent discussion and implementation of its recommendations. The result of extended debate within the Committee, the report was published in its final form in the February 22, 1960, *American Dyestuff Reporter*. While it contained a variety of suggested changes, the primary thrust of the recommendations was to take actions that would increase the Association's visibility, especially in scientific circles.

The Committee made sixteen specific recommendations:

1. Expand the scope of the AATCC to include testing of all textile-like materials, such as paper, plastic, nonwoven fabric, foam, leather, metal, glass and the like, when used in place of conventional textiles.
2. Expand the scope of the AATCC to include color technology of all materials.
3. Cooperate with other professional organizations on the setting of specifications and standards, not just standard test methods.
4. Expand the AATCC's publication program, including a journal separate from *American Dyestuff Reporter*.
5. Expand the quantity and quality of the AATCC's technical staff.
6. Discontinue laboratory operations at AATCC headquarters, and contract out the AATCC's research program to outside laboratories.
7. Increase the AATCC's support for research activity in textile chemistry, especially among young people, by sponsoring prizes, fellowships, and other awards.
8. Cooperate with colleges to upgrade professional curricula.
9. Establish a standing AATCC committee on professional development.

[3] "Minutes of the 210th Council Meeting," May 23, 1958, AATCC Archives, p. 6.
[4] *1957 AATCC Technical Manual,* New York City: Howes Publishing Co., p. 13.
[5] *1962 AATCC Technical Manual,* p. A-12.

10. Establish an AATCC-wide public relations program to increase the Association's visibility.
11. Establish a "Committee for Consumers' Interest" to cooperate with other consumer-oriented organizations in the textile field.
12. Set up a "Marketing and Economics Committee" to gather and disseminate pertinent information about the textile industry, particularly with reference to non-traditional textiles.
13. Take stock of AATCC's assets and, in order to pay for the previous recommendations, determine if additional revenues could be generated, particularly from publications.
14. Revise the AATCC's statement of objectives to include the new directions described above.
15. Keep the name of the AATCC unchanged.
16. Keep the AATCC's Headquarters in Lowell, Massachusetts, for the time being, but consider moving if the situation warranted.[6]

The report strongly reflected the personality and interests of the chairman of the committee, Ernest R. Kaswell. A scientist by training, in 1960 Kaswell was the president of Fabric Research Labs, Inc., of Dedham, Massachusetts. He had served as AATCC vice president from 1956 to 1958 and would be elected president in 1963. He strongly supported the scientific mission of the Association, as can be readily seen from the nature of most of the sixteen recommendations. What Kaswell and his committee clearly had in mind was to expand the scope of the AATCC extensively, creating a much more publicly visible organization.

The Committee's report proved to be influential, although not because its recommendations were adopted. Out of the sixteen, only recommendations 4, 15, and 16 were fully carried out, with several others partially adopted. Since recommendations 15 and 16 were essentially endorsements of the status quo, only recommendation 4, that the AATCC publish its own journal, resulted in a major change (see Chapter 10).

Some of the Committee's recommendations were explicitly rejected. Due to a ground swell of opposition from members, in late 1960 Council decided not to take any action on recommendation 3, that the AATCC involve itself in setting specifications. At the same time, Council tabled the recommendation that the AATCC's objectives statement be rewritten, feeling that the existing statement was broad enough.[7]

If the Committee's report did not directly result in substantial change, why then was it influential? The reason was simple: it precipitated widespread discussion, especially about the more sweeping recommendations like expanding the scope of the AATCC to include color applications beyond textiles and setting specifications. Unlike past discussions about the future of the AATCC, which had been debated largely in private beyond the eyes and ears of the average AATCC member, the Report on Long-Range Objectives was discussed openly in the pages of *American*

[6] "Report of the Study Committee on Long-Range Objectives of the AATCC." *ADR*, v. 49, n. 4, February 22, 1960, pp. 48–56 (P122–P130).
[7] "Council Highlights, 220th Meeting, November 9, 1960." *ADR,* v. 49, n. 23, November 14, 1960, p. 71 (P858).

Dyestuff Reporter. These discussions included references to opposition within the Association to the recommendations, which was unprecedented.[8] The result of the discussions was essentially an affirmation of the Association's existing goals and a decision to keep the focus of the AATCC on the development of test methods for the textile industry.

The reorganization extended to relations with other organizations. Since the 1920s, AATCC members had been appointed by Council as representatives to a variety of coordinating committees run by the government or other societies. For example, the joint ASTM/AATCC Coordinating Committee (formed in 1951 and still operating) met twice a year to coordinate the work of the two organizations. These appointments were on an ad hoc basis, however, and there was no formal mechanism to supervise their actions, though no doubt the Association's leadership kept tabs on what was happening through informal channels. The Inter-Society Relations Committee was set up in 1955 to coordinate the AATCC's efforts with those of other professional organizations, and by the late 1950s served as the central clearinghouse for these efforts. The Committee had been originally formed to address concerns expressed by a number of members about the AATCC's representatives to the Consumer Goods Standards Board, which had been set up under the auspices of the American Standards Association.

Although there had been no explicit guidelines for the representatives to follow, there had been an informal understanding that AATCC representatives would vote only on matters related to test methods and would avoid any actions that might be construed as endorsing a specific standard of performance. The AATCC's representatives to the Consumer Goods Standards Board had been gradually drawn into voting on standards for goods; when then-President Raymond W. Jacoby was informed about this in early 1955 he initiated an internal discussion on how to address what was seen as a "disturbing" problem.[9] At the suggestion of Henry F. Herrmann, executive secretary of the Vat Dye Institute and a past president of the AATCC, in April 1955 Council set up a temporary committee to study the question of the Association's cooperative work with other organizations. Subsequently made permanent, the committee was named the Inter-Society Relations Committee.[10]

The Inter-Society Relations Committee consisted of several past presidents of the Association, the chairman, vice chairman, and past chairman of the Executive Committee on Research, George Paine, and Harold W. Stiegler (AATCC's director of research). The committee's primary function was to appoint AATCC representatives to cooperating organizations: the American Standards Association (now the American National Standards Institute (ANSI), the American Society for Testing Materials (ASTM), the Inter-Society Color Council, the Office of Technical Services of the U.S. Department of Commerce, and the Consumer Standards Board. The AATCC dropped

[8] See, for example, Weldon G. Helmus, "AATCC's Long-Range Objectives." *ADR,* v. 50, n. 3, October 3, 1960, pp. 27–28 (P732–P733); Elliot Morrill, "Aims and Objectives of the AATCC." *ADR,* v. 50, n. 3, February 6, 1961, pp. 48–51 (P108–P111).
[9] *1958 AATCC Technical Manual,* p. 40.
[10] Ibid.

its participation in the Consumer Standards Board in 1957, because of the problems discussed above and because that organization did not focus primarily on textiles. However, the Association continued to be active in the other organizations.[11]

The primary focus of inter-society cooperation was textiles. AATCC representatives served on four American Standards Association committees related to textiles: L14, Textile Test Methods; L22, Minimum End-Use Standards for all Textiles; L23, U.S. Committee for ISO/TC38 on Textiles; and L24, Institutional Textiles, Minimum End-Use Standards for Hotels, Hospitals, etc. Similarly, the committees of which AATCC representatives served were also directly related to textiles, such as the joint ASTM/AATCC Coordinating Committee and the Department of Commerce's Standing Committee for Commercial Standards CS 59-44 for Textiles.[12]

In 1960, under the influence of the report of the Committee on Long-Range Objectives, the AATCC added several additional inter-organization links. Liaison was set up with the Technical Association of the Pulp and Paper Industry (TAPPI) and the Society of Automotive Engineers (SAE). TAPPI and AATCC shared interests in nonwoven fibers, and the SAE was interested in cooperating with the AATCC on testing fabrics for automotive and aviation applications.[13]

The AATCC also became increasingly involved in international standards setting through the International Standards Organization (ISO). AATCC delegates had attended ISO meetings in the United States as early as 1952, and several committee sessions were held in conjunction with the Perkin Centennial Celebration in 1956. AATCC delegates went overseas for the first time in 1958, to attend a meeting in Switzerland, and also attended a meeting in England in 1962. This involvement in ISO culminated in 1964, when the AATCC hosted several committee meetings at its new headquarters in Research Triangle Park, North Carolina.[14] This participation set a pattern that persists to the present day, with the AATCC actively participating in ISO activities related to textile dyeing and finishing.

Finally, in 1963 the AATCC resolved a problem it had had with its tax status since 1956. The Association had been organized as a nonprofit scientific association and had filed tax reports on that basis. The Internal Revenue Service first questioned this status in 1956, primarily because of the Association's links with a profit-making company, Howes Publishing Company (publisher of *American Dyestuff Reporter*). The IRS and the AATCC negotiated over the proper filing status for some time, with the Association seeking to prove that, while it was associated with publishing, it was not primarily a business.[15]

The result of the negotiations was a ruling by the director of the Tax Ruling Division in a letter of January 15, 1963, that the AATCC qualified as a "business league" (rather than a "scientific association") and could file for exemption under that category. On the advice of its legal council, the AATCC's leadership decided to do just

[11] *1957 AATCC Technical Manual,* pp. 13–14.
[12] *1957 AATCC Technical Manual,* p. 14.
[13] Charles A. Sylvester, "Research in AATCC." *ADR,* v. 49, n. 20, October 3, 1960, p. 28 (P733).
[14] "Council Highlights." *ADR,* v. 53, n. 7, April 1, 1963, pp. 42–43 (P249–P250).
[15] "Council Highlights." *ADR,* v. 53, n. 7, April 1, 1963, p. 42 (P249).

that, although the filing was made under protest and the Association reserved the right to file for scientific association status at a later time.[16] In practical terms, there was little difference between the two categories in terms of tax liability.[17] The most notable difference was that, as a business league, donations to the AATCC by individuals and corporations could not be considered tax-deductible by the giver. According to William R. Martin Jr., the Association's second executive director, the AATCC has never challenged the ruling because to do so would open up the possibility of the IRS deciding that the Association did not qualify for either tax-exempt category. As a result, the AATCC continues to operate as a "business league" for tax purposes as of this writing.[18]

Research and the AATCC (1956–1963)

The years between 1956 and 1963 saw an extended debate about the role of science and scientific research within the AATCC. On one side were those who wanted to continue the strong independent program of applied research that Louis Olney and his collaborators had instituted during and immediately after World War II. These individuals, most of whom were researchers in industry or academia, favored spending money on equipment and scientists to perform research at the AATCC's laboratory at Lowell Technological Institute. They could point with pride to work already completed.

Since the early 1930s, AATCC had conducted fundamental and applied research in no fewer than eleven areas: wool carbonizing, protein chemistry, the mechanism of wetting agents, effect of light on color appearance, mercerization, the effect of alkalis and oxidizing agents on wool, chemical and physical properties of rayon, test methods for colorfastness to light, the mechanism of gas fume fading of dyes, fabric flexibility and drape, and the resistance of fabrics to insects. By 1948, this work had been recorded in no fewer than 135 published reports and journal articles classified as follows: general textile chemistry (17); vegetable fibers (8); animal fibers (28); synthetic fibers (14); dyeing, printing, and finishing (9); and analysis and testing (59). A sampling of these publications is given in Appendix 18.

On the other side of the debate were those in the AATCC's leadership who were business owners and managers. They stressed the business and commercial side of the organization's activities and felt that revenues should go toward improving and professionalizing the Association's management.

It is important to note that these were not mutually exclusive goals, and the positions taken by those involved represented more of a continuum than two separate camps. As a result, the outcome of the debate was a compromise: while the research program was cut back, it did not disappear completely.

[16] "AATCC Statement on Tax Status." *ADR,* v. 53, n. 7, April 1, 1963, p. 46 (P253).
[17] In IRS terms, a scientific association is a "501C-3" organization; a business league is a "501C-6" organization.
[18] Mark Clark, Interview with William R. Martin Jr., April 11, 1995, AATCC Archives, p. 31

How did that compromise come about? The initial catalyst for debate was the questions that arose over the allocation of money during the late 1950s after George Paine was hired. Yearly revenues from individual and corporate memberships (the vast majority of income) were essentially constant from 1956 to 1960. Paine had been charged with professionalizing the management of the Association, and as a result, an increasing portion of income went to hire permanent staff to do what had been done before by volunteers.

Matters came to a head when Harold W. Stiegler retired as director of research in April 1960. He had served in the post continuously since December 1945.[19] His primary duties had been the supervision of research at the AATCC's own laboratory and contract work at other locations. He also coordinated work on test method development. Stiegler's work in chemical research was recognized outside the AATCC. He was named a fellow of both the American Association for the Advancement of Science and the American Institute of Chemists. An active member of the American Chemical Society and the American Society for Testing Materials, Stiegler was by temperament a researcher—he did not handle administrative detail well. For example, when George Paine first joined the AATCC staff, he found that Stiegler and other research personnel were spending their time answering the telephone and wrapping and mailing packages, rather than in the laboratory. Paine immediately hired part-time staff to take over receptionist and shipping duties, freeing Stiegler and his subordinates to do their work more effectively.[20]

Stiegler's departure precipitated the first benefits package for AATCC employees. There had been no formal retirement plan for AATCC employees prior to Stiegler's retirement, so Council created a pension specifically for him. The plan was also approved for other AATCC employees, the first step toward the current comprehensive benefits package.

As part of the de-emphasis on research, Stiegler's position was abolished. Many of his duties were taken over by George J. Mandikos, who was given the title of Technical Secretary. As a result, by the early 1960s research carried out by the headquarters laboratory was being de-emphasized in favor of research by Association members at their own laboratories. For example, when Paine spoke to a meeting of the South Central Section in 1961, his description of the role of the headquarters staff focused on its administrative work in serving members. He did not mention laboratory work at all.[21]

When Stiegler retired, there were three full-time researchers and two part-time laboratory assistants on the AATCC's payroll.[22] By the following year, only one full-time research person remained: George Mandikos, who took over all duties of the technical branch.[23]

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[19] "H. W. Stiegler Retires as Director of Research." *ADR,* v. 49, n. 7, April 4, 1960, p. 47 (P226).
[20] Minutes of the 210th Council Meeting. May 23, 1958, AATCC Archives, p. 32.
[21] George P. Paine, "AATCC Sections and the National Association." *ADR,* v. 50, n. 6, March 20, 1961, p. 45 (P222).
[22] *1960 AATCC Technical Manual,* p. 12.
[23] *1961 AATCC Technical Manual,* p. 14.

This reduction in research personnel did not go unnoticed. Although it had been endorsed by the report of the Committee on Long-Range Objectives, and no doubt met with Paine's approval, the reduced ability of headquarters staff to support the Association's work related to test method development bothered members of the Executive Committee on Research (ECR). They reacted negatively to the recommendation of the Committee on Long-Range Objectives that all research be contracted out, and they began to discuss in mid-1960 what should be done in light of Stiegler's retirement and cutbacks in AATCC laboratory staff. After a formal survey of the AATCC's membership to gather ideas, ECR analyzed the makeup of the Association by profession to judge what sort of changes would be appropriate.[24]

After over a year of debate, the ECR made several recommendations to Council about the future of research within the AATCC. Two of these were key. First, the Association had an obligation to continue to support test method development because the textile industry looked to the AATCC "for up-to-date, standard test methods which are of vital importance." Second, the AATCC should hire both a new full-time technical director and a textile chemist for laboratory work in test method development.[25]

ECR members were motivated primarily by the comments by the chairmen of the Association's various research committees. Those chairmen firmly believed that there needed to be a strong central coordinating force at AATCC headquarters. Stiegler's retirement had left a noticeable void, and while volunteer labor was central to carrying out the AATCC's research program, some form of centralized planning was essential for smooth functioning. For example, several committee members suggested that the AATCC coordinate the Intersectional Paper Contest with the Association's regular research program by providing sections with a list of potential research topics that would be of immediate interest in test method development.[26]

Council adopted the recommendations made by ECR at its 225th meeting in November 1961. This action had two short-term consequences. First, it proved to be important in the decision to move the AATCC's headquarters to Research Triangle Park (RTP), North Carolina. As will be described in Chapter 8, when the Council had to decide between relocating to RTP or to New York City, the fact that a New York location would have essentially precluded a laboratory tipped the scales toward RTP. Second, the ECR recommendation that a technical director be hired eventually led to the employment of William R. Martin Jr. who would become the AATCC's second executive director and a dominant figure in the reorganization of the AATCC in the 1980s.

The ultimate outcome of the debate over the role of research at AATCC that resulted from George Paine's administrative reforms and the discussions of the report of the Committee on Long-Range Objectives was to establish the course the Association has pursued from the mid-1960s to the mid-1990s. Laboratory work and technical support would remain an important part of the work of the AATCC's head-

[24] "ECR Proposals Regarding AATCC Research Approved by Council." *ADR,* v. 50, n. 24, November 27, 1961, p. 44 (P928).
[25] Ibid.
[26] Ibid., p. 45 (P929).

quarters staff, but it would focus narrowly on test method development, not on general textile research. Essentially the organization decided to pursue a middle course, neither as ambitious as the program contemplated by Louis Olney nor as removed from laboratory work as that favored by George Paine. The result was renewed emphasis on the development of test methods, a policy that continues to this day.

Synthetic Fibers and Test Method Development

The continued increase in the use of synthetic fibers by the textile industry, as well as innovations in dyeing and finishing techniques, led to a marked increase in the number of test methods from sixty-six in 1956 to seventy-eight in 1963. Moreover, a number of test methods that had been on the books since the 1920s and 1930s were discontinued or updated to reflect new industry practices. In 1964, there were sixty-eight active research committees and another twenty-nine reference committees, all working toward maintaining the Association's test methods.

According to the yearly reports of the Executive Committee on Research, the most pressing problems relating to test method development in the late 1950s and early 1960s had to do with synthetic fibers and their attendant new dyes and new fabric treatments.

As a result, new test methods related to fabric properties began to appear, particularly methods that related to those properties important to consumers. The most notable of these were those related to easy-care fabrics, such as polyester/cotton blends and durable press. In response to manufacturer and retailer interest, the AATCC committees developed such test methods as 66-1959 "Wrinkle Recovery of Fabrics" and 88-1964 "Appearance of Wash and Wear Items." Experimental test methods developed by the Committee on Odor in Resin Treated Fabrics were intended to help manufacturers and retailers cope with the many problems created by this new technology. By responding to ongoing business problems with a plethora of new test methods, the Association made itself useful to the industry.

Publications

The changes in the relationship between the Association and the Howes Publishing Company during 1957–1963 are detailed in Chapters 6 and 10. However, by 1956 the AATCC's publications program had expanded beyond what appeared in *American Dyestuff Reporter*, and merits separate comment.

The AATCC had begun to publish monographs after World War II, and the Publications Committee had made ambitious plans for a series of books on various topics related to textile chemistry. *Analytical Methods for a Textile Laboratory* was published in 1949, followed by *Application of Vat Dyes* in 1953. However, aside from the *Proceedings of the Perkin Centennial*, a collection of the papers presented at the 1956 General Meeting, no other books were published by the AATCC between 1956 and 1966.

The Publications Committee concentrated its attention in the early 1960s on the *Yearbook*. Prior to 1961, the color of the cover of the *Yearbook* changed every year, except during World War II, when it remained a patriotic military green for the duration. Before 1945 the colors tended to be drab or muted, drawn from a pallet of browns, dark blues, and greens. With the new, larger format initiated by the 1947–1948 edition, brighter colors were used. The 1947–1948 volume was violet in color, the 1949 blue, and in subsequent years green, yellow, orange, with red finishing the spectrum in 1953. The 1956 volume was violet again, or more properly mauve, in honor of the Perkin Centennial. After using a variety of colors in the late 1950s, in 1961 the color was switched to black, the color that has been used ever since.

Also in 1961, the word "Yearbook" was removed from the title, and the cover was redesigned. The AATCC's emblem appeared on the cover for the first time, the typeface of the title was changed, and the lettering was embossed into the surface, rather than simply printed on. On the spine, the year of publication and the words "Technical Manual" were printed horizontally rather than vertically, and in larger letters. The overall effect was more dignified, elegant, and reserved as a technical publication than the previous volumes, as the Publications Committee no doubt intended. Although there was talk of switching from a hardback binding to a less expensive paper binding, the hardback binding has been retained.

Internally, several changes were made to the organization of the material. In 1960, the annual reports of the Sections were shortened, and pictures of national and sectional officers were eliminated. The *Yearbook* had contained pictures of national officers since 1923, and sectional officers since 1933. A single page with pictures of the president, the four vice presidents, the treasurer, executive secretary, and the chairman of the Executive Committee on Research was added to the 1962 and subsequent volumes, but the pictures of the sectional officers were eliminated permanently.

In 1962, the *Technical Manual* was divided into seven separately numbered sections to make it clear which part of the *Manual* contained what information. Section 1 included information on the AATCC's formal organization, such as committee reports, the names of sectional and national officers, and the constitution and bylaws. Section 2 was a complete listing of test methods, divided into four categories: identification and analysis, colorfastness, physical properties, and biological properties. Section 3 contained a bibliography of textile chemistry in two parts, the first a list of journal articles published in the past year, the second a list of books published since 1940. Section 4 listed American-made dyes, pigments, and resin-bonded pigment colors. Section 5 was a list of textile chemical specialties, that is, chemicals "especially prepared for applications to textiles in various stages of processing or use." Section 6, the Buyer's Guide, carried a series of full-page advertisements, indexed by firm. Section 7 was an alphabetical list of the names and addresses of AATCC members, with a second index of names arranged by state and town. The table of contents at the front of the manual was also simplified, and more detailed tables of contents were placed at the beginning of each section. For example, the test method section was preceded by a detailed table that listed all methods both alpha-

betically and numerically, and the page numbers where they could be found.[27] Subsequent experience revealed that the indexing system made it difficult for the average user to find a given test method, and the format was revised again in the mid-1980s.

These seemingly minor internal and external changes reflect the larger changes going on within the Association in the wake of the publication of the report of the Study Committee on Long Range Objectives. Greater emphasis on the importance of test methods, as well as a newly awakened concern for the image that the AATCC presented, meant that the *Technical Manual* was expected to reflect well on the Association. These changes reflected this changing mind-set, a mind-set that would eventually lead the AATCC to take over full control of its publications in 1969.

The Society of Dyers and Colourists

The centerpiece of the relationship between the AATCC and the SDC since the late 1940s has been the joint preparation and publication of the *Colour Index*. As described in Chapter 5, the two organizations entered into an agreement in 1945 to work together to assemble, publish, and distribute the second edition of the Index. While seemingly a straightforward task, the job turned out to be more complex than had been anticipated, and the publication date slipped several times.

The AATCC's involvement was twofold. Council appointed two committees, each with the responsibility to supervise one aspect. The *Colour Index* Editorial Committee was responsible for putting together a list of all dyes manufactured in North America, along with chemical descriptions and information about uses for each dye, to be incorporated in the larger work. After the preparation of proofs, this Committee, with the assistance of the dye manufacturing firms, reviewed the work for errors and returned the corrected proofs to England. The editing of volumes 1 and 2 was finished by June 1956, and of volumes 3 and 4 a year later.[28] As a result, the committee was disbanded in early 1958.

The second aspect of the AATCC's agreement was the marketing and sale of the *Colour Index* in North America, for which the *Colour Index* Marketing Committee was responsible. This Committee set up a system for taking deposits and began to solicit orders in 1953, when publication was anticipated in 1954. As it turned out, the first copies of volumes 1 and 2 of the *Colour Index* were not delivered to American customers until early 1957. Despite the delay, only one subscriber of over 600 requested a refund.[29]

The importation and delivery of the *Colour Index* to American customers proved to be a complicated process. The first 500 copies of volume 1 were shipped to the United States in late December 1956 and were mailed in late January. Importing the books was complicated by the fact that the AATCC and SDC held joint copyright, and special arrangements had to be made with the U.S. Customs Service. That agency

[27] *1962 AATCC Technical Manual,* passim.
[28] *1957 AATCC Technical Manual,* p. 39.
[29] *1957 AATCC Technical Manual,* p. 40.

allowed the AATCC to import only 1,500 sets total, under an "ad interim" copyright. Since the Association had agreed to take 2,500 copies, the remaining 1,000 copies had to be ordered directly from the SDC by individual customers.[30]

The AATCC eventually resolved the copyright problems, and subsequent volumes were imported without a hitch. Volume 2 went out two months after volume 1. Volume 3 took considerably longer and was not completed and shipped until March 1958. The final part of the *Colour Index,* Volume 4, was released in July 1958.[31] The completed second edition of the *Colour Index* differed from the first edition in three main ways: the second edition listed all commercial dyes that were mixtures, not just those containing a single component; it classified dyes by usage as well as chemical composition; and it included a great deal more information on colorfastness and other properties.[32]

Sales of the *Colour Index* went well, and the project broke even financially in late 1959. From this success, the AATCC and the SDC decided to collaborate on a series of regular supplements to keep the publication current. Supplemental information lists were initially published on a quarterly basis in both the *ADR* and in the SDC's journal. But when the size of the lists soon became unwieldy, they were removed from the publications and set up as a separate subscription service for a modest annual fee. A collection of this supplemental information was edited and published in 1963 as a single 1,144 page volume, after which the two societies discontinued work on supplements and concentrated on a third edition of the *Colour Index*.[33]

Sectional Activities

Sectional activities between 1957 and 1963 continued in much the same pattern as the previous decade. In most sections, the majority of meetings continued to center around dinner and a speaker. All sections had a summer meeting or outing that focused on social activities. The only notable change during this period was that motion pictures, usually provided by a corporate source, occasionally took the place of a live speaker.

On December 7, 1956, the Philadelphia Section changed its name to the Delaware Valley Section, apparently reflecting the growth of membership in the parts of New Jersey and Delaware included in the section.[34] Almost exactly a year later, December 6, 1957, the New York Section changed its name to the Metropolitan Section.[35]

The Metropolitan Section continued to be by far the largest AATCC section, with an average of 1,400 members in the late 1950s and early 1960s. This was slightly less than the high of 1,476 in 1955, but in 1964 the total was still 1,404. The Piedmont

[30] *1957 AATCC Technical Manual,* p. 39.
[31] Maurice Tordoff, The Servant of Colour Bradford, West Yorkshire: Society of Dyers and Colourists, 1984, note 2, p. 129.
[32] Ibid.
[33] Ibid., pp. 132–133.
[34] *1957 AATCC Technical Manual,* p. 21.
[35] *1958 AATCC Technical Manual,* pp. 20–21.

Section had almost caught up with the Metropolitan Section in total membership by 1960, and North Carolina passed New York that year as the state with the largest number of AATCC members (a position it has maintained ever since).

The continued growth of the textile industry in the American South led to the creation of three new sections in the early 1960s, the Northern Piedmont, the Palmetto, and the Gulf Coast. The Palmetto Section, consisting of the state of South Carolina and a small area adjacent to Augusta, Georgia, split off from the Piedmont Section in early 1960.[36] As a result, the Piedmont Section shrank from 1,234 members in 1960 to 527 in 1961.

The first meeting of the Palmetto Section was held on September 23, 1960, at the Hotel Charlotte in Charlotte, North Carolina.[37] Subsequent meetings were held in various South Carolina cities, and within a few years were attracting over 100 attendees. By 1964, both the Northern Piedmont and Palmetto Sections each had over 500 members.

During the early 1960s, the Palmetto Section met four times a year, with one of the four meetings in Augusta, Georgia, and the other three in South Carolina. Three of the meetings were technically oriented, held over two days (Friday and Saturday) with morning and afternoon sessions of papers. The fourth meeting, a summer outing held in June at a resort, had only a token technical talk, with most of the time being devoted to recreational activities. Attendance was typically around 150–175 for technical meetings, 200 for outings.

Members of the Palmetto Section worked primarily in textile manufacturing and finishing, rather than academia, government, or chemical manufacturing. The section's officers were almost exclusively from South Carolina, although the section included Augusta, Georgia. Between 1961 and 1964 only one sectional officer was from Georgia.

Although the formation of these two new sections was no doubt dictated in part by convenience, so that members would not have to travel as far to attend meetings, the change did increase the South's influence in Council. Together, the Piedmont, Northern Piedmont, and Palmetto Sections had twelve Councilors in 1961; if this territory had remained one section it would have been entitled to only seven. Given how close the vote was to move AATCC's headquarters to North Carolina (see Chapter 8), the formation of these new sections was crucial to the South's victory.

The last new AATCC section was the Gulf Coast Section. The effort to organize this section was initiated by AATCC members in the New Orleans area, most of them employees of the U.S. Department of Agriculture's Southern Regional Research Center (SRRC). The SRRC was and is the major federal research center for cotton textiles. Members petitioned Council in September 1961. Council approved the request for a sectional charter, and the organizational meeting was held on November 27, 1961, in New Orleans.[38] The new section consisted of Texas, Arkansas, Oklahoma, and Louisiana, which had not been part of a section before, and Mississippi and parts

[36] *1961 AATCC Technical Manual,* p. 531.
[37] *1961 AATCC Technical Manual,* p. 16.
[38] *1962 AATCC Technical Manual,* p. A-17.

of Alabama and Florida, which had previously belonged to the Southeastern Section.[39]

In the early 1960s, most of the Gulf Coast Section's members were SRRC employees. As a result, most of the section's officers were from SRRC as well, a condition that would persist well into the 1980s. Meetings were held on the grounds of the SRRC four times a year. Meetings were small, with fewer than 100 attending. As with other sections, three of these meetings were technical, with papers presented by academics and industry researchers. Unlike other sections, however, the fourth meeting was not recreational but social. Since almost all Gulf Coast Section members were government employees or academics, rather than businessmen, the annual social meeting was not held at an expensive resort with a golf course and tennis courts. Rather, it was held on the grounds of the SRRC and consisted of a business meeting followed by an informal dinner (often a crawfish boil).

The growth in the number of sections and the increased complexity of the descriptions of their borders led the Publications Committee to include a map of sectional boundaries for the first time in the *1962 Technical Manual*.[40] The map continued to be included in the *Technical Manual* until 1969, when it was moved to the Membership Directory, which began to be published separately. The map is still included (see Appendix 11).

No new student chapters were organized between 1957 and 1963. However, two student chapters were disbanded in the early 1960s. In 1961 the Rhode Island School of Design dropped its membership. The following year the AATCC's oldest student chapter founded in 1922 at Lowell Technological Institute (now the University of Massachusetts at Lowell), was also discontinued. These changes reflect the decline of support for textile-related education in the 1950s and 1960s in the northeastern states as the textile industry moved to the South and West. With LTI's disbandment, the chapter at North Carolina State College became the AATCC's oldest student chapter, a status it continues to enjoy. For a complete list of student chapters, see Appendix 16.

The increase in the number of sections and in the size of the individual sections led to a growing recognition of their power and importance by the national leadership. In the late 1950s and early 1960s AATCC officers and Executive Secretary George Paine often traveled to sectional meetings just to present information about national policies and programs. Their talks were published in *American Dyestuff Reporter* for distribution to a wider audience.

The reason for these talks was simple: the AATCC's leadership recognized the sections as the centers of debate vital to the Association's self-governance. In an address to the Metropolitan Section in January 1961, AATCC President Elliott Morrill explicitly described the sections as sixteen separate AATCCs, grouped together for a common purpose. According to Morrill, the sections were virtually autonomous, with their own officers, bylaws, history, and traditions.[41]

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[39] *1962 AATCC Technical Manual,* p. G-7.
[40] *1962 AATCC Technical Manual,* p. G-6.
[41] Elliot Morrill, "Aims and Objectives of AATCC." *ADR,* v. 50, n. 3, February 6, 1961, pp. 48–51 (P108–P111).

In a similar talk given two months later to the South Central Section, George Paine stressed much the same theme, describing the differences between sections and pointing out that the national governance of AATCC was directly responsible to the members of each section. Paine's description was based on a recently completed study of the job descriptions of the members of different sections. The study had found that roughly 21 percent of the overall membership were chemists, 20 percent were dyers and finishers, and 21 percent technical service and sales personnel. The largest single category was management, to which 23 percent of members belonged. The remaining 15 percent was divided among researchers, laboratory technicians, and a variety of other occupations.[42]

Not surprisingly, there were marked differences between the occupational status distribution of various sections. The Washington Section, for example, had an unusually large number of chemists, due to federal government laboratories. The Pacific Northwest and Southwest Sections had large numbers of technical representatives and salesmen, and the South Central Section was dominated by dyers and finishers.[43]

Paine used these differences and the rivalry between sections as a way to promote his plans for reducing research work at AATCC headquarters. In presentations in the early 1960s, he emphasized the potential role of the sections in supporting research, but did not even mention the role of AATCC staff members in research, speaking only of their administrative work. As a result, there was considerable support for the plan to reduce research spending and move the headquarters to New York City. The disagreements among the sections over the direction of the Association can be most clearly seen in the debate over the national headquarters (described in detail in the next chapter).

General Meetings

By the early 1960s, the exhibition portion of the annual General Meeting had become increasingly important to both exhibitors and to AATCC members. In contrast to meetings before World War II, that had no exhibits, and the early prewar period, at which the exhibits were dominated by government and AATCC section presentations, the exhibits during the 1950s were, more and more, sponsored by corporations eager to promote their products to AATCC members. The AATCC leadership encouraged the change and actively solicited AATCC corporate members to buy exhibit space. For example, the section of the June 13, 1960, issue of *American Dyestuff Reporter* devoted to the upcoming 1960 General Meeting included a half-page personal appeal from AATCC President Weldon G. Helmus to prospective exhibitors. In the appeal, Helmus strongly encouraged companies to buy exhibit space, calling it

[42] George P. Paine, "AATCC Sections and the National Association." *ADR,* v. 50, n. 6, March 20, 1961, pp. 44–47 (P221–P224). These percentages agree well with the study done for this book, though since Paine's study included only members in the United States there are minor differences in overall totals.
[43] Ibid., p. 24 (P222).

"good advertising" and calling on companies to use the opportunity to share information about new technology with AATCC members.[44]

As a result of the active solicitation of business exhibits by the AATCC, by the mid-1960s General Meetings had become lavish affairs where the showing and selling of products was a major part of the activities. During this time, the American chemical and textile industries were highly profitable, from the continued increase in sales of manufactured fibers and the dyes and chemicals used to process them. According to AATCC members who attended meetings during this time period, many affluent corporations used their profits to fund elegant dinner parties and sometimes entertainment, in the hopes of attracting business. While the practice of hospitality suites and free food and drink did not originate in the 1960s (indirect evidence shows that salesmen were actively entertaining clients at AATCC General Meetings as early as the 1930s), it reached its greatest height during the 1960s.

Some idea of the excesses in such entertainment can be gained from the following anecdote. A technical representative for a large chemical company was assigned a shift as a bartender at a company hospitality suite at the 1966 General Meeting in Atlantic City. When he asked the person in charge how he was expected to mix drinks, since he was a teetotaler and unfamiliar with bar tending, he was told that by the time of night to which he was assigned, he could mix the drinks any way he liked, as long as he included alcohol, since all those present would be so drunk by that time they couldn't tell the difference.[45]

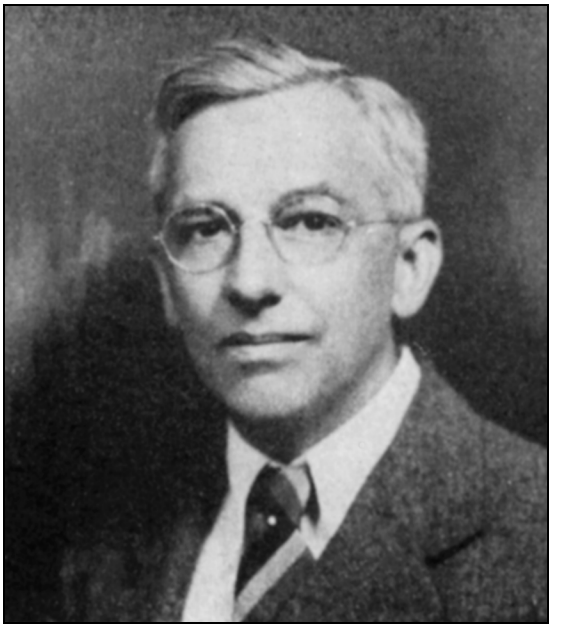
Although exhibits and selling products had become major parts of General Meetings by the mid-1960s, scientific and technical papers continued to be an important aspect of the annual event. The 1963 General Meeting, which was held in Boston, reflected an expansion of the areas covered beyond a narrow definition of textile chemistry, with sessions on printing, manufactured fibers, laboratory instrumentation, and the role of textiles in the aerospace industry. With a total of forty-eight papers (well above the average of thirty), the 1963 meeting had the greatest number of technical presentations since the 1956 Perkin Centennial celebration.

Awards

In the late 1950s, the Intersectional Paper Contest became the focus of rivalry between sections. Reflecting the growing identification of members with their own section rather than with national affairs, the contest was vigorously pursued every year with most sections preparing papers for presentation. The winning papers were published in *ADR*, and considerable prestige, as well as bragging rights, was attached to winning.

The AATCC continued to award the Olney Medal, the Intersectional Contest Awards, and the American Dyestuff Reporter Award annually at its General Meetings

[44] Weldon G. Helmus, "To the Prospective Exhibitors at the 1960 Convention." *ADR*, v. 49, n. 12, June 13, 1960, p. 58 (P440).
[45] Herbert T. Pratt, personal communication, March 3, 1995.



Harold C. Chapin, Secretary (1933–1958)

during the late 1950s and early 1960s. In the 1950s the Olney Medal was presented at a luncheon, followed by a talk by the recipient. The other awards were presented at an evening banquet. Beginning in 1959, the presentation of the American Dyestuff Reporter Award was moved to the luncheon, along with the presentation of a new award, the Harold C. Chapin Award. As a result, the banquet focused on the Intersectional Paper Contest awards, increasing their visibility.

The Chapin Award had been established by Council in 1958 to honor "a Senior Member of the AATCC with at least twenty years continuous membership who had contributed outstanding service in enabling the Association to attain the objects for which it was founded."[46] The award was named for Harold C. Chapin who had served as the AATCC's secretary for twenty-five years. Chapin received the first award in 1959 and was cited for his outstanding leadership, his dignity and integrity in office, attention to detail and major policy, and his long and devoted service.[47] Subsequent awards went to individuals who had played leading roles in committee work and other administrative matters. In contrast to the Olney Medal, which honors technical and scientific achievement in textile chemistry, the Chapin Award is based purely on institutional contributions, recognizing the often unrewarding, detailed work essential for the smooth running of a large and complicated organization.

[46] *1960 AATCC Technical Manual,* p. 31.
[47] *1964 AATCC Technical Manual,* p. A-33.

Harold Chapin Receiving First Award Named in His Honor (1959)

Conclusion

It is somewhat ironic that the Chapin Award was established when it was, since the late 1950s marked the change over from purely volunteer administration to a paid staff at the AATCC. As a result of the efforts of George Paine and his supporters within the AATCC's leadership, by the mid-1960s the Association had a professional staff, a major program directed narrowly at test method development, and, as we will see in the next chapter, a new national headquarters.

The result of the reorganization was a more active and professional organization, but it also represented a narrowing focus. The late 1950s and early 1960s were the last period of extensive debate about the future nature of the AATCC. Once the move to North Carolina took place in 1964, the die was cast, and while there have been evolutionary changes since that time, the basic nature of the Association has remained much the same.

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Chapter 8

New Goals, New Strategies: The Move to North Carolina (1958–1964)

George Paine once pointed out, tongue in cheek, that the first national headquarters of the AATCC was located in "the top drawer of the desk of Dr. Louis A. Olney."[1] Although humorous, the remark is essentially true. Olney had played a central role in founding and developing the AATCC, and as a result he was the nucleus around which AATCC's staff coalesced. Since Olney spent his entire career at the Lowell Textile School, it was there that the AATCC found its home.

As the American textile industry continued its migration southward, in the late 1950s there were calls for the AATCC's headquarters to move to a more accessible location. At the same time, the Lowell Textile School was changing. It had a new name—Lowell Technological Institute—and a new focus that did not include textiles.

Into the midst of these currents stepped George Paine, the AATCC's newly hired executive secretary.[2] Determined to raise the Association's national profile, he sought to move the headquarters to New York City. He almost succeeded, thwarted only at the last minute by a coalition of southern members eager to correct what they saw as a history of northern injustices. The ultimate result was the building of a new headquarters in Research Triangle Park, North Carolina, that continues to serve as the Association's administrative and technical center.

The AATCC at Lowell

Originally, the Lowell Textile School was a logical site for the AATCC's operations. Prior to World War II it was America's leading textile school and was well known as a center for research. As head of the Textile Chemistry Department, Louis Olney was

[1] George P. Paine, Location of AATCC National Headquarters, November 1, 1960, AATCC Archives, Research Triangle Park, N.C.
[2] See Chapter 7 for a discussion of Paine's background and hiring.

able to provide the AATCC with both clerical staff and laboratory facilities, as well as office space. The school was also conveniently located in relation to much of the American textile industry.[3]

The relationship benefited the school as well. All official AATCC correspondence prominently featured the school's name, and the research performed by AATCC workers accrued to the school's credit. Beginning in 1931, the AATCC funded at least one researcher, and in some years as many as three, who worked in the school's laboratories.[4] AATCC staff members also occasionally taught classes in textile chemistry. Finally, the AATCC had installed a variety of testing equipment in the laboratories it shared with the school's textile chemistry department. The AATCC paid no rent for its facilities at Lowell, only a modest fee to cover maintenance and janitorial services.[5]

As a result, by the mid-1930s the AATCC was firmly established at Lowell. As the Association grew and its administrative needs increased over the next twenty years, its presence in the school also grew. The AATCC gradually added staff, reaching a total of sixteen by the mid-1950s.[6] In 1955, it occupied roughly 1,400 square feet of office space and had erected a separate storage building on campus for back issues of *ADR* and old records.[7]

Throughout the time that Olney taught at Lowell, the relationship between the AATCC and the Lowell Textile School (later Lowell Textile Institute) was on an informal basis. There was no formal contract, only a gentleman's agreement between Olney and the school's administration. Not long after he retired in 1944, Olney asked the school's trustees to recognize formally the significance of its ongoing relationship with the AATCC. He prepared a report detailing the history of the alliance and submitted it for their consideration.[8] The trustees responded positively, and the AATCC was able to continue its use of space at the school.

By the mid-1950s, however, the Lowell Textile Institute (LTI) had become the Lowell Technological Institute, and its mission was changing. As the New England textile industry continued to shrink, the state of Massachusetts became increasingly unwilling to fund the education of students in that field. The growth of defense-oriented industries, particularly electronics firms that had grown out of wartime work at the Massachusetts Institute of Technology, was creating a demand for a different breed of scientist and engineer. Beginning in the late 1940s, LTI's president, Dr. Kenneth R. Fox, saw these changes and sought ways to broaden his school's offerings. His successor, Dr. Martin J. Lydon, continued along the same path. Under his leadership, LTI gradually transformed itself from a textile school into a technological institute with a broad science and engineering curriculum covering paper, leather, and plastics. By

[3] Although the movement of the textile industry to the American South had already begun in the 1920s, some large firms continued to operate in New England through the 1950s.
[4] The program continued until 1959, when the AATCC under the influence of George Paine, discontinued it. Mark Clark, George Mandikos interview, March 15, 1994, AATCC Archives, Research Triangle Park, N.C.
[5] George P. Paine, November 1, 1960, AATCC Archives, p. 6.
[6] Ibid.
[7] H. C. Chapin to A. Ball, November 15, 1955, AATCC Archives.
[8] Louis A. Olney, Relationships Between the Lowell Textile Institute and American Association of Textile Chemists & Colorists, no date (internal evidence indicates approximately 1945), AATCC Archives.

the late 1950s, Lydon was even planning to offer courses in nuclear engineering, the hot new technology of the era.[9]

As LTI changed and grew, the relationship between the school and the AATCC became increasingly problematic. Despite new construction, LTI was expanding so fast there were critical shortages of space. In 1955, LTI's board of trustees offered to continue the relationship with the AATCC for an indefinite period and to include office and laboratory space for the Association in its expansion plans.[10] The trustees' offer grew out of planning for a new building. Having heard gossip about the AATCC leaving Lowell, the trustees wanted a decision so that they could have a firm basis for planning.[11]

The contemplated arrangement with the AATCC was not to be a formal contract, but a "gentleman's agreement" under which LTI's trustees undertook to provide space "when and if available."[12] Some AATCC Council members wanted to explore other options, in particular a move to New York City. However, the high cost of a move and a lack of consensus about where to move to resulted in Council deciding to stay in Lowell.[13] The AATCC accepted the trustees' offer, committing to remain in Lowell for at least eight years, with the expectation that the Association would remain in place thereafter.[14] Although LTI's Lydon and Raymond W. Jacoby, then president of AATCC, discussed signing a formal contract, the two men decided against doing so on the grounds of preserving flexibility.[15]

Then, as the new building neared completion, confusion arose. While the relationship between the two organizations remained cordial, the LTI administration became less and less willing to make a firm commitment to provide the space AATCC needed. George Paine got the distinct impression that President Lydon and his staff were no longer enthusiastic about the AATCC's presence on campus. Although nothing was said directly, there was no doubt that the school would welcome AATCC's departure as a solution to space problems. It was equally clear that a number of AATCC councilors, particularly those from the South, wanted to leave LTI. By the early 1960s, it was obvious that the AATCC's best option would be to leave LTI as soon as possible.[16]

Debate within the AATCC

At the same time, there was growing agitation within the AATCC for relocating its headquarters. Southern members had resented for years what they saw as undue northern influence on Association affairs. As the Association's membership increased in the years after 1945, most new members came from the southern states, and they became increasingly vocal about asserting what they saw as their rightful place. They

[9] George P. Paine, November 1, 1960, AATCC Archives, pp. 1–2.
[10] Martin J. Lydon to Raymond W. Jacoby, September 28, 1955, AATCC Archives.
[11] C. Norris Rabold to Weldon G. Helmus, January 30, 1959, AATCC Archives.
[12] Harold C. Chapin to Raymond W. Jacoby, January 13, 1956, AATCC Archives.
[13] C. Norris Rabold to Weldon G. Helmus, January 30, 1959, AATCC Archives.
[14] Raymond W. Jacoby to Martin J. Lydon, October 3, 1955, AATCC Archives.
[15] Chapin to Jacoby, January 13, 1956, AATCC Archives.
[16] George P. Paine, November 1, 1960, AATCC Archives, pp. 6–7.

felt that, since the textile industry in general was moving from New England to the South, the Association should move there as well.

Beginning in 1958, open debates began in southern sections about changing the location of headquarters (the topic had been discussed in private for many years), with the Piedmont Section playing a leading role in the controversy.[17] Members inquired about existing arrangements with LTI, and news of the debates was even published in the Daily News Record, a major information source in the textile trade.[18] In November 1958, staff members at North Carolina State College (N.C. State) invited George O. Linberg, then AATCC president, and George Paine to meet and to discuss the possibility of moving operations to North Carolina.[19]

The request was a logical one, since N.C. State was by then top contender as America's leading college-level textile school. Moreover, while the textile industry was declining in New England, it was growing in the South, and North Carolina had become the major center for textile manufacturing. N.C. State was a major beneficiary of this change and enjoyed considerable state support.

Linberg did his best to discourage the idea of moving. He declined the invitation to visit N.C. State on the grounds that the existing agreement with LTI precluded AATCC officers from taking any actions not approved by Council. He even ruled out informal discussions, claiming they would place the AATCC in an awkward position with respect to LTI. The only way to continue, he felt, was for a formal request to be made to Council to approve an inquiry into the possibility of changing the headquarters site.[20]

The Committee on National Headquarters Location

Despite Linberg's efforts, matters soon came to a head. Talk about moving away from Lowell became widespread, and by early 1959 many individuals were agitating for a move to the South. Weldon G. Helmus, the newly elected AATCC president, decided to bring the matter up in Council and arrange for an investigation. He felt that in light of an impending inquiry into the AATCC's long-term goals and objectives, a discussion of the location of headquarters was a logical step.[21]

At the 213th Council Meeting on January 30, 1959, the first after his election as president, Helmus requested the establishment of a Headquarters Location Committee.

> Since the location of our national headquarters has been discussed in the press, and considering that many of our members do not know of our present commitments to Lowell, it is only fair to our present "landlord," who supplies us with free space and who is now completing a new building which we might occupy

[17] Weldon G. Helmus to Samuel Parker, January 27, 1959, AATCC Archives.
[18] George P. Paine to H. Gillespie Smith, November 6, 1958; George O. Linberg to Edward A. Murray, November 14, 1958, AATCC Archives.
[19] George O. Linberg to Edward A. Murray, November 14, 1958, AATCC Archives.
[20] Ibid.
[21] Weldon G. Helmus to Raymond W. Jacoby, January 19, 1959, AATCC Archives.

> the latter part of this year, that we give "him" some idea of what lies ahead. We now have a commitment to the fall of 1963. There has been open discussion about a possible move to the South in order to be closer to the new textile centers. If anything is to be done on the subject it is not too early to investigate the situation and I, therefore, ask for your permission to appoint a study committee on location of national headquarters.[22]

After getting Council's approval, Helmus set about soliciting opinions and asking for names of people who would be interested in serving on a committee. He then picked Sydney M. Cone Jr., president of the Finishing Division of Cone Mills Corporation (a large southern textile manufacturer) as chairman and selected the remaining members on a geographical basis.[23] He asked each of the five vice-presidents to nominate one member from his region, since a balance of membership by region was essential to ensure the appearance of evenhandedness.

His decision was motivated by comments he had been receiving–namely, that the debate over relocation would divide the membership along regional lines. Southern members were eagerly touting the possibilities of locating in their part of the country–the Research Triangle Park area was mentioned for the first time–and stressed the rapid expansion of southern manufacturing.[24] On the other hand, members from New England and the Middle Atlantic states marshaled statistics showing there were still more AATCC members above the Mason-Dixon line than below and argued that a move to the South would inconvenience the bulk of the Association's members.[25] Above all, Helmus wanted the committee to reach a firm decision and so resolve the controversy.[26]

Only after some confusion and delay were all committee slots filled. The committee members were Sydney M. Cone Jr. (chairman), Joseph H. Jones (Western), Ernest R. Kaswell (New England), Samuel I. Parker (Southern), and Richard B. Stehle (Central Atlantic). Helmus was interested in having as complete an investigation as possible, including a full survey of the Association's existing arrangements, moving costs, and future needs. As a result he encouraged the committee to take its time and do a thorough job.

Cone started by gathering information. In April, he met with representatives of Research Triangle Park, and with Charles Daniel, former Senator from South Carolina, who favored a location near Clemson University. Daniel, a wealthy businessman, was not a member of AATCC, but as a director of the J. P. Stevens & Company (a large textile manufacturer) and a trustee of Clemson, he had considerable industry clout. Cone also visited Lowell and toured the AATCC's facilities there.[27] He then went on vacation, leaving the country from April 21 to June 2. Before he left, though,

[22] Council Highlights, *American Dyestuff Reporter*, v. 48, n. 4, February 23, 1959, p. 53.
[23] Weldon G. Helmus to Sydney M. Cone Jr., February 24, 1959, AATCC Archives.
[24] A. Henry Gaede to W. G. Helmus, February 3, 1959, AATCC Archives.
[25] Raymond W. Jacoby to Sydney M. Cone Jr., March 26, 1959; P. J. Wood to Sydney M. Cone March 30, 1959, AATCC Archives.
[26] Minutes, Study Committee on Location of National Headquarters, July 30, 1959, AATCC Archives, p. 1.
[27] George P. Paine to Ernest R. Kaswell, April 21, 1959, AATCC Archives.

he encouraged other committee members to visit Lowell and to gather information in anticipation of the committee's first meeting.[28]

Over the next two months all committee members visited Lowell. They also kept up a steady correspondence, soliciting information from George Paine and discussing possible locations. Paine, who served as secretary to the committee, used his position to disseminate information supporting his position that New York City represented the best alternate location. He laid out the city's advantages in a memorandum and defended that choice in correspondence.[29]

Paine had at least two reasons for favoring a New York City headquarters. He had spent ten years there on the staff of the American Standards Association and had friends and associates in the city. On a professional level, he thought the AATCC should locate its headquarters near those of other national engineering and scientific societies, most of which were in New York. He might also have opposed the move for more personal reasons.[30]

Opinions within the committee about moving away from Lowell were mixed. Cone apparently was very much against moving to a southern location and disliked the idea of abandoning Lowell.[31] Kaswell's attitude was more neutral. He favored an objective assessment and was primarily interested in determining the role research would play at any new location. Kaswell was chairing the Committee on Long-Range Objectives at the time and apparently preferred to delay any firm decision about moving the AATCC's headquarters until his committee had finished its work.[32] He was supported by Samuel Parker and Richard Stehle.[33] Joseph Jones is the only member whose opinion is unknown.

When the committee met on July 30, 1959, at the Sedgefield Inn in Greensboro, North Carolina, the members' established views made for an anticlimax. After President Helmus briefly reviewed his reasons for forming the committee, he stressed that he planned to publicize its final recommendation widely to "satisfy the Association on this question."[34] The committee then began to discuss the factors that should determine the location of the headquarters.

Almost immediately the conversation centered on the Association's future role in maintaining a laboratory for test method development. Although all committee members favored continuing research at Lowell, there was some disagreement as to how that research should be carried out. Given the AATCC's current budget, Kaswell favored contracting out much of the laboratory work, although he was not opposed to an in-house operation if funding could be increased drastically. Cone also supported the continuation of in-house laboratory work. Parker, on the other hand, felt strongly that the headquarters should be moved to New York City and that all laboratory work should be contracted out, even if funding for in-house work become avail-

[28] Sydney M. Cone Jr. to Richard B. Stehle, April 8, 1959, AATCC Archives.
[29] George P. Paine, Memorandum, no date (filing location indicates a date of late July, 1959), AATCC Archives.
[30] See Chapter 7, note 1.
[31] George P. Paine to Ernest R. Kaswell, April 21, 1959, AATCC Archives.
[32] Ernest R. Kaswell to Sydney M. Cone Jr., April 13, 1959, AATCC Archives.
[33] Samuel I. Parker, Location of National Headquarters: Opinion of Samuel I. Parker, August 4, 1959, AATCC Archives.
[34] Minutes, Study Committee on Location of National Headquarters, July 30, 1959, AATCC Archives, p. 1.

able. He was a strong supporter of the AATCC taking over publication rights from the Howes Publishing Company and using the revenues so generated to fund research. Stehle also favored contracting out research.[35]

The upshot was that no firm consensus on the role laboratory work should play in the location decision developed. The committee decided to set the issue aside and make its decision based on other factors. Cone then asked George Paine, present at the meeting in his capacity as secretary to the committee, to present his opinion on the move.

Paine, who had anticipated the request, distributed a memorandum he had prepared. Paine's report began by reviewing the advantages and disadvantages of the current arrangements. In his view, Lowell was inexpensive (the AATCC paid no rent), allowed easy access to a research library and to laboratory facilities, and the construction of a new building would soon allow the consolidation of operations in large new offices. Moreover, Paine recognized that the AATCC had enjoyed a long and close relationship with LTI, and that the school's administration had "bent over backward" to accommodate the AATCC's needs. On the other hand, Paine's primary criticism of Lowell was its isolated location, far from publishing operations in New York, away from the headquarters of other professional societies, and far from the center of gravity of the AATCC's membership.

Paine went on to review the advantages and disadvantages of other possible locations. He criticized the idea of moving to a southern site, pointing out that although textile manufacturing had moved to that region, the bulk of the AATCC's membership was still located on the East Coast, particularly in the Mid-Atlantic area. He then argued in favor of a New York City location, because it would allow easy access to all members, to the Howes Publishing Company, to the national press, and to other professional societies.

Paine ended his report by recommending that the AATCC remain in Lowell for the short term. He saw no pressing need to relocate, and, given the past success of the informal arrangement with Lowell, no need for a signed agreement.[36]

As a result of their discussions and Paine's report, the committee concluded there was no pressing need for action. In particular, members felt that the unsettled state of the AATCC's planning meant that they did not have enough information to make a decision. This feeling was largely due to the influence of Kaswell, whose work as the chairman of the Committee on Long-Range Objectives was well known. Cone, in particular, favored delaying action until Kaswell's committee had issued its report. As a result, the meeting ended with the decision to recommend to Council that the AATCC remain in Lowell for the time being and that the question of moving the Association's headquarters be reconsidered in the future.

Cone also favored making a number of other recommendations based on the committee's work:

1. AATCC staff should focus on service to members rather than on research.

[35] Ibid., pp. 2–3.
[36] Ibid., pp. 4–6.

2. The AATCC should publish its own journal.
3. A rental arrangement should be reached with LTI.
4. A pension plan should be established for AATCC employees.
5. Member service centers should be established in other areas as required.[37]

Cone was unable to persuade the other committee members to include these points in the final report. The members told Cone to redraft the report and submit it to them individually for rewrite. After further discussion, Cone decided to limit the formal written report to the recommendation that the AATCC stay in Lowell, subject to reconsideration in the near future. The narrowing of the focus of the report was largely due to the efforts of Kaswell, who felt these issues could be better dealt with in the context of his Committee on Long-Range Objectives. As a compromise, Kaswell agreed to tell the Council that the Committee on National Headquarters Location favored eliminating the AATCC laboratory, signing a formal rental agreement with LTI, and establishing a pension and benefits plan for Association employees.[38]

Although Cone accepted the changes, he was none too happy. He thought that his work had been "watered down" and that the final recommendations did not reflect the considerable amount of work he and his committee had done. In particular, he had very much wanted to include a recommendation that the AATCC end its relationship with the Howes Publishing Company and publish its own journal. After the meeting, it took the combined efforts of Paine and Kaswell to soothe Cone's ruffled feathers and to convince him that his work was worthwhile. Paine played the diplomat, complimenting Cone on his work and describing the fact that he had achieved consensus as something to be proud of.[39]

Kaswell, on the other hand, took a more pragmatic approach. As chairman of the committee that had renegotiated the contract between the AATCC and Howes Publishing two years before, Kaswell had seen how much passion was generated by any mention of the AATCC taking over publication. Although Kaswell favored such a move, he was afraid premature mention of such a possibility would cut off any discussion before it could get going. He therefore asked Cone to drop this part of the report to avoid "stirring up a hornet's nest."[40]

Paine and Kaswell had good reason for wanting to keep Cone happy, since both men wanted to reorganize the AATCC and make changes to increase its effectiveness. Cone was also interested in change, particularly changing the management structure of the AATCC. Cone saw A. Henry Gaede, a southerner active in Association politics, as the principal opponent of professional management at AATCC, and he worked to oppose him.[41] Both Kaswell and Paine were aware of Cone's opinions and wanted to keep him as an ally. As it turned out, their efforts were successful, and Cone continued to be active in AATCC affairs.[42] Gaede, elected without opposition as vice presi-

[37] Ibid., p. 7.
[38] Sydney M. Cone Jr., to Samuel I. Parker et al., September 9, 1959, AATCC Archives.
[39] George P. Paine to Sydney M. Cone Jr., September 1, 1959, AATCC Archives
[40] Ernest R. Kaswell to Sydney M. Cone Jr., September 4, 1959, AATCC Archives.
[41] Sydney M. Cone Jr. to George P. Paine, October 12, 1959, AATCC Archives.
[42] Sydney M. Cone Jr. to George P. Paine, October 21 and November 2, 1959, AATCC Archives.

dent for the Southern Region on January 1, 1960 (Cone had tried without success to find someone to run against him[43]), went on to become a major figure in the movement to bring the AATCC headquarters to Research Triangle Park (RTP).[44]

Kaswell presented the report of the Committee on National Headquarters Location to the 216th Council meeting on September 10, 1959. He recommended that the AATCC remain at Lowell for the foreseeable future, that the laboratory at national headquarters be discontinued, and that a pension and benefit plan be established for the AATCC's employees. Council unanimously approved the report.[45] At the 1959 annual banquet on October 9, President Helmus announced the results of the headquarters committee's work. He thanked the committee members and endorsed their decision to stay at Lowell. The President of LTI, Dr. Martin J. Lydon, was seated at the head table as a way of symbolically affirming the AATCC's commitment to stay at the school. Helmus recognized Lydon during his remarks and thanked him for his hospitality at Lowell in housing AATCC.[46]

With this bit of ceremony, it seemed that the question of the location of AATCC's headquarters had been settled for the foreseeable future. However, two currents within AATCC politics would soon lead to renewed conflict. The first current was the impending completion of the report of the Committee on Long-Range Objectives (see Chapter 7). Highly controversial, the report would lead to extended discussions on the role of research in the AATCC's future mission, discussions directly related to the location of the Association's headquarters. The second and more important current was the private campaign undertaken by George Paine to transfer AATCC headquarters to New York City. Paine believed strongly that the AATCC should professionalize its management and raise its national profile, and he saw relocation to New York City as a way of moving the Association in that direction. These two factors combined to again raise the issue of moving the AATCC's headquarters.

Selling New York City

The report of the Study Committee on Long-Range Objectives was accepted by Council at the January 22, 1960, meeting. Published in *ADR* the following month, the report made a variety of recommendations, including that the laboratory eventually be discontinued and lab work be done on a contract basis.[47] With respect to the location of headquarters, it recommended that it stay in Lowell (specifically endorsing the findings of the Committee on National Headquarters Location). The report did go on to say, "However, this does not mean that in the future a change in location

[43] Sydney M. Cone Jr. to George P. Paine, October 21, 1959, AATCC Archives.
[44] "Helmus Elected for Second Term." *ADR*, v. 28, n. 24, November 30, 1959, p. 17; George P. Paine to A. Henry Gaede, January 10, 1961, AATCC Archives.
[45] "Council Report, 216th Meeting." *ADR*, v. 28, n. 22, November 2, 1959, p. 53.
[46] Weldon G. Helmus, "President's Address." *ADR*, v. 28, n. 22, November 2, 1959, pp. 46–47.
[47] "Report of the Study Committee on Long-Range Objectives of the AATCC." *ADR*, v. 49, n. 4, February 22, 1960, p. 48 (122).

might not be proper." In particular, the committee pointed out that other aspects of the report might lead Council to endorse a move to a new location.[48]

Although the committee's report did not point to specific aspects that might lead to a move, it is clear that Kaswell, the report's primary author, was referring to the recommendation that the AATCC eliminate its laboratory. Kaswell believed that the AATCC should carry out all research by contracting it out to universities and private laboratories. Although Kaswell owned a laboratory, there is no indication he was motivated by a desire to increase its business through AATCC contract work. Without a requirement to do research, the affiliation with LTI's textile program would be rendered superfluous, and the headquarters staff could be located anywhere. Since Kaswell also believed that the Association should move its headquarters to New York, eliminating the in-house laboratory would make that objective easier. Without a laboratory, the AATCC's office could be considerably smaller, and so the Association could more easily afford the high rents of central Manhattan. The report of the Committee on Long-Range Objectives was widely discussed within the AATCC over the next year, and a number of its recommendations were implemented. (See Chapter 7 for a more detailed discussion of the report's impact.)

On January 20, 1961, the AATCC's new president, Elliot Morrill, gave a speech to the Metropolitan Section strongly supporting the report's long-range objectives. He did not mention the movement of headquarters in his speech.[49] However, that same day the Council voted to relocate the national headquarters. The decision was motivated by continued problems with the Lowell location. As a result of construction delays, the AATCC's offices still had not been relocated into the new building, and it seemed increasingly less likely that they ever would be. Because of the rapid growth of LTI, there were ongoing space shortages on campus, and finding space for the AATCC was a low priority for the school.

The decision to move set off a flurry of lobbying efforts. In early February 1961 James Shea, the executive vice president of the Pinelands Company (owners of Research Triangle Park), supplied information to Council about the advantages of locating in North Carolina. Shea cited the proximity of institutions of higher learning (including Duke University, the University of North Carolina, and North Carolina State College), the fact that 50 percent of the textile industry was within 150 miles of the RTP site, and the lower cost of construction and rental compared with New York City. Shea offered the option of renting space in an existing air-conditioned building or leasing new construction.[50]

George Paine continued to oppose efforts to relocate the headquarters to Research Triangle Park. In January 1961, he told Henry Gaede, the major proponent of such a move, that he favored either staying in Lowell or moving to New York. In addition to his previous arguments, which centered around the cost of the move and

[48] Ibid., p. 50 (124).
[49] Elliot Morrill, "Aims and Objectives of the AATCC." ADR, v. 50, n. 3, February 6, 1961, pp. 48–51 (P108–P111).
[50] James Shea to Members of the Council, February 2, 1961, Council Minutes, AATCC Library, Research Triangle Park, N.C.

how accessible New York was, Paine also brought up the possibility that LTI's alumni might resent the AATCC's departure.[51]

Paine consistently downplayed the role of research in the activities of the national headquarters. He told members who asked that there was essentially no laboratory activity at LTI and that the Research Committees had not asked for research support. He freely expressed the view that the AATCC's staff should focus on administration and coordination and that actual laboratory work should take place in the laboratories of the AATCC's members.[52]

At the April 21, 1961, meeting of Council, the Study Committee on Location of National Headquarters was formally discharged. Cone was consulted before the vote was taken, and he approved the action. Council, which had assigned responsibility for the headquarters decision to the Executive Committee at the previous meeting, included a vote of thanks in the motion to discharge.[53]

Council then went into executive session and decided to submit the matter of location to a letter ballot.[54] Six locations were to be balloted: New York City; Philadelphia; Washington, D.C.; Research Triangle Park, North Carolina; North Carolina State College, Raleigh; and Clemson College, Clemson, South Carolina. The ballots were sent out on May 18. To assist with the decision, a description of the nature of all six sites was prepared and distributed. The material about New York and Philadelphia was assembled by W. S. Sollenberger, vice president for the Central Atlantic Region; data on the other four sites were gathered by A. Henry Gaede, vice president for the Southern Region.[55]

The description of each site focused on its advantages to the Association. New York was touted as the center of the textile industry, a place most AATCC members had to visit regularly on business. The proximity to the national offices of a variety of corporations and professional societies was stressed, as well as the wide selection of specialists who could serve as consultants. According to the description, more than one-fourth of the nation's industrial research laboratories were in New York, and it would be possible for the Association to maintain facilities there.[56]

The description of Research Triangle Park, on the other hand, stressed its proximity to the manufacturing centers of the textile industry, one half of which were located within 150 miles of the site. Numerous textile firms favored the move and were willing to provide financial assistance to the AATCC if it picked the RTP for its headquarters. The description also stressed the low cost of buying or renting office space and pointed out the area's good quality of life.[57]

The other four locations were intended as compromise choices and were clearly not competitive. Washington was explicitly described as being isolated from the cen-

[51] George P. Paine to A. Henry Gaede, January 10, 1961, AATCC Archives.
[52] See, for example, George P. Paine to D. W. Chaney, May 9, 1961, AATCC Archives.
[53] Council Minutes, April 21, 1961, AATCC Library, pp. 2–3.
[54] George P. Paine, Council Meeting, April 21, 1961, May 25, 1961, Council Minutes, AATCC Library.
[55] George P. Paine, "Background Information on Relocation Cites (sic) for AATCC National Headquarters." May 18, 1961, AATCC Archives.
[56] Ibid., p. 1.
[57] Ibid., p. 3.

ters of the textile industry, rendering it potentially "free… from pressures that possibly could result from geographical proximity to manufacturing or distributing centers."[58] The other three locations were described in a cursory fashion, and their inclusion in the ballot seems to have been a method for placating the feelings of those few councilors who favored these places.

Ballots were distributed asking each Council member to rank the six choices from one to six and to return the ballot by June 12, 1961. The method for counting was to add up the first place votes for each location. If one location had a majority of the votes, it won. If no location had a majority, the location with the fewest first-place votes was dropped and the second choice on each of those ballots was then added to the remaining locations. The process continued until one location received a majority of the votes.[59]

Out of sixty-four Council members, fifty-eight voted. In the first round, New York received twenty-seven first place votes, Research Triangle Park twenty-six, Washington three, Philadelphia and North Carolina State one each, and Clemson College none. After eliminating the last three, the vote stood at New York twenty-eight, RTP twenty-seven, and Washington three. After eliminating Washington, New York won, thirty to twenty-eight.[60]

Paine immediately released the news of the vote to move to New York. He had a press release hand-delivered to the Boston office of the *Daily News Record* shortly after the results became known. He also mailed copies of the release to the principal textile publications, including *American Dyestuff Reporter*. Telegrams were sent to all members of the Executive Committee, and a letter detailing the results went to all Council members. Paine also met with the AATCC staff in Lowell and found that those staff members who did not plan to make the move to New York would continue to work for the AATCC until the move was made.[61] It seemed as though the AATCC had found its new headquarters location, and that the move would be easy.

Second Thoughts

The debate within the Council about relocating headquarters had taken place behind the scenes. The initial report of the 222nd Council meeting published in *ADR* did not include anything about moving the headquarters.[62] The first news the general membership heard about the decision to move to New York was the announcement that appeared in the July 10, 1961, issue of *ADR*.[63] The announcement cited New York's central location and its proximity to the Association's publishers, the trade press, and other technical organizations as the primary motivation for the change. It also cited

[58] Ibid., p. 2.
[59] 9Council Minutes, May 18, 1961, AATCC Library.
[60] Elmer Fickett and Albert E. Sampson to Elliot Morrill, June 13, 1961, Council Minutes, AATCC Library.
[61] George P. Paine to Members of the Executive Committee, June 11, 1961, AATCC Archives.
[62] "Council Highlights." *ADR*, v. 50, n. 7, April 3, 1961, p. 41 (P259).
[63] "Councilors Vote to Relocate National Headquarters in New York." *ADR*, v. 50, n. 14, July 10, 1961, p. 47 (P527).

the impending shortage of office space at LTI (the AATCC still had not been able to move to LTI's new building due to delays in construction).[64]

The announcement led to a firestorm of criticism. Southern members, particularly those associated with major textile manufacturers, were angry about the move. Surprisingly, the leadership of the Metropolitan Section (centered in New York City) was also unhappy. They saw the decision as hasty, forced on the Council by the Executive Committee without adequate preparation and debate. Moreover, they believed it was part of a larger pattern of abrogating the decision-making power of Council in the name of streamlining operations. Citing as examples the lack of detailed reports on Council actions in Council minutes, the failure to supply budget details to Council prior to the meetings in which the budget would be voted on, and the decline of laboratory work at AATCC headquarters without Council approval, they called for more open debate in Council meetings and for better dissemination of information. In particular, they wanted to reconsider the move to New York, resolving it through a debate in Council rather than by secret letter ballot.[65]

George Paine prepared a reply to the Metropolitan Section, trying to address its concerns. He was largely unsuccessful, however, because he resorted to citing the procedural correctness of past actions. He did not directly address the complaints of hurried actions and lack of information, and, as a result, dissatisfaction with the decision to move to New York continued to grow.[66]

A. Henry Gaede took the lead in bringing about a change. He notified George Paine in mid-September that he planned to make a motion at the September 27, 1961, Council meeting to rescind the motion of April 21, 1961, that authorized the relocation of the AATCC headquarters. At Gaede's request, Paine then wrote to all Council members informing them of the planned motion.[67]

The protest culminated in a highly contentious meeting of Council. A measure of the degree of hostility involved in the proceedings is that, after the meeting was over, Council formally adopted Robert's Rules of Order for all future AATCC parliamentary proceedings in an attempt to moderate the passions of those involved.[68]

The debate over the headquarters location opened with President Morrill drawing the Council's attention to Gaede's letter. Gaede then made his motion to rescind the decision to move to New York City. The motion was seconded by Emil C. Hansen of the FMC Corporation and then opened for debate. Gaede made a brief statement in support of his motion, pointing out that a number of councilors thought the decision had been a mistake, including veteran member William H. Cady. Without further debate, the motion passed by a vote of forty-six to five.[69]

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[64] Weldon G. Helmus, "President's Address." *ADR*, v. 49, n. 22, October 31, 1960, p. 39 (P824).
[65] The Officers, Councilors and Sectional Committees of the Metropolitan Section to Councilors of the American Association of Textile Chemists and Colorists, Council Minutes, September 15, 1961, AATCC Library.
[66] George P. Paine, "Memorandum re: Letter to AATCC Councilors from the Officers, Councilors and Sectional Committee of the Metropolitan Section dated September 15, 1961." September 22, 1961, Council Minutes, AATCC Library.
[67] George P. Paine to Members of the Council, September 18, 1961, Council Minutes, AATCC Library.
[68] "Council Highlights." *ADR*, v. 51, n. 1, January 8, 1962, p. 40 (P27).
[69] Council Minutes, AATCC Library, p. 17, *ADR*, v. 50, n. 7, September 27, 1961.

Morrill then recognized Charles R. Trommer, technical director of Boris Kroll Fabrics, Paterson, New Jersey, who offered a motion to rescind the move from Lowell and form a committee to make a thorough report of all possible locations. In the debate that followed, Morrill and Paine made it clear that LTI had not asked the AATCC to leave Lowell, and that the Association could continue to use space there indefinitely. On the other hand, Paine pointed out, the AATCC as an outside organization was "very much the low man on the totem pole," and it now appeared that the Association would not be getting offices in the new LTI building because of a shortage of space.[70]

The ensuing debate centered around the suitability of Lowell versus a new location. Although a few councilors argued for continued ties to LTI, the vast majority seemed to feel that a change was necessary. Gaede summed up the feelings of those who wanted to leave Lowell when he cited that city's isolation and the need to separate the AATCC's image from that of LTI.[71] The motion eventually passed, thirty-nine to twelve, committing Council to reexamine the question of location yet again.[72]

At the same meeting, Council voted to hire a technical director, a textile chemist, and a secretary for a laboratory, explicitly rejecting a major component of the report of the Committee on Long-Range Objectives. Based on a recommendation from the Executive Committee on Research, Council also approved establishing a laboratory.[73] This decision was to play a major role in subsequent discussions about headquarters location, since planning now had to take into account space for laboratory equipment.

Council continued to discuss the move outside of public view. For example, President Morrill did not mention the impending move of headquarters in his address at the 1961 annual meeting.[74] The report about Council actions at the September meeting finally appeared in the January 8 issue of ADR, somewhat later than usual.[75]

Soon after the September Council meeting, a new Committee on Location was appointed and given the task of finding a headquarters site. The members of the committee included Jack G. Kelly, a DuPont demonstrator (technical representative) from the Midwest Section; Thomas J. Gillick Jr., a manager for the American Felt Co. from the Western New England Section; former President Thomas Smith from the Piedmont Section; and Charles Trommer, of the Metropolitan Section.[76] They were all councilors, one from each region selected by the vice presidents. The group subsequently met and selected Kelly as chairman.[77]

Since one possibility was to remain at LTI, the committee wrote a letter to President Lydon. Outlining the AATCC's need for space (estimated to be, including the new laboratory, on the order of 4,000 to 5,000 square feet) the committee asked him

[70] Ibid., pp. 18, 21.
[71] Ibid., pp. 22–23.
[72] Ibid., p. 24.
[73] Odd as it may seem, the hiring of the laboratory staff was approved before the laboratory itself; the reason why is unclear.
[74] Elliott Morrill, "President's Address." *ADR*, v. 49, n. 22, October 16, 1961, pp. 38–39 (P805–P806).
[75] "Council Highlights." *ADR*, v. 51, n. 1, January 8, 1962, p. 40 (P27).
[76] "Part VII: Membership." *1962 AATCC Technical Manual*, pp. 81–86.
[77] Council Minutes, November 17, 1961, AATCC Library, p. 5.

if LTI could provide it. The letter also asked where on campus the space would be located, and if LTI was willing to enter into a formal agreement to provide the space to the AATCC on a long-term basis. Lydon replied that he would be delighted to provide office and laboratory space in the quantity required. However, he could not guarantee a particular location on campus. Lydon was also willing to enter into a long-term agreement: he suggested a ten-year contract.[78]

After a further exchange of letters and discussions on the telephone, the committee met again on January 25, 1961, and finalized its recommendations. The next day at the Council meeting, the committee recommended that:

1. The AATCC should move away from Lowell.
2. It should go to either Research Triangle Park or New York City.
3. The decision should be made by letter ballot.

The recommendations were not unanimous. They had been approved by only three of the four committee members; Trommer thought that the AATCC should stay at Lowell under a new agreement with LTI.[79] The committee's report was no surprise; it ratified the decision to leave Lowell made a year before, and put forward the two leading candidates from the previous balloting on locations.

Trommer's minority report seems to have been essentially a rear-guard action; there was little chance of his views being adopted, and he must have known it. He first reviewed the history of the relationship between the AATCC and LTI from 1955 through the present, and then read the letters exchanged between the committee and President Lydon of LTI. Trommer stressed that there was no pressing need to leave Lowell and that LTI was willing to offer the space the AATCC needed. Trommer then made a substitute motion to the effect that the AATCC should remain in Lowell on the terms offered by Lydon in his January 22 letter. P. J. Fynn seconded Trommer's motion.[80]

In the discussion that followed, Sydney M. Cone, the chairman of the previous Headquarters Location Committee, said that he had changed his mind and now felt that the AATCC should leave Lowell. Former President Thomas Smith supported Cone and argued that since LTI was planning to eliminate its undergraduate textile program in the near future, the school was no longer a suitable site for the AATCC. Moreover, the textile industry was rapidly leaving the New England area, so Lowell was becoming increasingly isolated. Smith concluded his remarks by making clear his opposition to the continued location of the AATCC headquarters at any textile school, either in New England or the South. In his opinion, the Association was now "grown-up" and no longer needed the guidance of other institutions. Smith's remarks were well received by the councilors–they gave him a round of applause when he finished.[81]

[78] Jack Kelly to Martin Lydon, December 18, 1961, and Martin Lydon to Jack Kelly, January 22, 1962; copies located in Council Minutes, January 26, 1962, AATCC Library, pp. 14–15.
[79] Council Minutes, January 26, 1962, AATCC Library, p. 12.
[80] Ibid., pp. 13–16.
[81] Ibid., pp. 16–17.

Trommer's motion was defeated thirty-six to sixteen. The Council then took up the main motion, based on the report by Kelly's committee. Without further discussion, the vote was taken, and the motion passed by a vote of forty-four to six. The motion authorized a letter ballot of Council on relocating headquarters to either New York City or to Research Triangle Park. One teller each from the Mid-Atlantic and the Southern Regions was appointed to count the ballots. Results of the ballots were known on March 19: thirty-three votes favored RTP, twenty-four favored New York, and one abstained.[82] This vote brought the debate to an end and committed the AATCC to move to RTP. The actual time of the move was not set, but depended on future acts of the Council.[83]

The reversal of the decision about headquarters location was due to two factors. One, it became clear that a move to New York would have meant a drastic decrease in the size and scope of the AATCC's in-house laboratory activities. High New York rents would have ruled out anything more than a token laboratory. Although the Committee on Long-Range Objectives had recommended that the Association contract out all its research, Council members had soundly rejected that idea, and the problems of setting up a laboratory in New York tipped the balance for several members.

Two, the lobbying by a number of major Southern textile firms was persuasive. Their managements made it clear that their continued support of the AATCC depended on a move to Research Triangle Park, and that they were willing to donate funds for a new headquarters only under those conditions.[84] Combined with the traditional regional and sectional loyalties of AATCC members, these pressures were sufficient to reverse the decision to move to New York City.

The Move to Research Triangle Park

The Headquarters Site Committee reported on the search for a location in Research Triangle Park at the June 19th, 1962, meeting of Council. After examining the report, the Council decided to build a new building rather than lease space or buy an existing structure. Council released funds for architectural work and the purchase of land in Research Triangle Park (pending approval of cost estimates). At the time, the estimated cost of the building was between $150,000 and $200,000.[85] The AATCC, with assets of more than $600,000, would easily be able to afford the cost by a combination of short-term loans and payments from current revenue.[86]

The building was designed and constructed by the firm of G. Milton Small and Associates of Raleigh, North Carolina. The exterior and interior design was functional yet attractive, a good example of the then-popular International Style (often referred

[82] 2"Councilors Vote to Relocate National Headquarters in South." *ADR*, v. 51, n. 9, April 16, 1962, p. 45 (P275).
[83] Ibid.
[84] George P. Paine, Background Information on Relocation Cites (sic) for AATCC National Headquarters, May 18, 1961, AATCC Archives, p. 3.
[85] "Council Highlights." *ADR*, v. 51, n. 16, August 6, 1962, p. 48 (P601).
[86] Council Minutes, June 19, 1962, AATCC Library, pp. 14–16.

to as Modern). After construction, the North Carolina Chapter of the American Institute of Architects recognized the merits of the building by presenting the designers with its annual award for design excellence in 1965.[87] The building has proved to be an excellent investment for the Association: there have been no major structural problems, the space has been more than adequate (after the basement was finished in the late 1960s), and the value of the land has increased considerably as well.

The plans for the interior layout of the building were completed by fall 1962. George Paine wrote a description for the October 29 issue of *ADR*. Along with a photograph of the architect's model, the article included a floor plan for the upstairs portion. That layout, with a reception area in the front, a large meeting room in the center, offices to both sides, and a large laboratory area in the rear, is essentially identical to what exists in 1996. Even the locations of the offices of the various staff members are the same.

The building measured 96 by 100 feet and had two levels. Construction was of structural steel and reinforced concrete. The outside walls of the upper level were essentially all glass, tinted for climate control. The interior walls were all demountable partitions, allowing for easy reconfiguration of space. An exterior corridor around the perimeter provided an enclosed overhang, easing temperature control. The lower level was unfinished and was intended for use as expansion space.[88]

Paine went on to stress that the primary purpose of the new building was to increase the amount of staff support provided to members. The laboratory would do testing in support of committee work, the meeting rooms would be used for "seminars, symposia, and study groups;" and the enlarged staff would serve as a liaison between the AATCC and corporate members. Although only Paine and George Mandikos, the technical secretary, would be moving from Lowell to North Carolina, he anticipated that headquarters would support a staff of seventeen individuals.[89]

In his presidential address at the 1962 annual meeting, Elliot Morrill spoke extensively about the plans to move to Research Triangle Park. He spoke of the change as a "reestablishment," a new beginning, and the basis for extensive further growth. Morrill saw a doubling of membership to 15,000 individuals and 2,000 corporate members as a reasonable goal, and he stressed how the new building would be the centerpiece of that effort. To him, the new headquarters building would enhance the AATCC's prestige and provide a site for a dynamic program to collect and disseminate information about textile chemistry and dyeing.[90]

The groundbreaking for the new building took place on March 29, 1963. Several hundred people were present, including representatives from the various AATCC sections, local industries, government, and academia. Ironically, it was President Ernest

[87] The design for the AATCC building was selected from among seventy buildings submitted by North Carolina architects for consideration that year. "AATCC is Honored by North Carolina Architects Group." *ADR*, v. 54, n. 13, July 5, 1965, p. 50 (P526).
[88] "Dedication Exercises–AATCC National Headquarters Building." *ADR*, v. 53, n. 14, July 6, 1964, pp. 24–25 (P599–P600).
[89] George P. Paine, "A New National Headquarters for AATCC." *ADR*, v. 51, n. 22, October 29, 1962, pp. 144–146 (P868–P870).
[90] Elliot Morrill, "President's Address." *ADR*, v. 51, n. 24, November 26, 1962, pp. 36–37 (P926–P927).

AATCC Technical Center

R. Kaswell, earlier a major opponent to the move to Research Triangle Park, who presided over the ceremony. He said that "the building to be erected on this property will become one of the great centers of textile science." He went on to review briefly the history of the AATCC and described the move to North Carolina as a logical progression in light of that history. The other speakers were U.S. Secretary of Commerce Luther Hodges, who, as a former governor of North Carolina, had played a leading role in the establishment of Research Triangle Park and Archie K. Davis, chairman of the Park's board. The three men then wielded in turn a ceremonial groundbreaking shovel, each cutting a small bit of sod from the site. Kaswell then handed the shovel to George Paine and George Mandikos, the two staff members who would be moving from Lowell. After a group photo was taken, the entire assembly adjourned to a reception at the Carolina Country Club in Raleigh, where they were joined by North Carolina Governor Terry Sanford.[91]

Construction proceeded steadily over the next year. The AATCC formally accepted the building from the contractor on April 8, 1964. After some delay caused by weather, the building was dedicated on April 24, with 1,000 people assembled under a

[91] "Groundbreaking Ceremony, March 29, 1963." *ADR*, v. 52, n. 10, May 13, 1963, pp. 64–67 (P382–P385).

**Dedication of AATCC Technical Center, April 24, 1964
from left: Terry Sanford, Governor of North Carolina;
Ernest Kaswell; Tom Smith; and George Paine**

**Dedication of AATCC Technical Center, April 24, 1964
Ernest Kaswell (holding shovel)**

large tent. A wide variety of textile-related organizations were represented, including M. H. Arveson, president of the American Chemical Society, Howard F. Elsom of the American Association for Textile Technology, and Roger E. Gay, managing director of the American Standards Institute. Local dignitaries included James Reid, the mayor of Raleigh, R. Wensell Garabarek, the mayor of Durham; and U.S. Representative Horace Kornegay, whose district included Research Triangle Park. Every effort was made to stage a gala event, with a series of speeches and tours of the new building.[92]

The formal dedication ceremony began with a flag raising by a color guard from the 130th Signal Battalion of the North Carolina Army National Guard. After an invocation by the Reverend Dr. Howard Wilkinson, chaplain of Duke University, President Kaswell spoke. Just as at the groundbreaking ceremony, Kaswell's remarks focused on the importance of the building as a center for textile research and for educational programs that would benefit the membership as a whole. To emphasize the importance of scientific research to the future of the AATCC, Kaswell closed his remarks with the words of the alchemist Johann Joachim Becker, written in 1669:

> The chymists are a strange class of mortals,
> Impelled by an almost insane impulse
> To seek their pleasure among smoke and vapour,
> Soot and flame, poisons and poverty.
> Yet among all these evils
> I seem to live so sweetly
> That may I die if I would change places
> With the Persian King.[93]

Kaswell then yielded the floor to Joseph H. Jones, chairman of the AATCC Building Committee, who described the building's construction and design. Jones presented Kaswell with a gold key, symbolizing the delivery of the building to the Association.[94]

After brief remarks about the early history of the AATCC by Professor R. Norris Shreve of Purdue University, one of forty-three surviving charter members, Thomas R. Smith (past president of the AATCC) introduced the governor of North Carolina, Terry Sanford. Sanford then delivered the dedicatory address, stressing the importance of the textile industry to North Carolina's economy. The ceremony closed with a presentation by Sidney M. Edelstein, who described the contents of the time capsule to be placed under the floor in the building's foyer. To be re-opened in 2021 (the 100th anniversary of the AATCC's founding), the capsule contained samples of yarns, fabrics, and dyes in common use at the time, copies of spectrophotometric data on those items, and copies of *American Dyestuff Reporter* and other textile publica-

[92] "Dedication Exercises–AATCC National Headquarters Building." *ADR*, v. 53, n. 14, July 6, 1964, pp. 20–23 (P595–P598).
[93] Ibid., pp. 22–24. Becker's words had been published as a small poster and distributed as an advertising gimmick by a chemical company in the late 1950s.
[94] Ibid., pp. 24–25.

tions. Also included was an American flag, along with samples of the dyes used in its manufacture.[95]

A reception and open house tour followed the dedication exercises. That day and the next, Council and various committees met for the first time in the new building, using the large conference room and the smaller meeting rooms.[96]

Joseph Jones reported at the 237th Council meeting on September 23, 1964, that his Building Committee had completed its work. Total cost of the project had been $225,363 (including land at $30,000 and the architects fee of $16,986), $2,137 under budget. Office furniture and fixtures cost $22,650, under budget by $350.[97] Roughly half of the total cost was paid from net income; the other half came from sale of common stock in the AATCC's investment portfolio.[98] The building committee was discharged with thanks—the job of relocation was finished.[99]

[95] Ibid., pp. 27–29.
[96] Ibid., pp. 30–33.
[97] "Council Highlights." *ADR*, v. 53, n. 6, December 21, 1964, p. 36 (P1129).
[98] George P. Paine to Members of the Council, September 10, 1962, Council Minutes, AATCC Library.
[99] "Council Highlights." *ADR*, v. 53, n. 6, December 21, 1964, p. 36 (P1129).

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Chapter 9

The Boom Years (1963–1972)

Beginning with a description of the changes that occurred after the staff of the Association moved to the newly constructed AATCC Technical Center in Research Triangle Park, this chapter goes on to describe the activities of the AATCC during this period, including continued test method development, technical conferences, and the activities of the various sections. It concludes with a description of the Golden Anniversary meeting of the Association in 1971.

The impact of the considerable growth in Association membership that took place during this period was considerable. After having shown little growth in the decade after 1952, total individual membership began to rise rapidly again in 1963, reaching a peak of almost 10,000 in 1971. As a result, the period between 1963 and 1972 was a time of great optimism and expansion for the Association, as a buoyant textile industry and a growing pool of available volunteers made it seem that the sky was the limit.

The questioning and discontent that had accompanied the decade 1952–1962, with its flat growth and switch from volunteer to professional administration, had resulted in the soul-searching Report of the Committee on Long-Range Objectives and the extended debate within Council and the Executive Committee on Research (ECR) about its recommendations. From that debate emerged an Association much clearer about its purpose and focused on efforts to expand its mission in carefully defined ways. It is no accident that it was during the decade after 1963 that the AATCC moved to a new headquarters building, took over publication of its own journal (see Chapters 10 and 11), and established a system of regular workshops and seminars (see Chapter 13). By the time of the fiftieth anniversary celebration in 1971, the AATCC had asserted itself as a leading technical organization, and its leadership was proud of what it had accomplished.

Organizational Changes

The move from Lowell, Massachusetts, to Research Triangle Park, North Carolina, led to both physical and spiritual changes. At Lowell, the past, particularly the past as

represented by Louis Olney, had always been present. Research Triangle Park, on the other hand, was a new beginning, from which the Association could take off in new and exciting directions. The new building was known by two names: the AATCC Headquarters Building initially, and then after September 1969 as the AATCC Technical Center but it was always regarded as a very different place than the Association's previous home, since it was now free from Lowell Technological Institute's (LTI) influence.

The move was preceded by a strenuous housecleaning. The AATCC's staff had accumulated forty-two years of "equipment, records, correspondence, and other bric-a-brac."[1] George Paine and George Mandikos spent considerable time going through this collection, selecting what was to be shipped South and what was to be discarded. This work took place well before the new building in RTP was ready. At Paine's suggestion, he and other staff members moved to temporary offices in Durham, North Carolina, to supervise construction of the new building.

In a parting gesture to commemorate the long and friendly relationship between the AATCC and LTI, the Association established the Louis A. Olney Memorial Chemical Library at the school. The library was intended to serve as a "living reminder" of the bond between the two organizations. To create the library, the AATCC made a donation of $15,000 to the school.[2] The AATCC decided to take its historical records with it however. These were boxed and moved to a specially designated room on the unfinished lower floor in the new headquarters building. The room was provided with book cases, file cabinets, and display cabinets for artifacts, and was intended to form the basis for an institute that would deal with the history of the wet processing industry.[3] That institute was finally established in September 1969, when Council designated the room as the Institute for the History of Textile Arts and Science.[4]

The actual move to North Carolina took place in mid-1963. Of the AATCC's full-time staff, only Paine and Mandikos relocated. The other clerical and administrative staff all resigned rather than move. Paine hired replacements in North Carolina, and the office was up and running again by October 1963.[5]

Once the move into the new building was complete, the reaction of AATCC's leadership to the change was enthusiastic. In his 1964 Presidential Address, Ernest R. Kaswell sounded highly optimistic. After noting that the building had been built without the aid of any special contributions or fundraising, Kaswell praised the building's design and layout. He felt that the building was a visible symbol of the changes that had been occurring within the Association. In his words, anyone who visited RTP would "come away with an entirely new impression of your Association after seeing firsthand the fully equipped laboratory, the library, the seminar and meeting rooms, and offices."[6]

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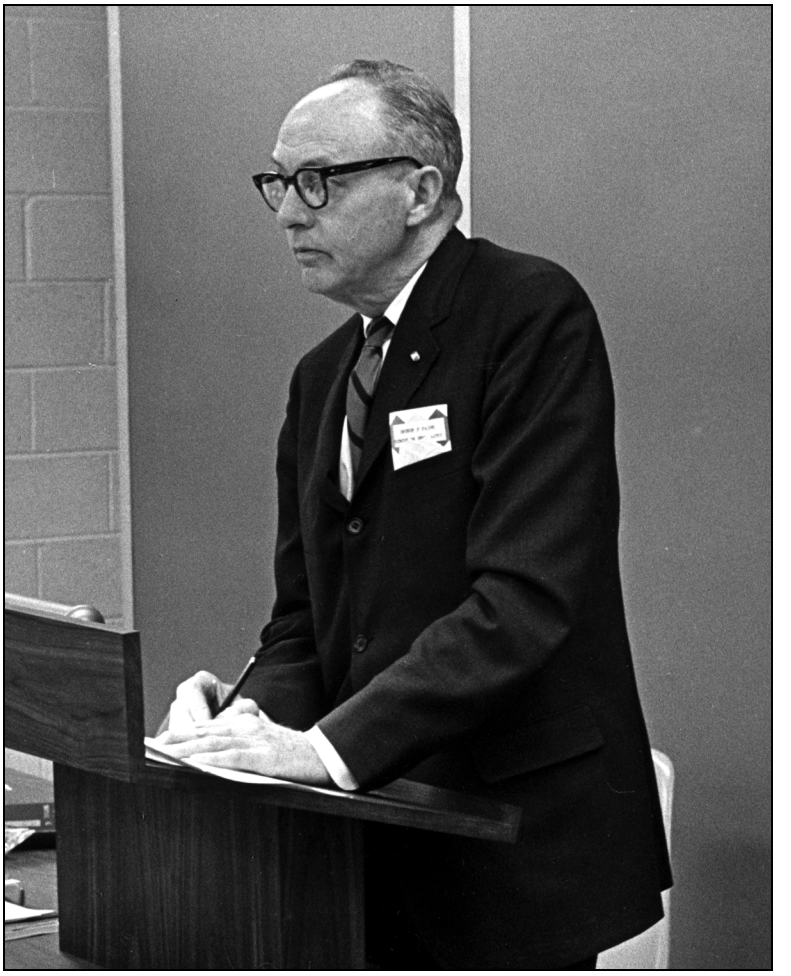
[1] *1964 AATCC Technical Manual,* Research Triangle Park, N.C., p. A-35.
[2] *1964 AATCC Technical Manual,* p. A-38.
[3] *1966 AATCC Technical Manual,* p. A-16.
[4] "AATCC Council Highlights," October 22, 1969, p. 96, AATCC Archives, Research Triangle Park, N.C. Sidney Edelstein, then chairman of the Archives Committee, ensured that the AATCC's records were preserved and proposed the creation of the Institute.
[5] *1964 AATCC Technical Manual,* p. A-35.
[6] *1965 AATCC Technical Manual,* p. A-37.



George P. Paine, Executive Director (1956–1973)

Kaswell then outlined program changes that were planned, in particular those that would operate from the new headquarters. He stressed that these new programs had been created in response to member demand, pointing to a survey of AATCC senior members conducted in 1963. Nearly a third of all members had responded to the survey, a remarkably high return rate.[7] Over 700 members included written comments. The most consistent result of that survey was a desire on the part of members for an Association that was an "industry-oriented professional society." According to Kaswell, the relocation of headquarters closer to the center of the textile manufacturing industry, combined with a new program of seminars and

[7] A total of 2,416 questionnaires was returned; the AATCC had approximately 7,500 senior members at the time.

workshops and the work of the AATCC laboratory, would serve to address the desires revealed by the survey.[8]

Broadly speaking, the actions of the AATCC over the following decade were implementing the ideas determined from the discussions and decisions stemming from the Report of the Committee on Long Range Objectives and over the move to North Carolina.

As it turned out, the most commonly discussed topic was the size and quality of the contents of *American Dyestuff Reporter*. Many members made specific comparisons between *ADR* and other technical publications, mostly denigrating *ADR*. The survey also uncovered a desire on the part of a significant number of the respondents for change in the way the AATCC published and distributed technical information. This desire would lead eventually to the establishment of the AATCC journal *Textile Chemist and Colorist* (see Chapters 10 and 11). The distribution of technical information continues to be a topic of great concern among members.

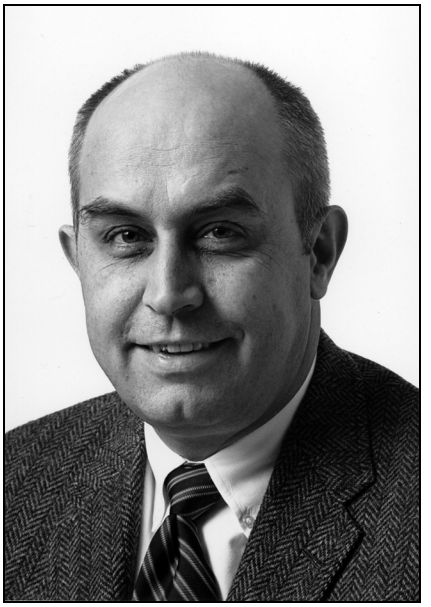
William R. Martin Jr. was hired for the newly created position of technical director in late 1963. The position had been created by Council on the recommendation of the ECR, which was concerned about the decline of technical coordination by the AATCC staff after Harold Steigler retired as director of research in 1960. Martin's primary initial responsibility was to set up the AATCC's workshop and seminar programs (see Chapter 13).

Martin held a bachelors degree in chemistry from the University of North Carolina at Chapel Hill, and after working in industry completed a masters degree in textile chemistry at North Carolina State College. He again worked in industry until 1959, when he returned to North Carolina State as department head for applied chemistry in the department of textile chemistry. While there he completed a masters degree in business administration at the University of North Carolina, finishing just before he started work at AATCC in early 1964.[9] Martin would become the AATCC's second executive director in 1973.

Financially, the AATCC was in excellent shape in the mid-1960s. Despite the expense of a new building, the Association had accumulated cash and securities worth over $750,000 in market terms by 1963.[10] This rose to just under $1 million by 1967 and to well over that amount in the early 1970s.[11] The Association's management of its assets was generally conservative, with a portion of income redirected into an investment fund each year.

To meet the expenses associated with the new headquarters building, Council raised dues in 1964. Senior members' annual dues increased from $10 to $15, junior members' from $5 to $7.50, and associate members' from $10 to $15. Dues for student members stayed the same, at $3.50 per year.[12] The dues increase was a proactive

[8] "Report by President Ernest R. Kaswell," *1965 AATCC Technical Manual*, p. A-37.
[9] Mark Clark interview with William R. Martin Jr., April 11, 1995, Research Triangle Park, N.C., pp. 1–5.
[10] *1964 AATCC Technical Manual*, p. A-25.
[11] *1968 AATCC Technical Manual*, p. A-35.
[12] *1965 AATCC Technical Manual*, p. A-29.



William R. Martin, Jr., Executive Director (1973–1996)

rather than a retroactive step; Council had seen projections of expenses that predicted a shortfall without the dues increase.[13]

Despite the dues increase, total membership rose and continued to rise throughout the rest of the 1960s. One reason for this increase was the commercial success of easy-care, wash-and-wear clothing. The AATCC's test methods for the evaluation of seam puckering, crease retention, and wrinkle resistance now became of more than academic interest to the textile industry. As a result, many firms, particularly in the garment industry and in retail sales, realized the usefulness of the AATCC's work for the first time. The AATCC's leadership was well aware of the source of the interest, since literally hundreds of requests for information and for quality control aids poured into the Technical Center. The result was an expansion of the AATCC's membership among those interested in consumer-related testing. In the long run, the number of AATCC student sections, grew as schools joined whose textile programs had grown out of home economics programs (now called human ecology or consumer science) having a retail or fashion orientation. Prior to the late 1960s, AATCC student sections were from schools having textile programs that had grown out of chemistry or engineering and that were oriented toward textile manufacturing.

Although overall membership increased during this period, that growth was concentrated in the Southern Region. All sections that made up the Southern Region

[13] *1964 AATCC Technical Manual,* p. A-36.

except for the Washington Section saw continuous growth between 1964 and 1972. By 1972, although the Metropolitan Section was still the largest, the next three in terms of size (Piedmont, Palmetto, and Northern Piedmont) were all in the South. The Delaware Valley Section had fallen to fifth largest.[14] Given this shift, it is not surprising that the Southern Region was split in two in 1972, as described later in this chapter.

Council approved another dues increase in 1971, raising senior and associate members' dues to $20, juniors' to $10, and students' to $4.75. The AATCC's membership peaked at just under 10,000 in 1972.[15] Referred to as the "magic number" by Council, the Association hoped for continued growth but would be disappointed.[16] As will be shown in Chapter 13, annual membership figures declined precipitously in the decade after 1972. The combined effects of the energy crisis, increasing foreign competition in dyes and chemicals, and the decline in membership growth, following the end of the Vietnam War all worked together to sap the AATCC's strength.

Part of the reorganization that accompanied the move to RTP was the creation of formal procedures for committee work in place of informal guidelines. In 1964 a style manual for writing test methods developed and approved by ECR was intended to be part of a new "Manual of Procedure for AATCC Research Committees." The procedures were tried by a few committees but were not widely adopted until they were published in the *1969 AATCC Technical Manual* as "Rules of Procedure for AATCC Test Method and Technology Committees" (discussed in more detail later in this chapter).[17]

In 1969 Council decided to complete interior construction on the AATCC headquarters building. The basement level had remained unfinished to save money in the initial construction. With the addition of staff to run *Textile Chemist and Colorist*, more room was needed, and in May 1969 funds were voted to finance the project.[18] The basement area was divided into offices for the publications staff, the Institute room, and a large storage area for books and items stocked by the Association for sale.

At the end of 1971, Council decided to update the name of the executive secretary position. At the 265th meeting on November 19, 1971, Council approved a change in title to executive director to bring the title into line with the practice of other associations.[19]

Looking back in 1970, AATCC President Joseph H. Jones cited three major areas of accomplishment for the AATCC: the construction of the new Technical Center at Research Triangle Park; the publication of the AATCC's own journal, *Textile Chemist and Colorist*; and the establishment of Association workshops and symposia. Looking to the next decade, he called for an increase in educational programs, devel-

[14] "Membership Summary," *1975 AATCC Membership Directory,* Research Triangle Park, N.C.: AATCC, p. 18.
[15] Membership in 1972 was 9,828. *1975 AATCC Membership Directory,* p. 18.
[16] "AATCC Council News." *Textile Chemist and Colorist (TCC),* v. 2, n. 6, March 25, 1970, p. 17.
[17] *1969 AATCC Technical Manual,* pp. 28–31.
[18] "AATCC Council News."*TCC,* v. 1, n.12, June 1969, p. 36.
[19] "AATCC Council News."*TCC,* v. 4, n. 1, January 1972, p. 20.

opment of test methods that would predict consumer performance of colored textiles with greater accuracy, and finding ways to deal with air and water pollution caused by textile dyeing and finishing.[20] Jones' predictions of future needs proved accurate, and the three areas he named would all be addressed by the Association during the 1970s.

Research and the AATCC

The most notable change in the organization of the AATCC's technical program was the formal establishment of a new sort of committee in 1963. These new committees were called "Technology Committees," as distinguished from "Test Method Committees" (These two types of committees are referred to collectively as Research Committees.) The establishment of technology committees reflected larger trends in the textile industry. The growing diversity of fibers, dyes, and finishes meant that the problems associated with textile production required increasingly specialized technology. Scientific training, particularly knowledge of organic chemistry and the physics of materials, was becoming more and more necessary. Instrumental analysis revolutionized laboratory work. When combined with public and governmental pressures for better environmental protection, the result was a splintering of technical effort. In contrast to the pre-war period, when a good chemist could hope to master a broad body of work, the specialization required by the developments in synthetic fibers meant that constant interchange of research and development results within a small group was necessary to keep current with even one narrow field. The AATCC explicitly recognized this problem, and technology committees were its attempt to solve it.[21]

The initial intention of the AATCC's leadership was that technology committees would be to "coordinate and direct the planning of technical meetings of special interest to groups and individuals concerned with specific textile technology subjects, recommend and encourage presentation of technical papers at these meetings, to encourage and promote active participation in the technological and test method development programs of the Association, to act as a clearinghouse for information, and to develop a consensus of opinion."[22] (Note that technology committees did not and do not develop test methods; that is the responsibility of test method committees.) The formal mechanism for bringing a technology committee into being was much the same as for a test method committee: the recommendation of the Technical Committee on Research and the approval of ECR by a recorded vote.[23]

The concept of the technology committee was not unprecedented. As early as the 1930s the Color Committee had studied techniques for measuring color by instrument, and the Stream Sanitation Committee in the 1950s had gathered and disseminated information on environmentally related matters. However, by regularizing and

[20] "AATCC Council News."*TCC,* v. 2, n. 6, March 25, 1970, p. 17.
[21] *1964 AATCC Technical Manual,* p. A-37.
[22] "Report by President Ernest R. Kaswell," *1964 AATCC Technical Manual,* p. A-36.
[23] Ibid.

encouraging the practice, the AATCC sought to increase the extent to which it was involved in cutting-edge textile science and technology.

The first two committees under the new program were the Hosiery Technology Committee and the Yarn Dyeing Technology Committee, established in late 1963. These were followed in 1965 by the Warp Size Technology, Durable Press Technology, and Flock Technology committees.[24] By 1972 there were twelve active technology committees and one technology committee on reference status. A complete list of committees and their founding dates is given in Appendix 7.

Technology committees were often followed by the establishment of test method committees. For example, the Flock Testing Committee was set up after the Flock Technology Committee, and the Committee on Bonded and Laminated Fabrics Test Methods followed the Committee on Bonded and Laminated Fabrics.[25]

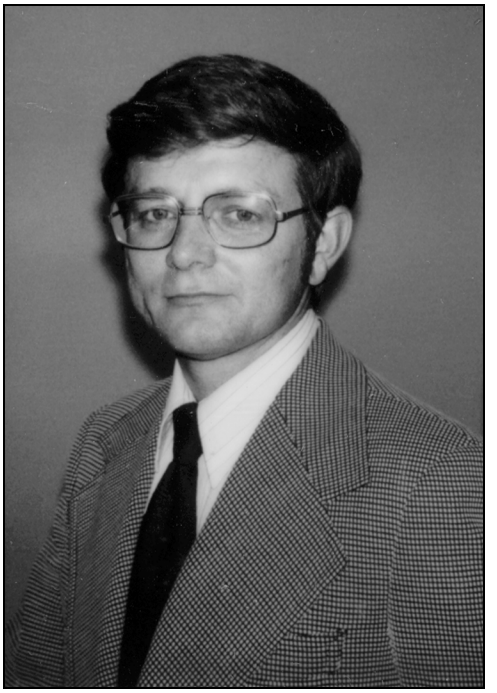
Test Methods

The most notable development related to test methods during 1963–1972 was the establishment of the new laboratory at the AATCC headquarters in Research Triangle Park (RTP). The laboratory was the result of much debate, and it was the difficulty of providing adequate laboratory space at the then envisioned New York City location that proved instrumental in the decision to move to RTP instead (see Chapter 8). The consensus that emerged within the ECR as a result of these debates was that the AATCC laboratory would have a very specific purpose. Rather than setting up a general research laboratory, doing a variety of projects related to textile science and technology, the members of ECR decided that the lab should serve as a "bureau of standards" for test method development.[26] Equipped with everything necessary to run AATCC test methods, the laboratory would be a place where every detail of a test procedure could be followed. As the members of ECR conceived it, the research committees could depend on the laboratory to help them develop new test methods properly and accurately.[27]

In 1964 the AATCC hired Jerry G. Tew, a textile chemist, as laboratory manager, as well as two technicians as assistants. Tew, a graduate of the University of North Carolina at Chapel Hill with a bachelor's degree in chemistry, had worked for two years as a laboratory supervisor for Burlington Industries, a large textile manufacturer. Working under William R. Martin Jr., technical director, his initial responsibility was ordering and installing much of the laboratory testing equipment. Some of the laboratory equipment had been brought from Lowell, but most of it was new.[28]

In addition to getting the lab running and doing projects for various research committees, Tew's other major duty was to develop quality control aids, namely, the various rating scales and consumable materials used in the performance of AATCC tests.

[24] *1966 AATCC Technical Manual,* p. A-14.
[25] *1973 AATCC Technical Manual,* pp. 12–13.
[26] *1964 AATCC Technical Manual,* p. A-37.
[27] Ibid.
[28] Mark Clark interview with Jerry G. Tew, April 11, 1995, AATCC Archives, Research Triangle Park, N.C., pp. 1–5.



Jerry G. Tew, Laboratory Manager (later Technical Director)

The AATCC had served as the source of supply for some quality control aids since the 1940s, but the Association had relied on outside companies to manufacture and provide most of them. These firms were listed in the *Technical Manual*, and members could order directly from them.[29] After 1964, however, the AATCC sought to bring more of this business in house. The motivation was primarily financial. Sales of quality control aids generated additional income, that could be used to support test method development.

One of the most successful of these aids was the detergent used in a number of test methods. The detergent had been adopted for use in the pre-wash sequence of the flammability test method, and when the federal government included the method in the standard for children's sleepwear, which requires that fabrics be washed and dried fifty times before testing, a steady demand was created for the detergent. Income from these and other sales has continued to allow the AATCC to keep dues lower than they otherwise would have been.[30]

[29] See *1947–1948 AATCC Technical Manual*, p. 97, for a listing of outside suppliers of quality control aids.
[30] AATCC Test Method, 124-1964; *Code of Federal Regulations,* 1615.4, 1987; Tew interview, pp. 6–7.

"Rules of Procedure for AATCC Test Method and Technology Committees," published for the first time in the *1969 AATCC Technical Manual*, laid out in detail how committees were set up, how they operated, and what they were expected to accomplish.[31] One significant innovation, phased in over several years before becoming final in 1969, was the policy to review every test method every three years. The intention was to ensure that each method reflected current trends in the industry. The review resulted in either the test method being reaffirmed as written, modified in some way, or dropped as obsolete.[32] Previously, methods were often dropped when they were replaced by new ones or different versions that covered the same ground, but there was no formal mechanism to eliminate obsolete test methods. It was also decided to eliminate the category of "Tentative" test method, since most published methods were the result of several years of preliminary work and had been adopted almost unchanged. Since every method would be reviewed three years after acceptance, the review procedure that had existed previously for tentative methods would be duplicated and so could be discarded.[33]

Another trend during the late 1960s and early 1970s was an increasing concern with methods that related to the consumer use of textiles. This stemmed in large part from the focus by manufacturers and retailers on wash-and-wear, durable press, and other garment performance characteristics. Since garments were marketed on the basis of wrinkle resistance or some other property, retailers had to ensure that the merchandise they sold would live up to their advertising claims. Otherwise they would face excessive returns and declining sales. Many test method committees began to focus for the first time on the correlation between test results and consumer experience.

This change was explicitly recognized by the Technical Committee on Research in early 1966 with the creation of Committee RA75, Correlation of Laboratory Tests with End-Use Performance. The new committee's mission was twofold: first, to investigate the validity of published research pertaining to consumer complaints, and second, to acquire directly information concerning consumer complaints from the many industries and agencies working with consumers.[34]

The committee soon found that data on consumer complaints that had filtered through trade organizations were unreliable, and it began to explore means for getting information directly from the consumer.[35] In 1969 it conducted a survey of 500 test families in cooperation with the American Home Economics Association (AHEA). The project was coordinated by a joint AATCC–AHEA Research Review Board. The board had initially been set up to screen academic research projects and select those that would benefit from the donation of fabrics or garments of known history that had been made available by private companies. The AATCC participated to obtain feedback of information, data, and test procedures for other test committees.[36]

[31] *1969 AATCC Technical Manual*, pp. 28–31.
[32] *1968 AATCC Technical Manual*, p. A-40.
[33] Ibid.
[34] *1967 AATCC Technical Manual*, p. A-47.
[35] *1968 AATCC Technical Manual*, p. A-46.
[36] *1970 AATCC Technical Manual*, p. 18.

The AATCC also began to build closer ties with home economics programs at the college level. In June 1968 the first Summer Symposium for Home Economists was held at the AATCC's Technical Center. The program was fully subscribed, and with attendees from colleges and universities across the United States, it was so successful that it became an annual summer event. In 1971 the name of the seminar was changed to the Summer Symposium for College and University Teachers of Clothing and Textiles, no doubt as part of the nationwide trend to rename programs in home economics.[37]

Durable Press and Test Method Development

The popularity of durable press resin technology played a large role in the growth in the AATCC's visibility in the 1960s. Workshops that focused on durable press related test methods were by far the most popular that the Association offered. Also, considerable interest focused on the quality control aids used with the test methods. As a result, committees concerned with these test methods were among the most active during the 1960s and 1970s.

In 1967, Committee RA61, Wash-and-Wear, developed a set of three-dimensional plastic models for evaluating wrinkling to replace photographic standards. First published in 1968, the plastic models made it easier to evaluate wrinkling accurately and made results between laboratories more consistent.[38] However, use of the plastic models proved more complex than first thought, and they were still undergoing revision in the early 1970s.[39]

International Aspects of Test Method Development

Through the 1960s and 1970s, the AATCC continued to increase its participation in international organizations that set standards for textile-related test methods. The primary locus of that involvement was the International Standards Organization (ISO). Founded in London in 1946, ISO was the successor to the International Federation of National Standardizing Associations, founded in 1926 but disbanded during World War II. By the mid-1960s, the ISO included the national standards organizations of fifty countries. The AATCC was not a member of ISO directly. Rather, it appointed delegates to committees of the American Standards Association (ASA), which was the official American member.[40] The American National Standards Institute (ANSI), successor to the ASA, now serves as the American member.

By the mid-1960s, the AATCC was extensively involved in ISO committee work. In 1964, for example, the Association provided delegates to nineteen ISO committees,

[37] *1972 AATCC Technical Manual,* p. 17.
[38] *1968 AATCC Technical Manual,* p. A-40.
[39] *1971 AATCC Technical Manual,* p. 17.
[40] "Report by President Ernest R. Kaswell," *1964 AATCC Technical Manual,* p. A-36.

subcommittees, and working groups through the ASA.[41] That same year the AATCC hosted a meeting of the ISO Committee on Colorfastness Tests at its newly opened national headquarters in RTP. Delegates from Canada, France, England, West Germany, Japan, Sweden, Switzerland, and the Soviet Union attended.[42] The following year AATCC representatives attended ISO meetings in London and Paris. This established a regular pattern, and since the late 1960s the AATCC has sent delegates to ISO meetings on a regular basis, usually once a year. In 1971 the AATCC hosted the ISO meeting of the Committee on Colorfastness Tests in Boston as part of the Golden Jubilee Technical Conference, celebrating the fiftieth anniversary of the founding of the AATCC.

In addition to work with the ISO, AATCC representatives also participated in regional meetings on standard test methods. Beginning in 1963 with a meeting in Lima, Peru, the AATCC sent delegates to the Pan American Standards Organization (PASO).[43] AATCC delegates attended again in May 1966, when the meeting was in Montevideo, Uruguay. Ten AATCC test methods were considered and approved for use in the Americas.[44] As a result of its involvement with PASO, the AATCC began to seek more international members, particularly from South America, and in 1965 distributed leaflets in Spanish and French describing the Association.[45]

Finally, the international involvement of the AATCC led the ECR in 1972 to require that the units of measurement in all test methods be in metric units, which was more international, followed by the equivalent U.S. customary unit in parentheses.[46]

Publications

Changes in the relationship between the Association and the Howes Publishing Company in the late 1960s and early 1970s are detailed in Chapters 10 and 11 and are not repeated here. In addition to publishing the AATCC Proceedings and the *Technical Manual*, the Association began, as outlined in Chapter 13, to publish the work of technology committees. For example, in 1966 the AATCC published *Industrial Waste Guide for Processors of Synthetic Textile Fibers*, that had been prepared by the committee on Stream Sanitation Technology.[47] This was the first in a series of booklets and collections of papers that expanded the avenues that the Association used to communicate with its members. A list of these AATCC publications is included in Appendix 21.

[41] *1965 AATCC Technical Manual,* p. A-16.
[42] *1966 AATCC Technical Manual,* p. A-37.
[43] *1964 AATCC Technical Manual,* p. A-36.
[44] *1967 AATCC Technical Manual,* p. A-39.
[45] *1965 AATCC Technical Manual,* p. A-37.
[46] *1972 AATCC Technical Manual,* p. 17.
[47] *1966 AATCC Technical Manual,* p. A-41.

The Society of Dyers and Colourists

After the supplement to the second edition of the *Colour Index* was published in 1963, the AATCC and the SDC negotiated a preliminary agreement in September 1965 on the production of the third edition. After considerable discussion, often slowed by the separation of the two parties by the Atlantic Ocean, a final draft was agreed on in late 1967. Joseph Jones, the AATCC president, went to England in 1969 to formally sign the agreement in a ceremony held in the City Hall of Bradford, the city in which the SDC's headquarters was located.

The principal change between the two editions was the separation of the detailed list of the commercial names of colorants from the technical information in the third edition. This separate list, which was published as Volume 5, made updating through supplements easier, since commercial information such as new brand names for dyes, withdrawn dyes, and company names could be easily changed without the need to reprint chemical, structural and application information.[48] The third edition was completed in late 1971, and the first copy, complete with a special inscription, was presented to the AATCC at its Golden Jubilee meeting that year.

Sectional Activities

When the AATCC began to publish *Textile Chemist and Colorist (TCC)* in 1969, one of its priorities was to change the image of the Association. A major feature of *ADR* had been pictorial layouts that showed casually dressed AATCC members engaged in a variety of social activities at sectional meetings, particularly summer social events. AATCC Executive Director William R. Martin Jr. later recalled these features as being "a lot of pictures of people playing golf or at cocktail parties."[49] Such pictures were not published in *TCC*, and the news section stressed the business and scientific aspects of the Association rather than its social aspects.

The AATCC's leadership took other steps to change the nature of sectional activities. According to Martin,

> "We [the AATCC leadership] encouraged people in the sections to bring their wives and children to their summer meetings. This changed the whole ambiance of the meetings. Instead of any image of impropriety, these were family oriented situations and people did not get out of hand. People came and participated and it began to become more of a technical and scientific society."[50]

The AATCC's leadership also sought to encourage the sections to participate in the Association's research programs by publishing a list of potential research topics for the Intersectional Paper Competition. Along with the seminar program, which

[48] Maurice Tordoff, *The Servant of Colour* Bradford, West Yorkshire: Society of Dyers and Colourists, 1984, pp. 325–326.
[49] Martin Interview, April 11, 1995, AATCC Archives, Research Triangle Park, N.C. p. 31.
[50] Ibid., p. 26.

attempted to coordinate its efforts with sectional interests, these efforts led to a more serious orientation within the sections by the 1970s.

No new sections were created during 1963–1972. However, several sections were consolidated. In April 1969, the Pacific Southwest and Pacific Northwest Sections merged to create the Pacific Section, due primarily to a decline in the Pacific Northwest's membership.[51] From a high of fifty-one in 1960, its total membership had dropped steadily, reaching a low of twenty-five in 1968. The Pacific Southwest Section had enjoyed steady growth during this same period, rising to over 180 members in 1968.[52] As a result, the center of activity of the Pacific Section shifted to Southern California, primarily in and around Los Angeles.

The Pacific Section was assigned the states of California, Oregon, Washington, Montana, Wyoming, Colorado, Utah, Arizona, New Mexico, Alaska, and Hawaii. At the same time, Council added North and South Dakota, Nebraska, and Kansas to the Midwest Section, and West Virginia to the Northern Piedmont Section. Thus, for the first time AATCC sectional boundaries included all fifty states.[53] Puerto Rico and the Virgin Islands were added to the Southeastern Section in October 1969, no doubt out of a desire for completeness.[54]

In 1970 the Niagara Frontier Section was disbanded and its territory merged with the Hudson-Mohawk Section. Other than these two minor reorganizations, the only other change in sectional organization came in 1972. With the growth in the size of the membership in the southern sections, the existing four-region (New England, Mid-Atlantic, Southern, and Western) division of the Association had become unbalanced, with the Southern Region having a disproportionate number of sections and members. As a result, in late 1971 Council considered a constitutional amendment to split the Southern Region into two regions, each with its own vice president.[55] After a letter ballot of the senior members, the change was approved by Council in November 1972.[56] The two new regions consisted of the Mid-South, made up of the Washington, Northern Piedmont, and Piedmont Sections, and the Southern, consisting of the Palmetto, South Central, Southeastern, and Gulf Coast Sections.[57]

In 1964, there were seven student chapters: Auburn University, Bradford Durfee College of Technology, Clemson College, Georgia Institute of Technology, New Bedford Institute of Textiles & Technology, North Carolina State College, and Philadelphia College of Textiles.[58] In 1965, the Bradford Durfee College of Technology became the Southeastern Massachusetts Technological Institute at Fall River; and the New Bedford Institute of Textiles & Technology became the Southeastern Massachusetts Technological Institute at New Bedford[59] (now known as the University of

[51] "AATCC Council News." *TCC*, v. 1, n. 9, April 1969, p. 38.
[52] *1968 AATCC Technical Manual*, p. G-1.
[53] "AATCC Council News." *TCC*, v. 1, n. 9, April 1969, p. 38.
[54] "AATCC Council News." *TCC*, v. 1, n. 22, October 1969, p. 96.
[55] "AATCC Council News." *TCC*, v. 4, n. 1, January 1972, p. 20.
[56] "AATCC Council News." TCC, v. 4, n. 12, December 1972, p. 18.
[57] "Amendments Proposed for AATCC Constitution." *TCC*, v. 4, n. 3, March 1972, p. 12.
[58] *1964 AATCC Technical Manual*, p. G-7.
[59] *1965 AATCC Technical Manual*, p. G-7.

Massachusetts at Dartmouth). Both schools kept their AATCC student chapters after the change, but the following year the two schools were consolidated and the student chapters were merged.[60]

Three schools added AATCC student chapters in the early 1970s, the first new student chapters to be created since Auburn joined in 1956. Virginia Polytechnic Institute (now known as Virginia Tech) joined April 30, 1971. Radford University, Radford, Virginia joined November 19, 1971, and the University of Rhode Island in Kingston joined November 17, 1972. All three schools had textile programs that were part of home economics programs, and no doubt owed their establishment at least in part to the AATCC Summer Symposium for Teachers of Home Economics. The expansion of student membership was also due to the efforts of the Textile Education Committee. Reactivated in 1966, it was charged with "exploring ways to attract promising young people to the textile industry."[61]

General Meetings

As with sectional meetings, the change in editorial policy that accompanied the introduction of *TCC* aimed at changing the image of General Meetings to give them a more serious tone by emphasizing technology and science. In addition in 1965 the name of the General Meeting was changed to AATCC National Technical Conference.[62] The current title, AATCC International Conference & Exhibition, was adopted in 1984.

A number of other changes in the General Meeting also encouraged a more dignified atmosphere. As William R. Martin Jr. pointed out later, the involvement of family members changed the tone of the events:

> It is important that families come when we have our International Conference & Exhibition. For a long while we had only the members come to the awards luncheon. Now we have spouses come… because if we're giving away the three most prestigious awards in textile chemistry the spouse ought to be there. We always had them off at some other function. What did the spouses see of AATCC? They saw a reception with lots of food and drink. Then they went to the hospitality suites that the exhibitors had after hours. Lots of food and drink. Then we had a dinner party. Lots of food and drink. The image that the spouse had of AATCC was lots of food and drink. They never saw anything else. So now we have them come to the award luncheons where we have 1,000 people. The size of the crowd itself is impressive. Then when you hear them present the awards and you hear them speak about this person's accomplishments it has to be very impressive and you see the other recipients of these awards asked to stand and be recognized, that too is significant."[63]

[60] *1966 AATCC Technical Manual,* p. G-7.
[61] *1966 AATCC Technical Manual,* p. A-39.
[62] "An AATCC Chronicle." *TCC,* v. 3, n. 8, September 1971, p. 68.
[63] Martin interview, p. 26.

The overall effect was similar to what took place in the sections. Although there continued to be entertainment and hospitality suites, anecdotal evidence indicates that drinking to excess and other sorts of socializing declined markedly in the 1970s and 1980s.

Otherwise the pattern of the General Meetings continued much as had been established in the late 1950s. The location of the conference continued to change each year, although with a larger percentage of meetings taking place in the South than in previous years. Total attendance and the number of exhibitors both increased. Attendance reached a high of 3,700 at the 1970 meeting in Atlanta, Georgia. Although the increasing complexity of the affairs made it increasingly difficult for smaller sections to host them, the planning and operation of the meetings were still done entirely by volunteers, with some advisory help from the AATCC's staff.

The AATCC celebrated its fiftieth anniversary in Boston in October 1971. This "Golden Jubilee Conference" attracted almost 3,000 attendees. Fifty-one exhibitors showed machinery, equipment, and supplies for the textile industry. In addition to the regular technical program, special events celebrated the anniversary, including a Golden Jubilee Luncheon honoring the Association's charter members and a performance by Arthur Fiedler and the Boston POPS Orchestra.[64]

There were a number of representatives present from textile chemistry organizations in other countries, most notably President, W. G. B. Grant and General Secretary Maurice Tordoff of the Society of Dyers and Colourists (SDC). Grant was the first SDC president to attend an AATCC General Meeting. Grant and Tordoff presented the AATCC with a resolution that awarded an honorary membership, the SDC's highest honor, to the AATCC president in perpetuity. The honor was awarded to the office, rather than to a particular person, so that the privileges of the honorary membership could be passed on to all future AATCC presidents. Grant then presented the first set off the presses of the newly completed third edition of the *Colour Index*.[65]

The AATCC received a variety of other gifts at the meeting. The American Cyanamid Company presented a large portrait of AATCC founder Louis Olney, which hangs today in the Library of the AATCC Technical Center.[66] The Verien der Textilchemiker und Coloristen (the German Association of Textile Chemists and Colorists) presented an engraved watercolor of Heidelburg Castle, a noted German landmark. The Rhode Island Section presented a hand woven tapestry commemorating the establishment of the section as the AATCC's first local section.[67] Finally, a number of politicians sent their congratulations, including the governors of Massachusetts and North Carolina and President Richard M. Nixon.[68]

[64] "Special Events." *TCC,* v. 3, n. 9, September 1971, p. 47.
[65] "3,000 Attend Golden Jubilee Conference." *TCC,* v. 3, n. 11, November 1971, p. 33.
[66] Ibid., p. 35. Both the watercolor and the tapestry are preserved in the Institute room at the AATCC Technical Center.
[67] Ibid., p. 40.
[68] Ibid., p. 42.

Charter member and second president, Elvin Killheffer just missed the Association's celebration of its fiftieth anniversary. He had died on April 27, 1971, at the age of 87. Learning of his death, Council observed a moment of silence at the 264th meeting, April 30, 1971.[69] However, there were still twenty-one surviving charter members, ten of whom attended the Boston meeting. Biographical sketches of most of the twenty-one were printed in the September 1971 issue of *TCC*.[70] To honor charter members as a group, Council installed a memorial sundial on the grounds of the AATCC Technical Center, with the names of all the charter members inscribed on its pedestal. At the conference, an architect's model of the memorial was presented to the group as a symbol of the upcoming construction.[71] The memorial was dedicated in April 1972.[72]

Fittingly, Harold B. Sturtevant, one of the ten charter members in attendance, was awarded the Chapin Medal for his AATCC service. He was the only charter member still participating in sectional, regional, and national AATCC activities. A graduate of the New Bedford Textile School (now University of Massachusetts at Dartmouth), he had held a variety of positions in the dyeing and bleaching industry until 1947, when he was named professor of textiles at the Rhode Island School of Design. He was an active member of the Rhode Island Section from the beginning, serving in a variety of offices, including treasurer from 1956 to 1971. He was also the advisor to the AATCC Student Section at the Rhode Island School of Design from its founding until 1960.

Conclusion

The celebration of the Golden Jubilee proved to be a fitting culmination to the decade of membership growth that preceded it. Although it is hard to look back on this period in the AATCC's history objectively, given the membership decline that began in 1973, it is clear that during the decade 1963–1972 the Association was at its peak of influence and self-confidence. The AATCC's leadership during this period managed to shape a consensus among a variety of competing groups, weld together divergent interest groups, and reach out to new audiences, most notably those involved in garment manufacture and the retail end of the textile industry. The new programs initiated during this period, such as *Textile Chemist and Colorist*, the workshop and seminar series, and the expansion of test methods to include consumer performance, would be instrumental in keeping the Association going through the coming membership decline.

[69] "AATCC Council News." *TCC*, v. 3, n. 6, June 1971, p. 24.
[70] "A Number of Charter Members are Still Active." *TCC*, v. 3, n. 9, September 1971, pp. 61–64.
[71] "3,000 Attend Golden Jubilee Conference." *TCC*, v. 3, n. 11, November 1971, p. 33.
[72] "AATCC Dedicates Sundial to its Charter Members." *TCC*, v. 4, n. 5, May 1972, p. 15.

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Chapter 10

Taking Charge: Ending the Relationship with Howes Publishing Company (1958–1970)

When the AATCC's leaders negotiated and signed the 1957 contract with Howes Publishing Company, they thought they had solved the publication problem for the foreseeable future. The new agreement increased both revenues and editorial control for the AATCC and apparently settled the ongoing conflict about the direction of the *American Dyestuff Reporter*. What the AATCC's leadership did not anticipate was the degree of change that would accompany the hiring of George Paine and the subsequent reorganization of the Association. The rise to power of a new generation of leaders, as described in Chapter 7, led to fundamental reorientation of the AATCC's goals.

As a result, the AATCC's relationship with Howes Publishing again came under question. A series of committees in the late 1950s and early 1960s recommended that the Association seek greater editorial control over the contents of *ADR*. Committee members argued that the AATCC needed to upgrade the quality of the articles published, transforming *ADR* from a trade magazine to a more professional technical journal. Simultaneously, in private several in the AATCC leadership were convinced that Howes Publishing was profiting unfairly from its relationship with the AATCC. These individuals felt that setting up a new journal under the AATCC's sole control would generate new revenues for the Association.

The desire for more editorial control and greater revenue ultimately led the AATCC Council to decide in September 1966 to sever its relationship with Howes Publishing. After giving the required two years notice under the 1957 contract, in January 1969 the AATCC began to publish its own journal under the title *Textile Chemist and Colorist*. Since that time, the AATCC has maintained full control over its content. This chapter describes the events that led to the establishment of *Textile Chemist and Colorist* and the end of the relationship with Howes Publishing Company.

The Study Committee on Long Range Objectives

The decision by the AATCC to take control over the publication of its Proceedings originated with the extensive reorganization that took place after George Paine was

hired as executive secretary in 1956. The dramatic growth and regional reorientation that took place during this period has been described in previous chapters. The most notable change in the AATCC during the years prior to its reorganization of the late 1950s was the dramatic rise in the educational level of members. College degrees became much more common, and, partly as a result of the efforts of the AATCC, training in textile chemistry was increasingly seen as important to both individual and corporate success within the textile industry (see Appendix 14). The growing importance of manufactured fibers and the new dyes associated with them, as well as new finishing procedures, also placed a premium on continuing education and chemical knowledge.

As a result, the contents of *ADR* came under increasing scrutiny. The negotiations that led up to the 1957 contract had opened up the issue of the AATCC's relationship with Howes Publishing to the larger membership for the first time. While the contract settled the financial relationship between the two organizations, questions about editorial control and content continued to breed contention.

For example, not long after the 1957 contract was signed, the desire of Howes Publishing to protect copyright, which it had prior to the 1957 contract, began to conflict with the AATCC's desire for publicity. As developments in manufactured fibers became increasingly newsworthy in the 1950s, the mainstream press began to pay increasing attention to papers… presented at AATCC technical conferences and sectional meetings. At technical conferences, the AATCC maintained a press room at which copies of papers could be obtained, and magazines and newspapers often published extensive extracts. In the wake of the 1957 contract that still granted to Howes Publishing "exclusive publishing rights to all… Proceedings, including papers presented before national or sectional meetings…," Howes Publishing executives became increasingly concerned that distribution of papers to other publications would infringe on copyright.[1] The AATCC considered eliminating the press room and requiring presenters to assign their copyright to the Association prior to presentation, but the Association's desire for publicity ultimately frustrated Howes Publishing's efforts.[2]

After a period of relative quiet, discussion of the relationship between the AATCC and Howes Publishing resumed in early 1960 with the circulation of the report of the Study Committee on Long Range Objectives (described in Chapter 7). One of the report's recommendations was that the AATCC assume "full responsibility for all its publications."[3] Although passing mention was made of improving the quality of AATCC publications, the primary reason for the committee's recommendation was a desire to increase the financial return derived from those properties.

As the Study Committee saw it, the AATCC had three major assets in its publications. First, it had access to all Association Proceedings, including the papers presented at the AATCC's meetings that guaranteed source of editorial content. Second,

[1] Agreement between Howes Publishing Company, Inc. and American Association of Textile Chemists and Colorists, October 8, 1957, AATCC Archives, Research Triangle Park, N.C., p. 10.
[2] George Paine to James P. Farr, February 10, 1958; Paul J. Luck to George Paine, June 20, 1958, AATCC Archives.
[3] George Paine, AATCC Publications, Confidential Committee Document, November 7, 1960, AATCC Archives, p. 1.

it owned the names and addresses of its members, which gave associated publications a guaranteed circulation. Third, there was direct income from advertising. The AATCC's prestige as a professional and technical organization guaranteed the interest of advertisers.[4] Given these assets, the committee believed that the AATCC should explore ways of generating more revenue from them.

Implicit in the committee's report was criticism of the 1957 contract with Howes Publishing. Although the contract had resulted in increased revenue, the committee believed that the lion's share of the profits still flowed into Howes' coffers. According to AATCC calculations, roughly $100,000 a year was being "diverted" from the Association's treasury.[5]

In response to the committee's report, George Paine prepared a position paper for the AATCC Publications Committee. Circulated on a restricted basis (all copies were numbered), the paper reviewed the recommendations of the Study Committee on Long-Range Objectives and then presented a detailed financial analysis of the arrangements surrounding the *American Dyestuff Reporter*. Paine compared *ADR* with the journal published by the Technical Association of the Pulp and Paper Industry (TAPPI) that had a similar circulation pattern. According to Paine, based on TAPPI's example, the AATCC could publish *ADR* itself by hiring six employees, whose combined salaries would be a maximum of $60,000.[6] Allowing for that additional expense, Paine calculated that the AATCC would realize anywhere from $100,000 to $165,000 by publishing its own journal, a substantial increase in revenue.[7]

Paine made three recommendations. First, that the AATCC immediately notify Howes Publishing of its intention to terminate the 1957 contract, giving Howes Publishing three months to negotiate before final notice was given (the contract would then terminate two years after this final notice was given). Second, the AATCC assume full responsibility for all its publications. Third, during the two years between the final notification of Howes Publishing and the termination of the contract, the AATCC would set up an editorial staff at its national headquarters to handle all publishing-related functions.

The calculations behind Paine's recommendations had one flaw–they assumed that as soon as the AATCC set up its own publication, *ADR* would simply vanish. This assumption is never explicitly stated in Paine's report, but it is implicit in the financial calculations. Paine made it clear that he expected the AATCC's journal to generate the same amount of advertising revenue as *ADR*, in essence assuming *ADR* would go out of business as soon as the AATCC stopped supplying it with editorial material. Paine's assumption was questioned by some in the leadership, for example George Wham, who thought that the potential revenues were overstated.[8] However, Paine's arguments proved more persuasive.

[4] Ibid.
[5] Ibid., p. 2.
[6] Paine's plan included an editor, an assistant editor, an advertising manager, an editorial assistant, and two secretaries.
[7] The Association's gross income from all sources was $164,157 in 1956. *1956 AATCC Yearbook*, New York City, Howes Publishing Co., p. 29.
[8] George S. Wham to Herbert T. Pratt, February 20, 1996, AATCC Archives.

The AATCC's leadership expected a much higher level of revenue from its journal than was eventually achieved in practice. Since higher revenue was a central factor in the eventual change in publishing arrangements, Paine's omission of the fact that *ADR* might still be a competitor is highly significant.

Was Paine's omission intentional? It appears so. It is clear he was a strong supporter of the AATCC controlling its own journal, and did his best to persuade the AATCC leadership to that point of view. His position paper for the Publications Committee included as an appendix a detailed critique of the arguments in support of maintaining the status quo advanced in 1957 by E. J. Finan, the executive vice president of Howes Publishing. Paine argued that, although Howes Publishing had helped the AATCC in the past, such sentiments should play no future role in their relationship. Moreover, according to Paine, all the services that Finan claimed were provided to the AATCC by Howes Publishing were actually funded by profits derived from the Association. Overall, the position paper, as presented by Paine, was a strong argument for change.

However, Paine's rough draft of the appendix had been even stronger; most of the corrections made for the final version tone down the language and make it less inflammatory. For example, the title of the report was changed from "Rebuttal" to "Examination," and references to "spoon-fed" editorial material became "provided in full" in the final draft.[9] The most significant change; however, was to strike out the entire section on the possibility of competition from *ADR*. In the draft, Paine dismissed the possibility of serious competition as "fiction" and asserted that *ADR* was so dependent on the AATCC that it would likely fold when support was withdrawn. All this was left out of the version sent to committee members.

Omitting consideration of future *ADR* competition might simply have been a debating tactic on Paine's part. He and others within the AATCC felt, rightly or wrongly, that the success of *ADR* was due to assets owned by the AATCC: editorial content, membership mailing list, and the Association's reputation. They might have never questioned the assumption that *ADR* would fold without the AATCC's support, and Paine might have felt that even mentioning the possibility would only muddy the waters.

The Publications Committee approved the recommendations of the Study Committee on Long Range Objectives as outlined in Paine's report, and then referred them to Council. At the January 20, 1961, meeting, Council also adopted the recommendations.[10] Council then tabled the motion until the following April, when it delegated the Executive Committee to "open negotiations with Howes Publishing on matters of mutual interest with respect to the existing contract between said parties." Paul J. Luck, chairman of the Publications Committee, was added to the negotiating group.[11]

[9] See George Paine, "A Rebuttal to the Memorandum Submitted by E. J. Finan, Executive Vice President of the Howes Publishing Company–February 11, 1957," no date, AATCC Archives.
[10] Minutes, 222nd Council Meeting, January 20, 1961, AATCC Archives.
[11] Minutes, 223rd Council Meeting, April 21, 1961, AATCC Archives.

The Executive Committee met on June 14 and appointed a subcommittee to meet with Howes Publishing. The committee consisted of President Elliott Morrill, Joseph H. Jones, A. Henry Gaede, and Luck.[12] On September 28, the members met with E. J. Finan in New York City and again on January 25, 1962. According to Morrill, the discussions were wide-ranging, but led to no resolution. Apparently distracted by the controversy surrounding the move of the AATCC's headquarters from Lowell to Research Triangle Park, the Council did not pursue the matter; the relationship with Howes Publishing did not change as a result of the discussions.

The 1963 Membership Survey

The only action related to publishing taken by the AATCC between 1962 and 1965 was a survey of AATCC senior members completed in 1963. The survey was not specifically about publishing, but rather it was designed to measure the opinions of AATCC members about the Association in general. Nearly a third of all members responded to the survey, a remarkably high return rate.[13] Over 700 members included written comments.

As it turned out, the most commonly discussed topic was the size and quality of the contents of *ADR*. Many members made specific comparisons between *ADR* and other technical publications, mostly denigrating to *ADR* and therefore to the AATCC. The primary result of the survey was to uncover a desire on the part of a significant number of the respondents for changing the way AATCC published and distributed technical information.

The Study Committee on Information Dissemination and Communications

Due to the pressure associated with the move to Research Triangle Park, the AATCC leadership was unable to act on the survey immediately, but used it as the basis for subsequent discussions initiated in late 1964. On November 19, the Executive Committee appointed a Study Committee on Information Dissemination and Communications.[14] Among the members were several individuals who had been active in prior negotiations with Howes Publishing, including Joseph Jones, A. Henry Gaede, and Ernest R. Kaswell.[15] At a brief organizational meeting on January 21, 1965, the committee adopted a wide-ranging organizational plan for its inquiries.

[12] The committee was apparently selected to have representatives from several different groups within AATCC: Morrill was a researcher, Jones a manufacturer, Gaede a chemical salesman, and Luck a dye sales manager.
[13] 2,416 questionnaires were returned; the AATCC had approximately 7,500 senior members at the time.
[14] Fred Fortess, "Report of the Study Committee on Information Dissemination and Communications as Modified by the Executive Committee," March 17, 1966, AATCC Archives, p. 1.
[15] Ibid. Joseph H. Jones chaired the committee and George Paine served as secretary. The members were Theodore F. Cooke, C. Harold Fisher, Fred Fortess, A. Henry Gaede, Joseph H. Jones, Ernest R. Kaswell, Jack G. Kelly, Louis R. Mizell, John J. O'Neil Jr., W. George Parks, Frank J. Rizzo, Arnold M. Sookne, Richard O. Steele, Henry Tovey, J. W. Weaver, and George S. Wham.

The plan had four parts. First, the committee sought to review past and current practices associated with the AATCC's efforts at information dissemination, beginning with the 1957 contract with Howes Publishing, the subsequent Executive Committee study in 1960, and the 1963 survey. The second stage was to be an assessment of information dissemination and communications needs of the Association, with reference to scientific and applied information and Association-related matters. In the third stage, the committee planned to lay out a program that would meet those needs with relation to publications, publicity, and activities, as well as how to pay for the program. Finally, the committee would present its findings as a series of recommendations.[16]

After hearing the first-stage reports on April 27, the committee considered what, if any, changes to make. Although the rhetoric of the committee's plan was couched in broad terms, discussion almost immediately centered around *ADR* as the primary conduit of information to AATCC members. The committee soon saw future possibilities in stark terms: either the 1957 contract had to be radically rewritten to allow the AATCC greater control, or the AATCC would have to establish its own journal. Paine's influence in the discussion is clearest in relation to monetary questions; the committee made specific reference to the value of the three AATCC properties Paine had discussed earlier, namely its editorial material, its circulation list, and its goodwill and reputation.[17]

After studying the required financial arrangements, the committee concluded that "it was both feasible and desirable for AATCC to assume full control of its own publication." In contrast to both the 1957 contract negotiations and the abortive talks with Howes Publishing in the early 1960s, which had centered around monetary issues, the study committee concentrated on issues of editorial control. In its final report, the committee focused on expanding and improving the dissemination of technical information, rather than on the potential financial benefit. Financial calculations made up only a small portion of the report and were designed to show only that the AATCC could afford to run its own journal. The estimate for advertising revenue used in the committee's report was considerably smaller than that which had been used in calculations made in the early 1960s, even though other estimated expenses were the same. The committee referred to the new lower figure as a "conservative" estimate of potential income; it appears that the figure chosen was simply a round number slightly larger than the estimated costs.[18]

Negotiating with Howes Publishing

The Study Committee completed its work in early 1966. On February 16, the committee voted unanimously to recommend to the Executive Committee that the AATCC publish its own journal. On March 17, the Executive Committee accepted the recommendation and voted to circulate the Study Committee's report to the Council as a

[16] Ibid., pp. 1–2.
[17] Ibid., p. 3.
[18] Ibid., p. 4–5.

whole. At its next meeting, April 28, 1966, Council considered the Study Committee's report. After discussion, the Council approved a motion that instructed the Executive Committee and the chairman of the Publications Committee to "invite the Howes Publishing Company to confer for the purpose of canceling our existing contract and to renegotiate a contract with Howes Publishing Company, and to report back to Council for approval."[19]

The move to renegotiate was required by the 1957 contract. According to that agreement, before the required two years notice of termination was given, the party intending to cancel was to "invite the other to confer, and in good faith shall confer if the invitation be accepted, concerning the possibility of termination."[20] To satisfy the contract language, Fred Fortess of the Celanese Corporation and then AATCC president, wrote to Howes Publishing on April 29. He informed the company of Council's decision and invited Howes to enter into negotiations.[21] The offer was accepted, and a meeting was scheduled for May 24, 1966.[22]

Although the AATCC complied with the letter of the contract in entering into negotiations, the AATCC's Executive Committee clearly did not comply with its spirit, which called for "good faith" bargaining. Internal documents reveal that some members of Council were sure from the beginning that negotiations would fail, and that the resolution to negotiate was only to satisfy legal requirements. Essentially, they felt there was no way that Howes Publishing would meet their demands, and that after three months they would be free to give notice and set up their own journal.[23]

This internal opinion is reflected in the actions taken by the AATCC prior to and during the negotiations. Fred Fortess issued a press release immediately after the April 28 Council meeting, that outlined the decision to renegotiate the contract. The release stressed that the AATCC intended to terminate the existing contract and emphasized that the Association's official publication was to be changed to "reflect the true image of AATCC and its technical, scientific, and educational objectives."[24] Fortess clearly intended to put pressure on Howes Publishing by stressing the AATCC's desire for change.

The effort proved successful; interpretation of the release by *Southern Textile News* is clear from the headline of the story it based on the release: "AATCC Governing Council Decides to Publish Association Journal."[25] E. J. Finan, the executive vice president of Howes Publishing, was concerned enough by the story to write to Fortess about it. Although he did not go so far as to demand an explanation, Finan's formal tone and the fact that he noted that the story is attributed to Fortess make clear that he thought the story inappropriate.

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[19] Minutes, 244th Council Meeting, April 28, 1966, AATCC Archives.
[20] Agreement Between Howes Publishing Company Inc. and American Association of Textile Chemists and Colorists, October 8, 1957, AATCC Archives, p. 12.
[21] Fred Fortess to Cecilia R. Howes, April 29, 1966, AATCC Archives.
[22] Cecilia R. Howes to Fred Fortess, May 11, 1966, AATCC Archives.
[23] Handwritten memorandum from the files of Jack Kissiah (the first editor of *Textile Chemist and Colorist*), no date (internal evidence indicates a date of late March or early April 1966), AATCC Archives.
[24] Fred Fortess, untitled press release, no date (internal evidence indicates a date of late April or early May 1966), AATCC Archives.
[25] *Southern Textile News,* v. 22, n. 21, May 23, 1966, p. 7.

Fortess continued to pursue a hard line with Howes Publishing when formal negotiations began after dinner at the Chemists' Club in New York City on May 24, 1966.[26] After brief introductory remarks that traced the origins of the Council's decision, Fortess asked Finan to comment. When Finan then tried to get some indication of what changes the AATCC wanted, Fortess refused to commit himself. Rather, he pressed Finan to suggest changes that would improve the quality of *ADR*. Although Fortess agreed to furnish a copy of the Study Committee's report to Howes Publishing, throughout the negotiating session he put the responsibility for developing a new format for *ADR* squarely on the shoulders of Howes Publishing.

Once Fortess established that Howes Publishing had no concrete proposals to offer, he turned the meeting over to Frank J. Rizzo, of the U.S. Army's Natick Laboratories, who outlined the two key changes the AATCC negotiating committee wanted. First, the committee wanted to improve the image of the Association within the technical community as a whole. Second, members wanted to improve methods of disseminating timely information to the AATCC's membership. Rizzo then went on to list the concrete changes the committee felt were needed:

1. A greater say in editorial policy.
2. Dissemination of much more information than ever before.
3. Timely dissemination of information.
4. Better quality of the information presented.
5. AATCC should have something to say about format and arrangement of material.
6. Control of non-Proceedings material that reflected in one way or another on the AATCC image.
7. A review of all the financial arrangements.[27]

Rizzo and other AATCC committee members went on to say that they were resolute about renegotiating the contract, stressing that the Council had voted to seek a new contract and that the committee was serious about demanding changes. These comments were no doubt a reference to the inconclusive nature of the previous round of negotiations in the early 1960s.

Joseph Jones then proposed a series of specific changes to the 1957 contract. Taken together, the changes would increase the AATCC's revenues by eliminating page limits and special fees for color illustrations, require Howes Publishing to account to the AATCC for all revenues derived from advertising, and result in the renegotiation of the schedule of payments between the two organizations. Jones stressed that changes in financial arrangements were necessary and would be just as much a part of negotiations as questions of editorial control. After a brief statement by George Wham, who urged the participants to ignore past problems and negotiate a new agreement in "earnest good faith," the meeting concluded. The Howes Publish-

[26] The AATCC was represented by Fred Fortess, E. J. Chornyei, Joseph H. Jones, J. L. McGowan, R. P. Monsaert Jr., R. E. Rettew, Frank J. Rizzo, George S. Wham, and George P. Paine (committee member Ernest R. Kaswell was not present); Howes Publishing was represented by E. J. Finan, H. A. Stauderman, and F. A. McNeirney. Minutes of the Negotiations with Howes Publishing Company, May 24, 1966, AATCC Archives.
[27] Ibid., p. 3.

ing representatives promised to meet with the committee again on July 19, bringing proposals in response to the committee's ideas.

In the period before the second meeting, George Paine sought to solidify opinion behind the proposal to set up an independent journal. In a letter to Fortess he pointed out that the AATCC was already spending nearly $32,000 in support of editorial matters (five AATCC staff members spent at least part of their time dealing with publishing-related activities).[28] Paine argued that this pointed out the central role money played in editorial policy and that negotiations with Howes Publishing would have to address this expense. Although he did not make the argument explicitly, Paine appeared to have been trying to make the costs of the 1957 contract seem even higher, giving one more reason for the AATCC to assume full publishing responsibilities.

Paine also prepared and circulated a series of ten questions and answers about whether the AATCC should publish its own journal. It listed prominent AATCC members who supported the Study Committee's recommendations, outlined the projected cost of the AATCC taking over publishing responsibilities, and concluded by pointing out that Howes Publishing had no unique technical or editorial capabilities that the AATCC could not acquire for itself.

As a result of these efforts, the second meeting with Howes Publishing representatives went even more poorly than the first.[29] In response to the negotiating committee's list of seven talking points, Finan produced a memorandum that sought to address each point.[30] Although seemingly quite detailed, when examined more closely the memorandum contained few new proposals. In response to almost all of the points raised, Finan simply outlined current practice and then asked for the AATCC to suggest improvements. Finan's only new proposal was that a survey of AATCC members be carried out to determine the nature and scope of changes to be made to ADR. Howes Publishing would pay for the survey, which would be designed in cooperation with the AATCC. Finally, Finan asked that negotiations about the financial arrangements between the AATCC and Howes Publishing be delayed until after editorial changes had been discussed.

Finan's memorandum was poorly received by the negotiating committee. The members questioned the need for a survey, since they had made their own survey in 1963. They also criticized the lack of concrete proposals for improving the quality of *ADR* while still refusing to submit their own suggestions for change. Most important, they rejected the possibility of delaying financial negotiations. The meeting ended with the AATCC requesting a detailed financial proposal at the next meeting, a proposal Finan agreed to furnish.

Immediately after the meeting, George Paine continued his campaign to end the relationship with Howes Publishing. In a letter to Fred Fortess, he pointed out that the only unique skills Howes Publishing possessed were in editing and advertising.

[28] George Paine to Fred Fortess, July 7, 1966, AATCC Archives.
[29] Minutes of the Negotiations with Howes Publishing Company," July 19, 1966, AATCC Archives.
[30] E. J. Finan, et. al., Memorandum No. 1 from Howes Publishing Company to AATCC Negotiating Committee re. Publishing Agreement, July 19, 1966, AATCC Archives.

Paine estimated that the AATCC could hire staff members to carry out those functions for roughly half of what Howes Publishing was getting.[31]

On the other hand, Paine was encouraged by the attitude of Howes Publishing toward giving the AATCC more control over editorial matters. He thought that Howes Publishing was "delighted" at the prospect of giving the AATCC full editorial control, the primary change the Committee had sought to make from the beginning of the negotiations. Paine continued to be skeptical about who would pay for these changes; however, and predicted that this would be the main sticking point in negotiations. It turned out that he was correct.

Breaking the Bonds

Both Howes Publishing and the AATCC prepared for the next round of negotiations by preparing financial documents. The one put together by Howes Publishing essentially was a negotiating tool. In a memorandum for the AATCC Negotiating Committee, Finan and his assistants outlined a plan to increase payments by giving the AATCC a 4 percent share of advertising revenue. The idea was not new—it had been proposed during the negotiations leading up to the 1957 contract. At that time, the AATCC's lawyers had rejected the concept because it endangered the Association's tax status; changes in the law made the option viable again. In addition to offering more money, Finan also proposed to increase the number of pages of editorial material and to remove advertising from the front cover, changes estimated to cost Howes Publishing over $25,000 per year.

The AATCC financial estimate, prepared by George Paine, proved to be more influential on the committee members. It was a yearly summary of the AATCC's past fifteen years of income from publications. It showed that prior to the full implementation of the 1957 contract in 1960, the AATCC had been losing an average of over $18,000 a year. The new contract had led to a brief period of profit in the early 1960s, but after 1963 the AATCC had again been running a deficit. According to Paine's figures, the AATCC had lost $121,190 on its publications between 1952 and 1966.[32]

According to Paine, the new offer from Howes Publishing would have added only an additional $1,170 in annual income for 1967, several thousand dollars less than the projected deficit. As a result, the Negotiating Committee rejected the Howes Publishing proposal out of hand at its preliminary meeting on the afternoon of August 9, and after a brief discussion developed a counterproposal. Scrapping the existing payment system entirely, it called for Howes Publishing to pay the AATCC $100,000 per year for assuming total editorial control of *ADR* and the *Technical Manual* and pass on 25% of the net advertising revenue. In return, Howes Publishing would gain use

[31] George Paine to Fred Fortess, July 21, 1966, AATCC Archives.
[32] George Paine, What it Costs to Publish Through Howes: 15-Year Summary, attachment to Minutes of the Negotiating Committee, August 9, 1966, AATCC Archives.

of the AATCC's mailing list and editorial material and would print and distribute the two publications.

The AATCC would continue to pay Howes Publishing $3.75 per member per year to distribute copies of *ADR* to members, resulting in an estimated net payment by Howes Publishing to the AATCC of roughly $60,000 per year when set against the $100,000 fee. The AATCC would use this $60,000 to support the editorial staff needed to manage its publications. The 25% share of the advertising revenue (estimated at roughly $100,000 per year, based on 1967 estimates) would pay for new information services: reprints, monographs, handbooks, and the like.[33] Calculations for 1966 showed that under the agreement, 8,314 members would generate $31,177 for Howes Publishing and $93,822 for the AATCC.

The committee presented its counterproposal to Howes Publishing that evening. Finan asked for the opportunity to study the proposal, and it was agreed that the Committee would supply a written copy for his use. The meeting then adjourned, with a further meeting planned for the following month.[34]

When the two groups met again on September 13, Finan presented Howes Publishing's counteroffer. He rejected the AATCC's plan out-of-hand. He then repeated his previous offer, adding only that he was willing to increase the AATCC's share of advertising revenue from 3 to 4 percent.[35] Finan and his assistants then left the room. After a brief discussion (less than an hour), the AATCC representatives concluded that the AATCC and Howes Publishing were much too far apart in their positions (the two proposals differed by over $120,000 in terms of revenue to the AATCC). They decided to recommend to the Council that the AATCC assume full responsibility for its publications.[36] This decision marked the end of negotiations and the beginning of the effort to establish the AATCC's own journal.

It seems unlikely that Howes Publishing could have done anything that would have changed the outcome of the negotiations. From the beginning, the AATCC representatives were obviously in favor of ending the contract, and the bargaining sessions did nothing to change their minds. This attitude was clearly communicated to the Howes Publishing team. Herb Stauderman of Howes Publishing for example, felt that Paine, Fortess, and Kaswell in particular wanted an independent journal and viewed the negotiations as a mere formality.[37] Although the Howes Publishing team tried its best to satisfy the AATCC, their efforts were in vain.

Fifteen days later, the Negotiating Committee met again and formally approved a motion to present a summary of the negotiations to the Council, with a recommendation that the contract with Howes Publishing be terminated and that a journal under the AATCC's direct control be established. The motion was passed by a vote of eight to two (McGowan and Monsaert voted against it).[38] The Committee's report was then

[33] Minutes of the Negotiating Committee, August 9, 1966, AATCC Archives.
[34] Minutes of the Negotiations with Howes Publishing Company, August 9, 1966, AATCC Archives.
[35] Minutes of the Negotiations with Howes Publishing Company, September 11, 1966, AATCC Archives.
[36] Minutes of the Negotiating Committee, September 13, 1966, AATCC Archives.
[37] Herbert A. Stauderman, telephone conference with Mark Clark, March 29, 1996.
[38] Minutes of the Negotiating Committee, September 28, 1966, AATCC Archives.

circulated to Council members, along with copies of all relevant correspondence. Council met and accepted the committee's recommendation on November 18, 1966. The proposal was then submitted for balloting, and subsequently approved. The AATCC then notified Howes Publishing that it was canceling the 1957 contract. Since that contract required two years notice, a cut-off date of December 31, 1968, was agreed on. The countdown to the launch of the AATCC's new journal had begun.

The Transition to *Textile Chemist and Colorist*

Once the decision had been made to terminate the 1957 contract and publish independently, the AATCC was faced with a problem. With the negotiations over, the attitude of the management of Howes Publishing changed. In contrast to the relatively cooperative and easy-going relationship the two organizations had enjoyed before, the new environment was coldly correct and dominated by references to legal obligations.

To be sure, this change in attitude had not occurred overnight. The negotiations that led to the 1957 contract had ended the loose arrangement that Olney and Howes had put together in the 1920s, bringing for the first time detailed legal obligations that bound both sides. In the ten years since, the series of AATCC study committees and surveys that recommended that the AATCC publish its own journal had gradually poisoned the atmosphere between the two parties.

Moreover, there had been a number of financial problems, the most notable of which was the discovery in 1964 by an AATCC auditor that Howes Publishing had been overcharging the AATCC for costs associated with the *Technical Manual* since 1957. Although Howes Publishing promptly refunded the $10,414 overcharge, the incident did nothing to improve relations between the two organizations.[39] By the time of the negotiations between the AATCC and Howes Publishing in 1966, things had deteriorated to the point where at least one of the negotiators who participated in the last round of talks felt it necessary to ask those in the room with him to put aside "personalities, past mistakes by both parties, omissions and commissions" and bargain in "earnest good faith."[40]

Despite these problems, up until the time the AATCC decided to cancel the contract there were still individuals in both organizations who sought to resolve differences in as amicable a fashion as possible. In the period immediately after the break, those efforts broke down, and tensions mounted. For those in the AATCC focused on creating a new journal, many of the actions of Howes Publishing seemed designed to sabotage their efforts. In turn, those who worked at Howes Publishing felt no obligation to help promote the AATCC's publication, and they felt obligated to fulfill only the letter of their contract–nothing more.

[39] George Paine to Ernest Chornyei, October 28, 1964; E. J. Finan to George Paine, October 29, 1964, AATCC Archives.
[40] Comments by George S. Wham in Minutes of the Negotiations with Howes Publishing Company, May 24, 1966, AATCC Archives.

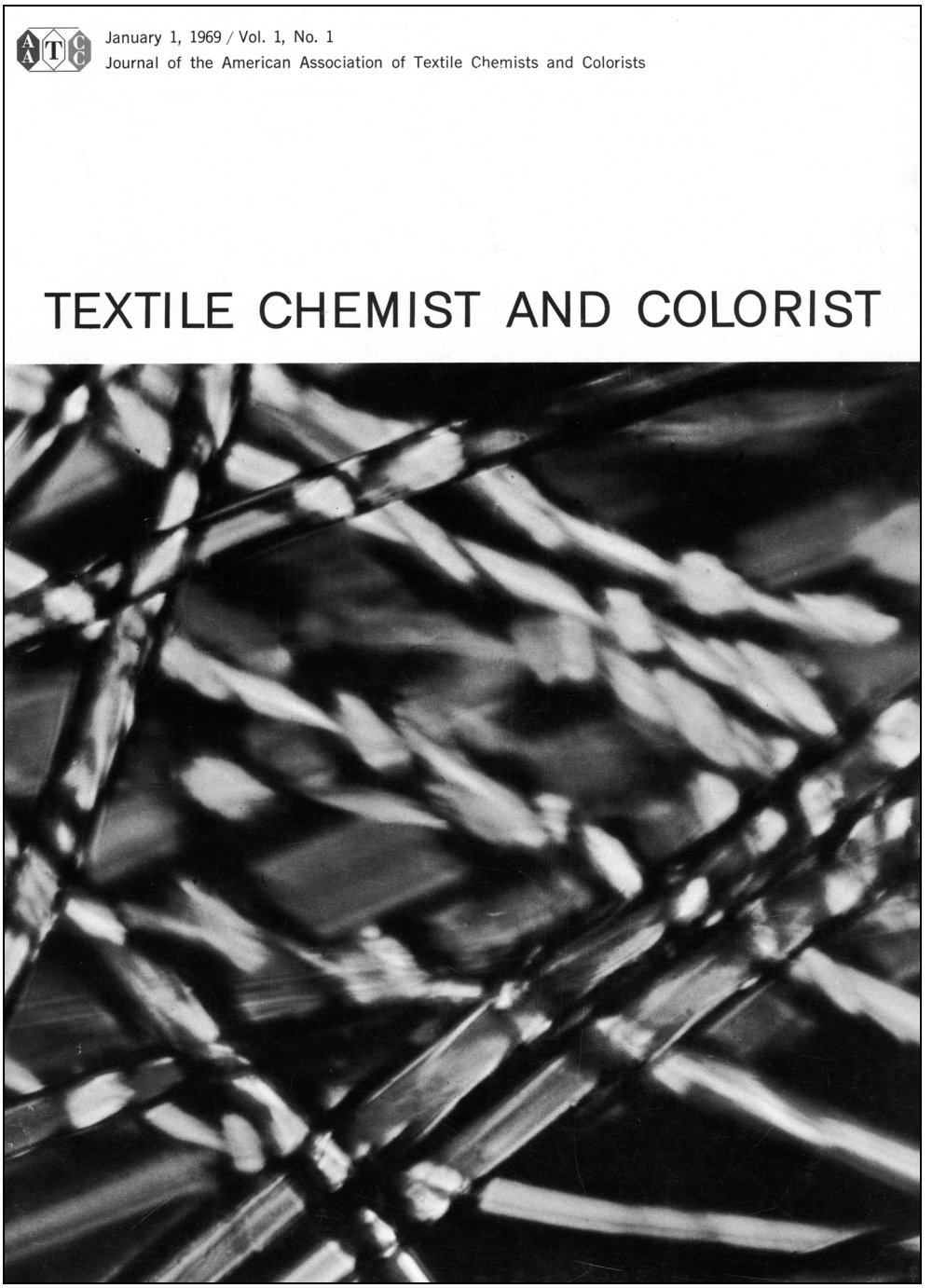
The resulting conflict took a variety of forms. First, there were constant arguments about delivery of copies of the AATCC's *Technical Manual* and the invoices submitted for them. Conflict developed over interpretations of the way *Technical Manuals* sold directly to the AATCC (rather than delivered to members) should be priced. The 1957 contract called for the AATCC to pay cost plus a percentage; the dispute centered on how that percentage should be calculated.[41] Moreover, in mid-1968 the AATCC discovered that the printer used by Howes Publishing to produce the *Technical Manual* had botched the distribution of the 1967 edition, with 1,200 out of 9,000 members failing to receive their copies.[42] Both sides threatened litigation and the letters exchanged grew heated. Matters were eventually settled without going to court, but much bad blood resulted.[43]

Second, as the publication date for the first issue of the AATCC's new journal, *Textile Chemist and Colorist* (*TCC*), approached, both sides became concerned about ensuring that they would have enough articles. Fortunately, the new editor of *TCC*, Jack Kissiah, proved to be an excellent negotiator who was able to iron out many of the conflicts that developed with Howes Publishing.[44] Kissiah met with Frank McNeirney, editor of *ADR*, and they worked out an informal arrangement for a cut-off date, after which all AATCC papers would appear in *TCC*.[45] Although never formally sanctioned by the higher executives at Howes Publishing, the agreement was successful, and the transition from one forum to another for the AATCC's Proceedings proved smooth.[46]

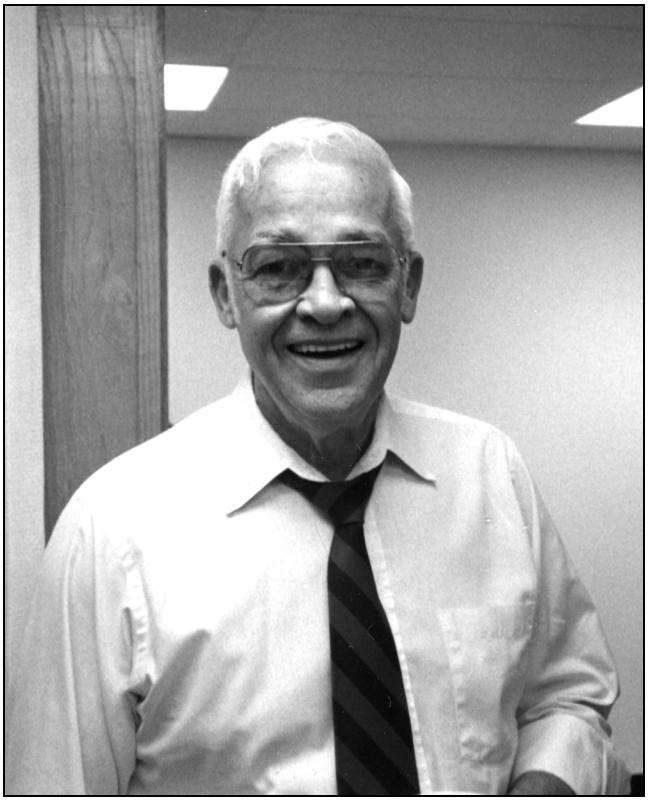
One issue Kissiah was not able to resolve was the censorship of material that appeared in the AATCC's Proceedings. Aside for a brief mention in the March 27, 1967, issue of *ADR*, Howes Publishing consistently limited mention of the upcoming launch of *Textile Chemist and Colorist*. This policy went so far as to edit out all mention of *TCC* in the Presidential Address, which normally ran in its entirety in the AATCC Proceedings section, on the grounds that it repeated material already published in *ADR*. Although the 1957 contract clearly called for Howes Publishing to publish all material selected by the AATCC for inclusion in the Proceedings, the AATCC's threats of legal action produced no results.[47]

Finally, one of the most contentious issues during the AATCC/Howes Publishing negotiations was the fate of the American Dyestuff Reporter Award, established in 1949 and presented annually for the best paper that had appeared in *ADR*.[48] In the wake of the decision to terminate the relationship with Howes Publishing, the AATCC's leadership became uncomfortable with the idea of presenting an award named for its new journal's intended rival. Late in 1967, AATCC President, W.

[41] Donald W. Robinson to E. J. Finan (Draft), September 24, 1968, AATCC Archives.
[42] George Paine to C. R. Teichgraber, July 3, 1968, AATCC Archives.
[43] Herbert A. Stauderman to George Paine, May 23, 1969; George Paine to Herbert A. Stauderman, May 27, 1969, AATCC Archive.
[44] Kissiah's career as the founding editor of *TCC* is described in Chapter 11.
[45] George Paine to W. George Parks, January 15, 1967, AATCC Archives
[46] George Paine to W. George Parks, January 3, 1968, AATCC Archives.
[47] William T. Joyner, Esq. to George Paine, November 2, 1967; George Paine to W. George Parks, January 3, 1968, AATCC Archives.
[48] Award winners are listed in Appendix 30.



***Textile Chemist & Colorist*, First Issue, January 1, 1969**



Jack Kissiah, Editorial Director (1967–1993)

George Parks, wrote to Cecile Howes, president of Howes Publishing and to the widow of A. P. Howes. Parks pointed out that in light of the change in relationship between the AATCC and Howes Publishing, the name of the award should be changed. He suggested calling it the Alfred P. Howes Award, in honor of her husband's memory and his role in the early years of the AATCC. He felt this change was logical, since the award had originally been established in honor of A. P. Howes.[49]

Mrs. Howes rejected Parks' suggestion, calling the idea of changing the name of the award an "anomaly" and insisting that the award could only be presented for a paper that appeared in *ADR*. George Paine, in turn, felt that keeping the name unchanged would represent an anomaly for the AATCC, and tried to find some way out of the situation.[50] Although the AATCC's lawyers held that the Association was within its rights to change the name of the award and continue to administer it as before, leadership decided not to go that route.

[49] W. George Parks to Cecile R. Howes, November 20, 1967, AATCC Archives. The letter had been reviewed by the AATCC's law firm prior to mailing; copies were sent to all members of the Executive Committee.
[50] George Paine to Walton K. Joyner, Esq., December 6, 1967, AATCC Archives.

After discussion with the newly hired staff of *TCC*, Paine came to believe that terminating the award represented the best course. Central to his decision was the idea that the new journal would represent a considerable increase in quality of presentation. Therefore, there was no need to offer an incentive to bring in better papers—all would be excellent.[51]

Mrs. Howes ultimately proved to be unwilling to change her mind, and the Executive Committee decided not to court legal action by changing the name without her permission. On November 22, 1968, Council resolved the matter by returning the award's endowment to Howes Publishing and discontinuing the award.[52]

The first issue of *Textile Chemist and Colorist* appeared in January 1969, the product of much effort expended by Jack Kissiah and his staff.[53] The AATCC had achieved independence at last, although at some cost and considerable controversy. That first issue did not mark the end of the relationship with Howes Publishing, however—there was to be one more act in this long-running drama.

The Bitter End

In an ironic twist, the last act in the dissolution of the relationship between the AATCC and Howes Publishing was a dispute involving the Olney Medal, the award named for the man who had founded the Association and done the most to create the long, close relationship between the two organizations.[54] In the years since its establishment in 1944, the Olney Medal had come to be seen as the AATCC's most prestigious honor, rewarding those who had made significant lifetime contributions to the field of textile chemistry. The presentation of the award was a major event at the Association's General Meeting, and the achievements of each recipient were featured prominently in *American Dyestuff Reporter*.

At the same time that Council decided to discontinue the American Dyestuff Reporter Award and return the award's endowment to the Howes Publishing Company, it also resolved to continue awarding the Olney Medal.[55] Since A. P. Howes had originally endowed the medal, it had been customary for a representative of Howes Publishing to be present during the presentation of the award at the annual meeting. The representative sat at the head table at the awards banquet, and the role of Howes Publishing was acknowledged during both the awards ceremony and in the published description of the event that appeared in the AATCC's Proceedings.[56]

As a result of the deterioration of relations between the two organizations, George Paine decided not to invite a Howes Publishing representative to participate in the awards ceremony in 1969. Herbert A. Stauderman, the new president of Howes Publishing, complained to John Boesch, co-chairman of the General Meeting, about the

[51] George Paine to W. George Parks, January 3, 1968, AATCC Archives
[52] Donald W. Robinson to Herbert A. Stauderman, December 4, 1968, AATCC Archives.
[53] The origins and development of *TCC* are described in Chapter 11.
[54] See Chapter 4 for a detailed description of the origins of the Olney Medal.
[55] Council Minutes, November 22, 1968, AATCC Archives.
[56] Herbert A. Stauderman to John Boesch, November 10, 1969, AATCC Archives.

lack of an invitation to sit at the head table and the fact that the description of the award published in *Textile Chemist and Colorist* contained no mention of Howes Publishing. He then threatened legal action, based on his belief that the AATCC was contractually bound to include a Howes Publishing representative in the awards ceremony, and the award would be "null and void" without that representative present.[57]

Stauderman's legal position was based on the original text of the announcement of the establishment of the award from Howes Publishing's files. After describing the nature of the award and the way recipients would be selected, the document set four "General Conditions of Award." First, the award was to be presented annually (or at a longer interval if the awards committee wished). Second, the Committee had to be unanimous in its decision. Third, the presentation would take place at the AATCC's annual general meeting. And finally, "The presentation of the medal and citation shall be made by a representative of *American Dyestuff Reporter*."[58] Stauderman fully believed that the final provision in particular obligated the AATCC to include a representative of Howes Publishing Company in the ceremony.

According to Stauderman, his letter was motivated by a desire to enforce the contract and to preserve the link between the Olney Medal and Howes Publishing. A. P. Howes was, after all, the founder of the award, and Stauderman felt it was only right that that fact be publicly acknowledged.[59] Therefore, he insisted that a representative from Howes Publishing Company be seated at the head table for the presentation of the award.

Fortunately for all concerned, the AATCC president, Joseph H. Jones, found a way out. By acknowledging Stauderman during his remarks at the awards banquet, the situation was ameliorated to most people's satisfaction and the impasse ended.

After the meeting, Stauderman thanked Jones for the "gentlemanly way" he handled the situation but continued to insist on Howes Publishing's rights.[60] He sent Jones a copy of the Olney Medal announcement and reminded him that it formed the basis of his claims.

After consulting with counsel, Jones concluded that Stauderman in fact had no legal standing. The copy of the announcement was neither signed nor dated, and in fact appeared on closer examination to be merely a draft of the final announcement published in the *American Dyestuff Reporter* in late 1943. The two texts were essentially identical, with the notable exception of the fourth provision in the section labeled "General Condition of Award." Where Stauderman's copy had called for a representative of *ADR* to be present, the published version said only that "Suitable acknowledgment of the founder of the fund shall be made at each presentation."[61]

Moreover, a search of correspondence relating to the Olney Medal turned up a letter from A. P. Howes to Louis Olney written in 1945. In it, Howes noted that while

[57] Ibid. Stauderman had replaced Ernie Finan as president of Howes Publishing Company in 1968.
[58] The Olney Medal, no date, attachment to letter, Herbert Stauderman to Joseph H. Jones, November 17, 1969, AATCC Archives.
[59] Herbert A. Stauderman, telephone conference with Mark Clark, March 29, 1996.
[60] Herbert A. Stauderman to Joseph H. Jones, November 17, 1969, AATCC Archives.
[61] "The Olney Medal." *American Dyestuff Reporter*, v. 32, n. 23, November 8, 1943, p. P478.

the Olney Medal was then linked to Howes Publishing, he hoped that in time public consciousness of that link would fade, and that it would be "regarded purely as an Association award, which is as we intended it should be."[62]

Based on these sources, on December 8, 1969, Jones drafted a letter to Stauderman containing a detailed summary of his findings, but apparently it was never sent. Instead, he decided to refer the matter to the AATCC's Executive Committee, and he wrote a brief note to Stauderman on December 16 about the referral and telling him that he would get back to him after the committee met the following February.[63]

Jones then circulated copies of his letter to the Executive Committee, along with Stauderman's original letter to Boesch and the copy of the Olney Medal agreement he had provided. Since the last of these documents was neither signed nor dated, Jones doubted it had any legal force, but it appears that he preferred to share the responsibility of making that decision. As it turned out, the members of the Executive Committee agreed with Jones' interpretation, and at their meeting on February 19 they decided that Stauderman's claims had no merit. Based on the contents of Howes' letter to Olney, there was no need to make any mention of Howes' role in founding the Olney Medal. Jones informed Stauderman of the committee's decision in early March.[64]

Stauderman replied immediately. He said that he was puzzled as to why a signed copy of the agreement did not seem to exist, and still insisted that he had legal grounds to demand participation in the Olney Medal awards presentation. He pointed out that the letter from Howes to Olney had no legal standing and went on to argue that in the absence of a specific agreement as to what "suitable acknowledgment" consisted of, the past pattern of presentation should be followed closely. He asked that Jones provide a description of how the AATCC planned to acknowledge Howes at future awards ceremonies, and while legal action was not explicitly mentioned, the threat was implicit in his tone and the references he made to "legal counsel" and "impartial arbitration."[65]

The threat that Stauderman invoked led to an equal and opposite reaction from Jones and the AATCC. Paine drafted a reply to Stauderman for Jones, which Jones reviewed and approved.[66] Paine then sent it to the Association's lawyer, who also approved it.[67] The letter was then put aside pending the next Executive Committee meeting, where it would reviewed again and then mailed. The care taken by the AATCC in preparation of the letter clearly reflects its fear of a lawsuit.

Fortunately for the Association, the situation was resolved without resort to the courts. In a stroke of good fortune, Paine came across the original signed Olney Medal agreement while reviewing material intended for the AATCC's newly created

[62] The letter is quoted in Joseph H. Jones to Herbert A. Stauderman, December 8, 1969; the original letter (A. P. Howes to Louis Olney, October 18, 1945) is also preserved in the AATCC Archives.
[63] Joseph H. Jones to Howes Publishing Company, December 16, 1969, AATCC Archives.
[64] Joseph H. Jones to Howes Publishing Company, March 11, 1970, AATCC Archives. The contents of this letter are essentially a copy of the draft letter Jones prepared on December 8.
[65] Herbert Stauderman to Joseph H. Jones, March 12, 1970, AATCC Archives.
[66] George P. Paine to Walton K. Joyner, Esq., March 18, 1970, AATCC Archives.
[67] Walton K. Joyner, Esq. to George P. Paine, March 18, 1970, AATCC Archives.

Institute of Textile Arts and Science (the AATCC's archival collection described in Chapter 9). The signed agreement made it clear that the version of the agreement published in *ADR* was the correct one and strengthened the AATCC's legal position.[68] Paine revised the letter to Stauderman to include the fact that the AATCC now had the signed agreement, and that there were no plans for any formal recognition of Howes in the ceremony, based on the AATCC's interpretation of the 1945 letter from Howes to Olney. Jones signed the letter and sent it to Stauderman. With that letter, the matter ended, and the last formal links between the AATCC and Howes Publishing were severed.[69]

Conclusion

Although controversy surrounded the last days of the relationship between the AATCC and Howes Publishing, the events that played themselves out in the wake of the decision of the Association to go it alone offer important clues to how the AATCC had changed. In contrast to the small and insular organization of Olney's day, the new AATCC was self confident and eager to assert itself. The founding of *Textile Chemist and Colorist* represents the culmination of the events that began with the hiring of George Paine as executive secretary and that gained momentum with the Association's move to North Carolina.

In a more prosaic sense, the new, more contentious relationship with Howes Publishing led to policies centered on competition. The AATCC had come to see *American Dyestuff Reporter* as a rival, a yardstick against which to measure success or failure. As a result, *TCC* was expected to do two things simultaneously: deliver higher quality contents while simultaneously making more money for the Association. From the rhetoric that the AATCC's leadership had used to sell the change to one another, there were high expectations for the quality of *TCC*, that its contents would enhance the Association's prestige. Moreover, there were financial expectations as well, expectations that had their roots in George Paine's optimistic projections of advertising revenues. As a result of the way that *TCC* was founded, many AATCC members expected it to do great things. Such high expectations often lead to disappointment; such was to be the fate of *Textile Chemist and Colorist* in its early years. The *ADR* did not cease publication as many had expected, and today it is still *TCC*'s major competitor for both readership and advertising revenue.

[68] George Paine to Walton K. Joyner, Esq., April 24, 1970, AATCC Archives.
[69] Technically, by this time the Howes Publishing Company no longer existed. Herbert Stauderman had acquired a majority interest in Howes in December 1969, and in early 1970 he changed the name of the firm to SAF International, Inc. Herbert Stauderman to Joseph H. Jones, March 12, 1970, AATCC Archives.

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Part III

Coping with Change (1973–1976)

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Chapter 11

Textile Chemist and Colorist (1969–1996)

Continuing the story of *Textile Chemist and Colorist* (*TCC*) through 1996, this chapter examines changes in editorial policy, advertising, and content. In particular, the narrative addresses the question of the balance of fundamental versus practical articles through analysis of changes over time and discusses the place of *TCC* in relation to other publications within the textile industry.[1]

The Goals of *TCC*

As described in Chapter 10, *TCC* had its origins in the mid-1960s fulfilling two very different goals of the AATCC's leadership. The first was to improve the image of the Association as an organization by changing both the content and the appearance of its publications. Content was to be improved by raising the standards for judging submitted manuscripts and by better editing through a peer-review process, thus making *TCC* more like a scientific journal than was its chief competitor, *American Dyestuff Reporter* (*ADR*). The physical appearance of the publication was to be changed as well by using a layout to make it look like a scientific journal. The idea was to increase the publication's prestige by associating it with science rather than with business.

The second goal was to generate income for the Association through the sale of advertising. Although they did not discuss this desire publicly, in private George Paine and some of the AATCC's top leadership eagerly anticipated the large amount of money that they thought the new journal would bring in. This increased revenue would be used to expand the AATCC's publications efforts and to establish other outlets for technical information on textile coloration and finishing, such as seminars and pamphlets.

[1] Much of this chapter is based on interviews. a) Mark Clark, Interview with William B. Davis, April 10, 1995, AATCC Archives, Research Triangle Park, N.C. and b) Herbert T. Pratt, unpublished interviews with Jack Kissiah, August 12 and September 23, 1997.

As it turned out, neither goal was fully realized largely because of financial pressures that stemmed from two unforeseen events. First, *ADR* did not go out of business as the AATCC's leadership had expected. As a result, *TCC* was forced to compete for advertising revenue. Until the formation of *TCC*, *ADR* had the field of wet processing advertising pretty much to itself, but after these two publications began to compete for advertising, *Textile World, Textile Industries,* and others also entered the competition. Second, that competition proved to be for a shrinking pot of money. As major American chemical firms increasingly left the dye manufacturing business in the 1970s and as the American textile industry began to decline in the face of foreign competition, many companies cut back or discontinued their advertising. Man-made fiber producers also switched their advertising philosophy. Rather than advertising in trade publications reaching textile mills that were their direct customers, they opted to appeal directly to the ultimate consumer in popular magazines. Thus, *TCC* never became the financial windfall that some AATCC leaders had anticipated.

The Early Years (1969–1971)

The first issue of *TCC* was published on January 1, 1969. However, planning had begun in the mid-1960s, as outlined in Chapter 10, and with the formal decision to end the relationship with the Howes Publishing Company in November 1966, a search began for an editorial director. The search ended in October 1967, with the hiring of Jack Kissiah, who had been suggested by the American Textile Manufacturers Institute.

Kissiah, a graduate of the University of North Carolina's (Chapel Hill) journalism program, was both an experienced journalist and a man familiar with the textile industry. Prior to joining the AATCC's staff, he had worked for fourteen years for Clark Publishing Company in Charlotte, North Carolina, where he had been both vice president and a director, and editor of *Textile Bulletin* and *The Knitter*. He was also a member of the Southern Textile Association and had served as its secretary-treasurer since 1957.[2]

Design of the New Journal

Although his responsibilities included the production of all AATCC publications, after he was hired by the Association in 1967, Kissiah spent most of the next year designing, with the help of a consultant, the new bimonthly journal, Textile Chemist and Colorist.[3] The completed design reflected the AATCC's desire to cultivate a more professional image for itself. The glossy front cover, in an 8.5×11 inch format, was dominated by a large color picture, with the words *Textile Chemist and Colorist* in

[2] "Jack Kissiah Retires After 26 Years with AATCC." *TCC,* v. 26, n. 1, January 1994.

[3] *TCC* was truly a bimonthly journal, with 24 regular issues per year plus an annual buyer's guide having a cover format identical to the regular issues, a total of 25 issues per year. *ADR* was published every two weeks (fortnightly), a total of 26 issues per year.

moderately sized black letters just above the picture. The AATCC logo was printed in the upper left corner with the volume, number, and date in smaller letters to the right, along with the line "Journal of the American Association of Textile Chemists and Colorists." The inside front cover had a listing of the officers of the Association and members of the Publications Committee. After the first issue, the inside back cover was used to print a cumulative index of each year's contents. The outside back cover (printed in a single color that harmonized with the front cover) was blank except for a short description of the cover photograph in the lower left corner.

The interior layout was stylish and uncluttered with a modern, easy-to-read typeface and generous margins. The first page of each article in the Proceedings section was over one-third blank space, with text beginning a quarter of the way down the page and the title floating above in a sea of white. There was no advertising on the front or back covers, either inside or out. Most important, there were no advertisements between the front cover and the table of contents, so that the reader could immediately find what he or she was looking for.[4] Whereas *ADR* used color and different sized type in the titles of some articles and started more than one article on a page much like a newspaper, *TCC* used the same sized black type for all titles, placed all titles in the same position on the page, and continued the text of articles on successive pages. Moreover, there were no ads between articles.

The table of contents just inside the front cover, and the cumulative index on the inside back cover, made it easy to find articles. Also the calendar of AATCC meetings, both sectional and national, just inside the back cover, made it easy to be aware of upcoming events. As a whole, Kissiah's design and layout of the new journal clearly put the needs of readers first. The overall impression was, as the Publications Committee fully intended, of a high-quality scientific journal with no concessions to commercial interests.

The Content of Textile Chemist and Colorist

Although each issue of *TCC* contained AATCC news and Council reports, technical papers, new products listings, industry news, people, membership applications, classified ads, and a calendar of AATCC events, as had *ADR*, from the first *TCC* sought to distinguish itself from *ADR* by stressing its status as a peer-reviewed journal. In the message he wrote for the first issue, Joseph H. Jones, president of the Association, stressed two themes. His first theme was the debt that *TCC*'s readers owed to the members of the Publications Committee for doing the hard work and making the difficult choices that led to starting the journal. This backward-looking theme was accompanied by a forward-looking one which asked that the same feeling of gratitude be extended to the legion of anonymous reviewers who were evaluating the articles written for *TCC*. Above all, it was the papers that would be published, their authors, and the review process that Jones chose to stress in this first message.[5] This is highly

[4] This may seem like a small change, but issues of *ADR* from the 1960s often had as many as twenty pages of advertisement between the front cover and the table of contents.
[5] Joseph H. Jones, "Letters." *TCC*, v. 1, n. 1, January 1, 1969, p. 7.

significant, since Jones was neither an academic nor an industrial researcher. Rather, he was the owner and president of Phoenix Dye Works and had no formal education in textile chemistry. The attitude he expressed in his editorial is a clear indication of how deeply the idea of *TCC* as a professional and technical journal had become ingrained in the minds of all AATCC leaders, not just those with scientific training.

Jack Kissiah would play a key role in the publication's success. Not one to do things emotionally or on the spur of the moment without a legitimate reason, Kissiah established and maintained a consistent editorial policy that stressed accurate and objective technical content, careful editing, and use of the peer review process. Those who worked with him remember clearly his attention to detail, how he tried to publish something in each issue for every reader, and the way he sought to preserve *TCC*'s editorial independence at all costs. For example, he insisted on distilling incoming press releases to their essence by eliminating any hint of promotional material, even though this occasionally caused trouble with AATCC advertisers. The number of ads featuring scantily clad women was reduced as well as pictures of AATCC social events. As a result of Kissiah's efforts, *TCC* established a reputation for its professional content that was widely acknowledged by readers.

In addition to publishing peer-reviewed papers, *TCC* was also used to promote AATCC products and programs through in-house ads and feature stories. As described in Chapter 13, beginning in 1965, the Association began to offer formal training on various topics in textile chemistry, and the first issue of *TCC* prominently featured a list of upcoming workshops and symposia.[6]

ADR and *TCC* as Competitors

In 1968, *American Dyestuff Reporter*, having outlasted or purchased its competitors, dominated the American publishing market related to "textile wet processing," namely the industry of dyeing, printing, and finishing of fibers, yarns, and fabrics. *ADR* successfully occupied a niche between two other sorts of textile publications: those that focused on textile manufacturing such as *Textile World*, and those that focused on the fashion industry, apparel design and textile marketing.

ADR's long association with the AATCC had been highly beneficial to *ADR*, giving it control of a consistent source of editorial content. With its link to the AATCC about to end, *ADR*'s leadership moved to position its magazine for survival by taking a two-pronged approach to the problem. First, the amount of non-AATCC editorial content was increased in the two years prior to the January 1969 separation. *ADR* had always included articles that were not part of the AATCC Proceedings, but these constituted a relatively small percentage of the total page count. In 1967 and 1968, *ADR*'s editorial staff began to actively solicit such articles that by late 1968 made up a significant proportion of the magazine's content. This considerably eased the transition in 1969, when *ADR* no longer carried AATCC papers.

[6] *TCC*, v. 1, n. 1, January 15, 1969, p. 108.

ADR's second approach was to conduct a concerted publicity campaign. A packet of materials sent to its advertisers prior to its break with the AATCC stressed *ADR*'s long association with the textile wet processing industry and assured clients that *ADR* would continue in spite of AATCC competition.

Despite the best efforts of *ADR*'s management, competition from *TCC* had a major impact on the magazine. In 1968, the last year it was linked to AATCC, *ADR* published a total of 1,760 pages spread over 26 issues. Of that, 650 pages were advertising. In 1969, as the result of competition with the AATCC, the total number of pages published by *ADR* dropped to 1,130. The number of advertising pages dropped to 567 pages. As the data in Table 11-1 show, in its first year of operation, *TCC* competed equally with *ADR* for both editorial matter and advertising copy. In January 1970, *ADR* became a monthly rather than a bimonthly publication, and has continued so ever since.

Table 11-1. Comparison of Pages Published in *ADR* vs. *TCC*

	1968		1969	
	ADR	***TCC***	***ADR***	***TCC***
Editorial Pages	1,110	–	807	957
Advertising Pages	650	–	567	567
Total Pages	1,760	–	1,374	1,524

Due to differences in advertising rates, AATCC estimates show that *TCC* probably generated more advertising revenue in 1969 than did *ADR*. However, these same estimates indicate that this was the only year *TCC* had a higher income. Beginning in 1970, *ADR* appears to have taken the lead in annual advertising revenue, which it still maintains.

A number of factors account for *ADR*'s survival in the face of AATCC competition. In the short run, Herbert Stauderman and his associates at *ADR* did not give up in the face of the loss of the AATCC's patronage. Stauderman found authors willing to write for him, persuaded many of his advertisers to stay with *ADR*, and set up an editorial advisory board to maintain *ADR*'s editorial quality.[7] Stauderman's continued enthusiasm for the magazine, which culminated with his purchase of the Howes Publishing Company from A. P. Howes' widow in December 1969, kept things going during the crucial first few years of competition with *TCC*.[8]

After the early 1970s, a number of other factors contributed to *ADR*'s continuing success. First, as a commercial magazine, *ADR* had great flexibility in linking editorial content with advertising content. *ADR* often carried articles that described the

[7] "ADR's New Editorial Advisory Board." *ADR*, v. 52, n. 1, January 13, 1969, p. 9.
[8] Stauderman set up a new holding company for *ADR* in 1970, SAF International, and Howes Publishing Company was dissolved.

advantages of a specific product and then sold an ad for that product in the same issue, or sometimes even adjacent to the article. In contrast, *TCC* publication policy specifically forbade this practice and did not allow brand names to be used in technical articles.[9] Second, *ADR*'s circulation pattern was (and still is) different from *TCC*'s. After 1969, *ADR* became a controlled circulation publication, with issues going primarily to individuals or companies identified as potential buyers of textile chemicals, dyes, or wet processing equipment. *TCC*, on the other hand, went mostly to members of the AATCC, many of whom sold to the textile industry rather than being consumers of textile chemicals, dyes, and machinery. As a result, although total circulation for the two publications has been similar since 1969, advertisers, particularly those interested in selling machinery, reportedly have preferred *ADR*.

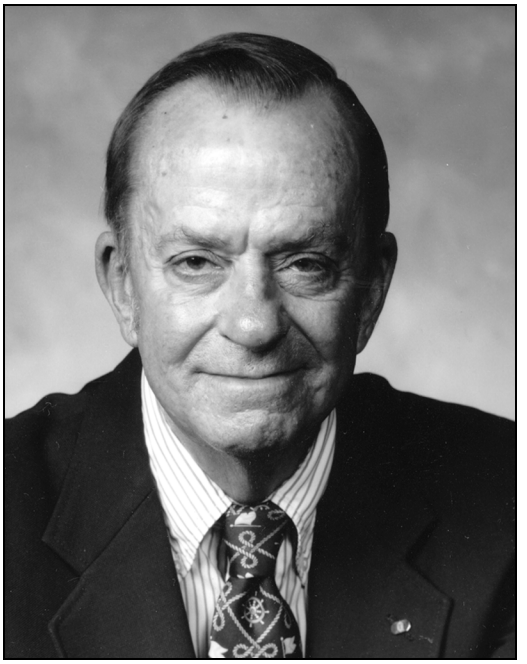
Aside from machinery manufacturers, *TCC* has successfully competed for other types of advertisers, and the two publications' respective shares of the shrinking advertising market have remained relatively constant. As a result of this continuing competition, both the successes and failures of *TCC* have usually been measured in comparison to *ADR*. *ADR* remains *TCC*'s primary competitor, a situation that seems likely to continue for the foreseeable future.

The Maturing of *TCC* (1972–1980)

Despite the Association's high hopes, *TCC* did not prove to be the financial windfall that its leadership had anticipated. After a promising start in 1969, when advertising income exceeded that of *ADR*, annual revenues began to fall. *ADR* took the lead in 1970 that it has maintained ever since. Both publications experienced a steep decline in advertising sales through the 1970s. With the advantage of hindsight, this decline can be seen as part of a larger trend, the decline of the American textile manufacturing industry and the drop in U.S. production of dyes and textile chemicals. Dye manufacturers had traditionally accounted for a large percentage of both *ADR*'s and *TCC*'s advertising, and as American dye manufacturing firms cut back their operations or sold divisions outright, their advertising budgets were reduced accordingly. At the time, however, AATCC's leadership did not anticipate this larger trend and saw the decline in revenues only as a major disappointment. Rather than making money, *TCC* was at best breaking even, and as time went on the Association had to reduce both the size and scope of the publication to cope with falling income. The number of issues per year was reduced from twenty-four to twelve in 1971, more emphasis was placed on selling advertising, and the design of the journal was changed to some extent to give it more commercial appeal. Thus, an internal debate soon began about who or what to blame for the problem. Far from solving the AATCC's financial problems, *TCC* became the center of a new series of debates about editorial policy.

Criticism centered around two intertwined issues: content of the journal and low advertising sales. While Jack Kissiah and the Editorial Board were determined to maintain *TCC* as a high-quality professional/technical journal, Bill Davis, the adver-

[9] AATCC Instructions for Authors, n.d. [ca.1969], AATCC Archives.



William B. Davis, Advertising Director

tising director, with the backing of the Advertising Board, insisted that to sell advertising, *TCC* had to be less rigid in its standards and more like a trade magazine. When Davis reported that potential advertisers, particularly machinery manufacturers, had flatly stated that ads in "journals" would not be seen by the people they wanted to reach, Kissiah called for the names of these anonymous companies and contended that more aggressive salesmanship was needed.

A change made to the cover of *TCC* in 1977 is typical of the arguments. Since the very first issue, the front cover of *TCC* had carried the logo "Journal of the American Association of Textile Chemists and Colorists." To some extent, this was a practice carried over from *ADR* that proclaimed on its cover "Official Publication of the Proceedings of the American Association of Textile Chemists and Colorists." Davis wanted the words "Journal of" replaced with "Published by," and the phrase "The Magazine of the Wet Processing Industry" added in small pale blue letters over the main title. Davis' contention was that the word "journal" was a turnoff not only to the average reader, but also to advertisers and agencies that placed advertising as well. Although the change was opposed both by Kissiah and the Editorial Board, Davis' position prevailed in the Publications Committee, and the cover was changed in April 1977. The change lasted a little more than a year. Beginning with the June 1978 issue, the phrase "Published by the American Association of Textile Chemists and Colorists" was removed from the upper left corner of the heading, and the

volume and issue number were moved from the upper left to the upper right-hand corner. The newly created space in the upper left corner was used to highlight articles contained in the issue.

Each side of this controversy, now ongoing for at least twenty-five years, has garnered both supporters and detractors in the Editorial and Advertising Boards, their parent Publications Committee, and ultimately, the Council. Although bottom-line finances have forced minor changes in the appearance of *TCC* from time to time, its editorial policy remains unchanged.

In the beginning, the first impulse was to blame the loss in ad revenue on those people responsible for selling advertising. This was not totally fair since *TCC* had only one salesman whereas *ADR* had two or three. *TCC* had had three different advertising directors in a little over four years, the third being William B. Davis, the present director.[10] An experienced advertising salesman for a printing industry magazine, Davis had joined *TCC*'s staff in April 1973. When the revenue decline continued even with the change in personnel, some of the Association's leadership moderated its criticism of the sales staff and cast about for another explanation.

The new editorial policy that stressed scientific content was blamed by some. Unlike *ADR*, *TCC* had rigorous editorial standards to ensure the accuracy and quality of its articles, as well as limitations on the mention of product trade names. While both publications accepted advertising, *TCC* policy specifically prohibited linking advertising sales with editorial content, a practice in which *ADR* often engaged. At its heart, the distinction boiled down to the objectives of the two publications. As a nonprofit technical journal, *TCC* was published primarily for AATCC members, and its primary purpose was to disseminate information. As a profit-making trade magazine, *ADR* was sent to a diverse list of paid and unpaid subscribers, its primary purpose being to sell advertising.

The papers that appeared in *TCC* came to be seen by some critics as being too technical and more specialized than those that appeared in *ADR*. Some Council members also blamed the decline in membership on this difference in editorial policy. They wanted more of what they called "practical papers," oriented toward pressing production-related problems that were of immediate use to dyers and colorists on the factory floor, rather than toward what someone called "academic esoterica" that dealt with the fundamental science of textile wet finishing.[11] A counterargument was that a major portion of any issue of *TCC* is practical by virtue of its advertisements, member news, employment ads, new product listings, and so on. But this type of debate was not new. It existed before *TCC* was formed, has continued in the years since, and has been a topic of discussion in Editorial Board and Publications Committee meetings as recently as 1995.[12]

[10] Davis' predecessors as advertising director were Albert M. Mathers who had been hired away from TIME Inc. in 1968 and who served until February 1971, and William N. Parham, who served until March 1973. An assistant to Davis, Warren Smith, hired in the 1970s to cover the New York area, served two years.

[11] There has been considerable debate as to what exactly is meant by the term "practical paper." For an extended discussion of both sides of the history of this matter, see Herbert T. Pratt, Some Thoughts on Practical Papers for Textile Chemist and Colorist, May 9, 1995, AATCC Archives.

[12] Herb[ert T.] Pratt to Charles Wolhar, June 29, 1995, AATCC Archives.

Over time, a number of solutions to the perceived problem have been offered, many involving paying authors to write practical papers. This was not new either. As early as the 1940s, Howes Publishing Company had proposed paying authors to write papers on "practical" subjects.[13] However, Council has by and large rejected such schemes. To find a cadre of knowledgeable, experienced people on a wide variety of subjects who could also write would be almost impossible. Then there were fears that such a move would undermine the concept of professionalism and would lead to the Association having to pay for all its articles or be branded as unfair to some authors. Also the amount of money that the AATCC could offer would be insufficient to serve as a real incentive to writers. As a result, no long-term incentive program for practical papers has ever been adopted, although debate about such a move continues as of this writing.

Since this debate over "practical" papers has existed almost since the founding of AATCC, it now seems logical that the explanation must lie outside *TCC* and any specific editorial policy. After a review of representative articles from back issues of both *ADR* and *TCC*, it is clear that the explanation lies in three areas: the makeup of the AATCC's membership, changes in the textile industry, and individual motivation to publish. Each of these will be discussed in turn.

The percentage of AATCC members holding technical degrees, especially graduate degrees, increased markedly between the 1920s and 1970s. As the audience for the AATCC's Proceedings became better educated, they demanded more when they read an article.

During that same period, the textile industry changed markedly. Prior to World War II, woven cotton, wool, silk, acetate, and rayon fabrics dominated production. After the war, a series of new synthetic fibers—nylon, modacrylic, acrylic, polyester and spandex—demanded new dyes and chemicals, new dyeing procedures, new dyeing and finishing machinery, and new test methods. By 1970 these new fibers constituted 75 percent of production. Moreover, many styles of knit fabrics were being developed, and a wide variety of new surfacants, dyebath additives, finishes, and resin treatments further complicated the picture.[14] As a result, the range of possible topics for articles expanded considerably, so that individual readers were increasingly less likely to encounter an article relevant to their narrow interests and job responsibilities. Given the diversity of the AATCC's membership, it would be difficult to make any change in editorial policy that would answer the call for more "practical" papers, since the reading audience in any particular field had become increasingly narrow.

Since the editorial content of *TCC* depends on voluntary submissions, the staff has been limited in publishing papers that qualify as "practical." *TCC* receives many more "scientific" papers than "practical" ones, primarily because academics, particularly those at large research-oriented institutions such as the Southern Regional Research Center, North Carolina State University, and Georgia Institute of Technology,

[13] Miles A. Dahlen to Carl Z. Draves, July 7, 1947, AATCC Archives.
[14] Annette C. Wright, "Strategy and Structure in the Textile Industry: Spencer Love and Burlington Mills, 1923–1962," *Business History Review*, v. 69, n. 1, Spring 1995, pp. 42–79.

have strong career incentives to publish.[15] In contrast, the number of researchers in private industry has declined steadily since the early 1970s, and corporations have become less willing to allow employees company time to write about their work or to share information that might benefit competitors.

During the 1970s, the layout of *TCC* was changed gradually in response to concerns over declines in advertising revenue. The most significant change came with the January 1971 issue when the number of issues per year was reduced from twenty-four to twelve. *ADR* had made the same change the year before. Also, advertisements appeared for the first time on the inside front cover and both the inside and outside back covers and have continued to appear there ever since. The front cover has remained free of advertising however.

The reduction in the number of issues drastically reduced the number of pages published each year. In 1969, *TCC* included 629 pages of Proceedings. This figure includes only the refereed articles—each issue also contained an average of six pages of Association and industry news, announcements and editorials, and approximately fourteen pages of advertising. In 1971, after the publication schedule went from bi-weekly to monthly, the total number of pages of Proceedings dropped by more than half to 291. Advertising pages per issue actually increased, with approximately fifteen to twenty per issue, although total advertising pages per year obviously decreased since the total number of issues per year was halved.

The total number of Proceedings pages continued to decrease through the mid-1970s. For example, in 1975 there were only 224 pages. The trend reversed in the late 1970s, as the number of pages climbed again, reaching 361 in 1980. The page count declined again after that, eventually stabilizing at approximately 250 by the mid-1980s.

These page counts are somewhat deceptive, especially when comparing the pre-1971 issues of *TCC* with later ones. The way editorial material was laid out on the page changed over time, with later issues containing more words per page, although type size remained the same. During its first few years layout of the journal made extensive use of white space and wide margins to give it a clean, uncluttered appearance. In contrast, after 1971, *TCC*'s visual appearance becomes more crowded. Margins are less generous, text is more densely packed, and the large expanses of white space at the beginning of articles disappear. The result is more material per page. However, this increased density of text did not compensate for the decrease in page count. The 1969 and 1970 volumes remain by far the largest in *TCC*'s history.

Stability (1980–1994)

It is a measure of the stability and continuity fostered by Jack Kissiah that only minor changes were made in the journal's format during this time. Up until 1986, *TCC* numbered pages devoted to AATCC Proceedings and other technical articles sepa-

[15] J. N. Etters, J. M. Hathcote, and P. K. Hunt, "Researching American Textile Academic Units: Distribution by University." *ADR*, v. 84, n. 8, August 1995, pp. 68–72.

rately from advertising, a practice carried over from *ADR*. *ADR* had apparently adopted separate numbering to facilitate the binding and sale of back volumes, particularly to libraries, without advertising (the AATCC Archives contain several such commercially bound volumes from the late 1910s and early 1920s).[16] *ADR* continued the practice until the break with the Association in 1969.

By the 1980s, however, the library practice of stripping advertising before binding had become less common, and the separate page numbering system often proved confusing.[17] At the November 1985 meeting of the Editorial Board, Kissiah proposed that the separate numbering system be discontinued to "eliminate confusion in the way articles are currently referenced in other publications."[18] The Board approved the change, and the separate numbering system was dropped, effective with the January 1986 issue.

The only other significant change during this period was the addition, in 1991, of a new feature—a column entitled "I Remember When." The idea for the column had come two years before from Herbert T. Pratt, a retired DuPont technical marketing associate who headed the History and Archives Committee. Pratt, who had earned a master's degree in history after his retirement in 1985, believed that a column collecting the reminiscences of older chemists and dyers would preserve information about industry practices that might otherwise be lost.

The AATCC had been interested in the history of the dyeing and finishing trades for a long time. As early as the 1920s, *ADR* had published a number of short biographies of prominent men in the trade as well as articles about various aspects of the history of the wet processing industry, and such pieces had appeared intermittently over the years since then. However, there had been no regular department for such material. The "I Remember When" column, which first appeared as filler in the January 1991 issue, has rarely been more than a page in length. Each contains several anecdotes by various persons about old procedures, interesting experiences, or colorful personalities in the wet processing industry. Anecdotal evidence indicates that the column has become one of the most popular features of *TCC* and is often one of the first sections to be visited by readers. Moreover, Pratt, the column's editor, believes the column is at least partially responsible for the increased interest in history within the AATCC. In recent years, attendance has increased at meetings of the History and Archives Committee, there is now a regular history session at the International Conference & Exhibition, historical articles are published regularly in *TCC,* and the Association affiliated with the Chemical Heritage Foundation in 1989. Also, there has been wide support for the publication of this seventy-fifth anniversary history.

[16] The libraries at the University of Delaware and Iowa State University, as well as the AATCC's own library, all contain bound volumes of *ADR* from which advertising material has been removed.
[17] Citations in other publications of articles in *ADR* at times do not make it clear if the page number is from the normal page sequence or the separate Proceedings sequence. *ADR* also changed the way it used the numbering system several times, for a time putting a "P" in front of page numbers and sometimes numbering advertising pages separately and sometimes not. The practice followed in this book is to cite both the normal and the Proceedings page numbers if a page has both printed on it.
[18] Minutes, Meeting of the Editorial Board, November 6, 1985, AATCC Archives, p. 2.

Jack Kissiah formally retired in December 1993. He had been responsible for twenty-five years of *TCC*, and its form and content clearly reflect his background in journalism and conservative nature. Kissiah had maintained a consistent editorial policy that stressed careful editing and use of the peer review process. As a result, surveys of *TCC*'s readership consistently show that both members and nonmembers rate the journal's editorial quality higher than that of competing publications.[19]

A New Order

Susan H. Keesee took over as editorial director in January 1994. Unlike Kissiah, she came from a technical background rather than journalism, with a bachelor's degree in clothing and textiles and a master's degree in textile science. She had worked for several years in industry and had joined the AATCC as a student member in 1979. While in industry, Keesee had served as chairman of the technical committee on atmospheric contaminants.

Keesee had originally been interested in the laboratory manager position at AATCC and had applied for the job in 1989. Kissiah was familiar with Keesee's work as a reviewer for *TCC* and asked her to apply for an editorial position as well. After interviewing for both, Keesee accepted a position as an assistant editor.

Over the five years that preceded his retirement, Kissiah gradually gave Keesee increasing responsibilities for rewriting news releases, editing, preparing manuscript copy, and so on his primary goal being to transfer to her his conceptions of good journalistic practices.

Keesee learned that she was to replace Kissiah in November 1993 and took over his duties the following month. Her top priority was to upgrade the computer capabilities of the editorial department. Patricia Calomeris, whom Kissiah had hired in January 1993 as production and circulation manager, already had begun to work part time with desktop publishing software on a Macintosh computer, and Keesee encouraged her to expand those efforts. Digital scanning capability was added, and by early 1994 essentially all of *TCC* was being laid out on computer rather than by hand on a drawing board. At present, desktop publishing is fully functional and is being expanded to other publications, this book being just one.

Keesee began to work more closely with the advertising director and initiated a number of changes in *TCC* driven by advertising considerations. Prior to 1994, only the January issue of *TCC*, which listed new products, the AATCC *Buyers Guide* in July, and the IC&E preview issues were specifically promoted to advertisers on the editorial calendar. Keesee also specified a theme for each issue in advance, which has proved effective in attracting advertisers. She has proposed essentially no changes in editorial policy. All technical articles in *TCC* continue to be peer-reviewed, other editorial content remains much the same, and the physical layout is unchanged.

[19] See, for example, Reader Survey, April 28, 1977, AATCC Archives.

Susan H. Keesee, Editorial Director

Other Publications (1969–1996)

Prior to 1969, the product guide, membership directory, and the text of all the AATCC's test methods, as well as annual committee and section reports, were all published as a single large volume, first as the *AATCC Yearbook* (1923–1946) and then as the *AATCC Technical Manual and Yearbook* (1947–1968). Beginning in 1969, the book was split into separate publications: an annual *Product Guide*, an annual *Membership Directory*, and the newly retitled *AATCC Technical Manual*. This was part of a comprehensive restructuring of the AATCC's publication program that had been carried out in anticipation of the new *TCC*. Changes in the contents of the *Technical Manual* after 1969 are discussed in Chapter 14; the *Product Guide* and *Membership Directory* are covered below.

The annual membership directory was initially unchanged after its separation into an annual publication. The primary contents were two alphabetical lists (individual

members and corporate members). In addition, the directory also listed the Association's officers and the chairmen of all committees, as well as the AATCC headquarters staff. In 1986, the format of the directory was altered. Previously, members' names and addresses were listed alphabetically by Section along with a consolidated alphabetical list of names only. With the 1986 directory, all names and addresses were consolidated into one alphabetical list, in which each entry includes the member number and section letter-code. That format continues to be used.

In contrast, the product guide that listed American dyes and specialty chemicals underwent several changes after 1969. Initially published annually in October as a preview of the next year's products, in 1975 the publication date was changed to July and the idea of its being a preview was dropped and the product list was drastically shortened. Until that time, the list was divided into two major sections: dyes, and specialty chemicals. These were in turn divided into subsections consisting of a main alphabetical list and several indexes to make it easier to find a specific product. The various sections totaled over 400 pages in length. The largest single section at a little over 200 pages was the alphabetical listing for specialty chemicals, which included end-use applications for every product. Starting in 1975, end-use applications and chemical compositions of products were eliminated from the alphabetical list, and an index based on general categories of product use was substituted. As a result, the *Product Guide* shrank in size to approximately 175 pages.

In 1976, the guide added listings of machinery, equipment, and supplies. That same year, manufacturers' addresses were consolidated into a single list in the back of the guide. This was the last substantial change in content. Starting in 1977, the name was simplified from "Product/xx," where "xx" was the last two digits of the year following the year of publication, to simply *Buyer's Guide*. In 1982, the guide was numbered as part of *TCC*'s annual volume for the first time, replacing the July issue.

Computerization

Computers came late to AATCC, and then largely due to the efforts of Jerry Tew. Tew, a textile chemist, had worked for Burlington Industries from 1962 to 1964, for the Association from 1964 to 1969 and for Beaunit Corporation before returning to AATCC in 1979 as laboratory manager. Having been involved with computers at both Beaunit and Burlington, on Tew's return to AATCC he began immediately to try to get computers for the lab. However, membership had plummeted to below 6,000, so money was tight. But not being willing to take "no" for an answer, Tew, in 1980, worked out a deal to swap advertising space in *TCC* with a hardware supplier for an IBM PDP-11 computer. He then enlisted the help of member Bob Hoban, a computer whiz from Sandoz Chemical Company, in programming mailings to a few technical committees. This computer also gave other people at AATCC the opportunity to "play" with it and learn its capabilities.

By 1982, it was evident that AATCC needed to move ahead with total computerization, and Tew began to compare various commercial systems. With the free advice of Don Mitchell (husband of Tew's secretary Joan) who worked in the computation cen-

ter at the University of North Carolina, in 1983, the AATCC purchased a new Wang system having three work stations.

Tew's first priority was to computerize the membership lists, which at the time were on old-fashioned metal Addressograph plates, with individual sets of plates for each AATCC section. The slowness of such a system is now readily apparent. For example, the required Annual Business Publications Audits, which took one person a month to complete, can now be finished in minutes.

Other uses for the computer were phased in gradually. For example, in its 1984 revamp of the layout of the *AATCC Technical Manual*, the Editorial Committee (RA99) developed an index sortable three ways: numerically by test method number, chronologically by year of approval, and numerically by committee number. These three indexes were first published in the *Manual* in 1986. The *Membership Directory* was first printed from computer disks in 1985. New information for the *Technical Manual* was sent to the typesetter on computer disks in 1986, followed by the entire *Buyer's Guide* in 1988.

In the beginning, the Wang system did not have sufficient memory to be of any value for *Textile Chemist and Colorist*, but by 1990, about a third of *TCC* was going to the printer on disks rather than hard copy. In November 1993, the entire *TCC* went to the printer on disk for the first time. Although AATCC had the technical capability before then, this change was made only after Jack Kissiah extracted a price concession from the printer for doing the keyboarding for *TCC*.

When AATCC bought the Wang system, personal computers did not exist, and Wang data did not translate easily to another system. Thus, the Wang system was used entirely or in part until January 1996, when an iMIS membership program that ran on a network system was installed having a capacity of twenty-five work stations.[20]

Conclusion

Although in 1969 the decision to start *Textile Chemist and Colorist* was controversial, the general consensus is that it was the right one. While *TCC* is not a major source of income, it is not a major financial drain either since a portion of member dues is allocated to publications. However, ways and means for increasing advertising revenue are always a topic of discussion. The Association's original plans for increased revenues had been based on the implicit assumption that *ADR* would be unable to survive without AATCC-provided papers. But *ADR* did not go out of business as had been expected, and continued competition with *ADR* for advertising revenue forced the AATCC to compromise the pure scientific ideal within which *TCC* was conceived. *TCC* continues to offer peer-reviewed articles to a large audience, and it has a positive image within the wet processing industry. With respect to editorial quality, the AATCC has state-of-the-art equipment for desktop publishing and produces a wide variety of publications: publicity brochures, study guides, and hard bound scholarly books.

[20] Jerry G. Tew to Herbert T. Pratt, September 8, 1997.

At present, the Publications Committee is focused on longer range issues, two of which dominate discussions. The first is the ongoing debate about "practical" versus "theoretical" articles. It seems likely that this issue will continue to be controversial since no resolution is in sight. The second issue is the growth of alternative means of distribution for technical material, primarily electronic. Although by 1996 the AATCC had made some efforts along these lines, such as publishing a version of the *Colour Index* on CD-ROM (see Chapter 14), there were no immediate plans to distribute *TCC* in electronic form.

Chapter 12

The Energy Crisis and the Environment (1973–1983)

This chapter examines the activities of the Association during 1973–1983, with an emphasis on the impact of rising oil prices and tightening environmental laws on the American textile industry. Coverage includes organizational changes, awards, widening interests, test method development, section activities, and general meetings.

Organizational Changes

George Paine retired on January 1, 1974, having reached mandatory retirement age. William R. (Bill) Martin, who had been the AATCC's technical director since 1964, was formally named as Paine's successor at the 270th Council meeting in April 1973.[1] In reality, Paine had been training Martin for several years prior to the transfer of responsibility. As Martin remembers it;

> When George Paine planned to retire, I was made deputy executive director, at least a year before he actually retired. So that made it a very orderly and easy transfer. The transition was made more easy by George Paine who was very kind and generous with his information. Two years before he retired, we sat down each month and made lists of routine things that he did. The year before he retired we simply improved that list. When I stepped in I had lists of those routine things that he did. That was a tremendous help to me.[2]

Martin went on to say that he thought one of the reasons that Paine did so well with the transition was his background as a naval officer. Paine was familiar with the intricacies of handing over command and so felt an obligation to do so properly.[3]

[1] "AATCC Council News." *TCC,* v. 5, n. 6, June 1973, p. 19.
[2] Mark Clark interview with William R. Martin Jr., April 11, 1995, AATCC Archives, Research Triangle Park, N.C., p. 11.
[3] Ibid., p. 21

When Paine died of a heart attack less than four months after his retirement on April 22, 1974, Council set up an ad hoc committee to consider a suitable memorial. At the committee's recommendation, Council decided in February 1975 to name the council room at the AATCC Technical Center in Paine's honor.[4] The Council then arranged a special luncheon for the unveiling of a commemorative plaque in his honor.

The year before Paine retired, Ernest J. Chornyei of the Bradford Dyeing Association (USA) Inc. resigned as the AATCC's treasurer. As had been typical of previous treasurers, he had had a long term in office, serving since 1962. Council accepted his resignation and appointed Donald W. Robinson of ParaChem in his place. After his departure, Chornyei made a donation to the Association to help pay for landscaping the Technical Center grounds.

During 1973 and 1974, the AATCC sections were encouraged to sponsor parts of the landscaping, and several did so. The Delaware Valley Section donated its money in the name of Alex E. Raimo, a prominent section member who had died in 1972.[5] Eventually, ten of the AATCC's fifteen sections made donations.[6]

Membership Matters

One major problem for the AATCC during this period was the continuing decline in total membership. Although there were hopes in 1973 that total membership for 1974 would exceed 10,000 persons, the final number that year was actually less than it had been in 1973.[7] This represented a trend that would continue for over a decade.

Several measures were tried to attract more members. In 1973 Council approved a plan developed by the Committee on Corporate Membership called "See For Yourself," where sections would pay to send a representative from a nonmember firm to an AATCC workshop or seminar. If the firm then became a corporate member, the section would be repaid from the firm's first year's dues.[8] Council also made general appeals to sectional leaders to build up membership.[9] In 1979 an individual membership drive was developed, and a group life insurance plan was offered to members for the first time.[10] The membership drive relied on sectional recruitment efforts and focused on firms in the wet processing industry.[11]

Despite these efforts, membership continued to decline. Individual membership reached its lowest point post-1971 in February 1984, when the total briefly dipped below 6,000. This was a level the Association had not seen since the late 1940s. The decline had been apparent for years, and the Council finally decided that years of voluntary effort were obviously not enough. Prompted in part by a letter from Herbert

[4] "AATCC Council News." *TCC,* v. 7, n. 3, March 1975, p. 16.
[5] "AATCC Council News." *TCC,* v. 5, n. 6, June 1973, p. 19.
[6] "AATCC Council News." *TCC,* v. 6, n. 3, March 1974, p. 16.
[7] Ibid.
[8] "AATCC Council News." *TCC,* v. 5, n. 4, April 1973, p. 18.
[9] "AATCC Council News." *TCC,* v. 6, n. 3, March 1974, p. 16.
[10] "AATCC Council News." *TCC,* v. 11, n. 4, April 1979, p. 10.
[11] "AATCC Council Highlights." *TCC,* v. 11, n. 7, July 1979, p. 11.

T. Pratt to the editor (*TCC* August 1980) that included a graph illustrating the precipitous drop in AATCC membership, in late 1983 the Association hired Laura G. Crumpler to fill a new position as director of membership services.[12] The policies that she and her successor, Kathy W. Jones, put into place stabilized membership totals and eventually gradually increased them. Their work is described in Chapter 14.

Dues were increased 25 percent for corporate members in April 1977, the first increase since 1963.[13] Individual dues were increased the following year.[14] Dues were increased several times over the next few years to compensate for both declining membership and inflation.

In 1979, Council honored A. Henry Gaede, the AATCC member perhaps most responsible for the move to Research Triangle Park, by naming the committee room at the Technical Center in his honor after his death in July 1978. A plaque was installed in the room in 1980, paid for by funds from the A. Henry Gaede Memorial Fund. Numerous individuals had contributed to the fund, as well as a number of AATCC sections.[15] Gaede, as first chairman of the Buildings and Grounds Committee, had been instrumental in developing the scheme to have AATCC sections sponsor azalea gardens around the Technical Center. It was fitting then that Council used the money remaining in the fund after purchase of the plaque to install an irrigation system for the Technical Center's shrubbery.[16]

Widening Interests

The most widely discussed topics during the 1970s and early 1980s within the business and technical communities of the AATCC were energy conservation and pollution control. The AATCC had been interested in questions of pollution since the 1950s, when the Committee on Stream Sanitation had been set up to look at possible solutions to the problem of dyehouse effluent. That committee's successor, RA58: Environmental Sciences Technology, had become increasingly active in the late 1960s, and by the early 1970s it was perhaps the most active AATCC Technology Committee, sponsoring seminars each year. The committee's mandate was broad: "To provide a forum for the dissemination and exchange of knowledge on problems associated with air and water conservation and pollution abatement; to encourage research on textile waste disposal."[17]

The three-day seminar, more rightly called a symposium, that the committee sponsored in 1973, "The Textile Industry and the Environment" was typical of the sorts of programs put on by technology committees, distinguished only by their length—most seminars were one day long (see Chapter 13 for a discussion of the AATCC's work-

[12] "AATCC Council Highlights." *TCC*, v. 16, n. 2, February 1984, p. 12.
[13] "AATCC Council News." *TCC*, v. 9, n. 6, June 1977, p. 14.
[14] "AATCC Council News." *TCC*, v. 10, n. 6, June 1978, p. 10.
[15] "Contributions Continue for Henry Gaede Memorial Fund." *TCC*, v. 12, n. 2, January 1980, p. 8; "Henry Gaede Room Dedicated at AATCC Technical Center," *TCC*, v. 12, n. 6, June 1980, p. 4.
[16] "AATCC Council Highlights." *TCC*, v. 11, n. 7, July 1979, p. 11.
[17] *1973 AATCC Technical Manual*, Research Triangle Park, N.C.: AATCC, p. 11.

shop and symposia). Twenty-three speakers were on the program, and they came from industry, academia, and both state and federal government.[18] The papers were practical in nature and focused on how textile firms could comply with legal requirements. The speakers' common theme was that legislation to control workplace safety and pollution was a long-term reality, and that firms needed to learn to adapt and conform to the new regulatory environment.[19] Similar symposia were held in subsequent years, which resulted in a good number of papers being published in TCC.[20]

These primarily prescriptive articles contained guidelines for industry compliance with regulations rather than scientific studies of textile wet-processing related pollutants. For example, the article by the federal Environmental Protection Agency (EPA) described how the EPA and scientists from the textile industry cooperated to write regulations on effluent treatment.[21]

In 1977 ECR approved the creation of two more technology committees in the environmental field. Committee RA94: Toxic Substances Related to Textiles was a response to the Federal Toxic Substances Control Act, and its mandate was to gather and disseminate information about how the Act would affect the textile industry. Committee RA95: Energy Conservation in the Textile Industry has a title that speaks for itself.[22]

The growth of government regulation did not go unchallenged by members of the textile industry, and some AATCC members were concerned that their industry was suffering. Articles such as "Are We Legislating Ourselves Out Of Business?" and "Chemophobia: Chemical Industry Under Attack" complained that the government and the public, out of an irrational fear of chemicals, were endangering the prosperity of a major sector of the economy.[23] In contrast to the mood of survey articles about the textile industry in the 1950s and 1960s, that were optimistic and looked to the future with anticipation, articles from the 1970s were decidedly downbeat and defensive.

No doubt this was not just a result of changes in environmental law, but of larger economic forces at work. The energy crisis brought on by the oil embargo of 1973 created difficulties for the textile industry. Many American dye manufacturing firms called it quits in the 1970s and 1980s, and AATCC members were conscious of the ongoing changes. When DuPont left the dyes business in 1979, it was a major story for *TCC*, which devoted several pages to describing the event and listing all the dyes that DuPont produced. Despite having 12 percent of the dyes market in the United States, and 2.5 percent of the world market, the business was not profitable. Dyes represented only about 1 percent of DuPont's total sales, so dropping out of a field in which it had been a leader since the 1920s did not affect the company greatly.[24] How-

[18] "The Textile Industry and the Environment." *TCC,* v. 5, n. 4, April 1973, p. 43.
[19] Ibid., pp. 43–48.
[20] See, for example "Textile Technology/Ecology Interface." *TCC*, v. 7, n. 5, May 1975, pp.10–12.
[21] D. Balmforth and C. G. Tewksbury, "EPA's Effluent Guidelines: A Co-Operative Program." *TCC,* v. 6, n. 7, July 1974, p. 35.
[22] *1978 AATCC Technical Manual*, p. 19.
[23] L. Aubrey Goodson Jr., "Are We Legislating Ourselves Out Of Business." *TCC,* v. 7, n. 7, July 1975, p. 11; A. M. MacKinnon, "Chemophobia: Chemical Industry Under Attack." *TCC,* v. 13, n. 9, September 1981, p. 61.
[24] "DuPont Calls it Quits for U. S. Dyes Business." *TCC,* v. 11, n. 7, July 1979, p. 11.

ever, its withdrawal and the withdrawal of other American chemical firms created an atmosphere of fear and failure.

Two factors seem to explain the decline of the American chemical industry, of which dyes and specialty chemicals are a part. First, tighter environmental regulation raised the costs for domestic manufacturers, particularly in competition with Third-World companies. However, this was not the entire picture, since American and European firms had long been able to prosper based on technological innovation. A constant stream of new products based on such innovations as manufactured fibers, durable press fabrics, and polyester doubleknits had made American chemical and textile firms rich in the 1950s, 1960s, and early 1970s.

Increasing competition from European dye makers in the 1960s began to cause problems for American manufacturers, however. By 1969 the five major American producers were faced with competition from seven major European firms, all having worldwide sales in excess of $1 billion. High profits from sales of dyes for polyester fibers delayed the onset of serious competitive pressure for large American firms, but smaller companies, especially those that sold primarily dyes for cotton and wool, were in trouble. The oil price shock of 1973 ended the prosperity of the large firms and squeezed small firms even harder, as raw material costs soared. The major recession of the mid-1970s and a rising tide of textile imports hammered the American textile industry further, causing profits to drop dramatically.[25]

By the late 1970s, the chemical industry had matured, and new products and processes no longer offered an opportunity to get rich quickly. Dyes and fibers had become commodity industries in which manufacturing technology could be easily transferred anywhere in the world. With high costs for labor and conformance to environmental regulations, the United States became uncompetitive as a manufacturing location. As a result, American chemical firms, that were used to high returns on their investments abandoned dye manufacturing.[26] By the 1990s, there was only one major American manufacturer of dyes, Crompton & Knowles, and that company had its roots in textile machinery manufacture rather than chemicals.

This change caused problems for the AATCC because it eliminated a major source of volunteer labor. Chemical firms were primarily large organizations that could easily arrange to reduce the workload of an employee who served as an officer or committee chairman in a professional organization like the AATCC. Moreover, since chemical firms were in the business of selling their products to the textile industry, allowing an employee time to make contacts with people in that industry could be easily justified. Particularly in the free-spending corporate environment of the 1945–1970 period, the time spent by employees in AATCC affairs could easily be charged to overhead.

In the 1970s and particularly the 1980s, a more competitive market meant that the smaller firms remaining in the industry were less able to let their employees do volunteer work on company time. A new, more puritanical work ethic was also in the

[25] David S. Alcorn, "Trends in the American Textile Industry." *TCC,* v. 12, n. 5, May 1980, pp. 90–91.
[26] John K. Smith, "The End of the Chemical Century?: Organizational Capabilities and Industrial Evolution" *Business and Economic History,* v. 23, n. 1, Fall 1994, pp. 152–61.

air, as companies wracked by foreign competition became less and less willing to allow employee absences for what often appeared to be primarily social affairs. By the late 1980s this trend was particularly evident, as we will see in Chapter 13, when the AATCC Technical Center staff began to take over functions traditionally performed by sections or individual members, most notably the administration of the annual International Conference & Exhibition. Given this general environment, it is no wonder that some of the articles in *TCC* sounded so pessimistic.

In 1975 AATCC President George Wham, concerned with the future of the Association, appointed a Study Committee on Long-Range Objectives to revisit the ground covered by previous reports and to develop new plans. The committee submitted its report in the fall 1976, and it was published in *TCC* early the following year. This report proved to be much less controversial than the previous one, largely because the recommendations were narrowly focused and did not involve major policy changes. The new report called for a study of how to increase membership, both corporate and individual. It also endorsed continuing participation in such international organizations as the International Standards Organization (ISO), as well as cooperation with other American technical societies. Other than a call for more "practical" papers in *TCC*, a perennial issue (see Chapter 11), the rest of the report essentially endorsed existing AATCC policies.[27]

The committee was reconstituted in February 1980 with many of the same members. In addition to reviewing the actions taken in response to the last report, this committee was specifically charged with studying ways to improve the AATCC's relationship with the textile industry.[28] The committee delivered the report to Council in May 1982, and it was distributed for review.[29] President E. James Stavrakas then called for another report the following year and set about assembling a task force of executives from the chemical, dye, and dyeing and finishing industries to study long range objectives for the Association.[30] This study continued through 1983.

The AATCC continued to develop its ties with consumer oriented textile organizations during this period, most notably the American Home Economics Association (AHEA). Also, it continued to host a summer seminar for teachers in textiles, which drew its audience primarily from schools having a home economics tradition. In 1976 Anne C. Clapp, a technical associate on the staff of the AATCC Technical Center, was named chairman-elect of the Textile and Clothing Section of the AHEA. She became chairman the following year and served for two years.

Test Method Development

In addition to the traditional list of special equipment and materials for sale in the *AATCC Technical Manual,* in the early 1970s the AATCC began to advertise its fifty

[27] "Report of the Study Committee on Long-Range Objectives of AATCC." *TCC*, v. 9, n. 2, February 1977, pp. 38–39.
[28] "AATCC Council News." *TCC*, v. 12, n. 4., April 1980, p. 10.
[29] "AATCC Council Highlights." *TCC*, v. 14, n. 8, August 1982. p. 10.
[30] "AATCC Council Highlights." *TCC*, v. 15, n. 8, August 1983. p. 40.

or so quality control aids in *TCC*. Ads for AATCC detergent, for example, appeared regularly throughout the 1970s.[31]

In 1973 the tenth anniversary of the groundbreaking for the AATCC Technical Center was noted with a brief article in *TCC*. The article hailed the success of Research Triangle Park, the home of the Technical Center, and went on to list the various companies that had research centers there. The article then described the building's facilities, emphasizing the support the laboratory facilities provided to the workshop program and to the testing programs of the Research Committees. Concluding with an invitation to members to visit the facility, the article painted a highly favorable picture of the institution's role as a technical center for test method development.[32]

New test methods that dealt with various aspects of knit fabrics were introduced in the 1970s, due to increased sales, particularly of doubleknits from textured polyester. Committee RA84: Knit Fabrics Technology had sponsored a series of seminars during this period, and test method efforts grew out of discussions at these meetings.

In 1977, ECR approved the creation of Committee RA93: Terminology, its purpose being to draft definitions for key terms used in test methods, particularly those in titles. The premise was that mandatory definitions would lead to better understanding of what test methods were supposed to measure and would improve communication among test method users.[33] Using the AATCC's consensus process, the committee wrote a series of definitions for existing terms, as well as guidelines for defining terms used in future test methods. As a result of the committee's work, all test methods included a terminology section beginning with the *1980 Technical Manual.*[34] At present, all key terms in all test methods, about 200 in all, have been defined.

The idea of standardization among test methods begun by the Terminology Committee was expanded upon in 1982 with the establishment of RA99; the Technical Manual Editorial Committee. Between 1982 and 1986, this Committee carried out a major overhaul of the contents and organization of the *Manual*. See Chapter 14 for a description of the Committee's impact.

Although some argue that the reason for starting *TCC* was purely to produce a better publication, the need for advertising revenue cannot be ignored. It is a fact of publication life that the number of pages published largely depends on the funds available. Whereas the most esoteric scientific publications are totally subsidized by the parent organization and are free of advertisements, a large part of the *TCC*'s budget has always been derived from advertising. As the data in Table 12-1 for the two major publications covering wet processing indicate, the prospects for increasing revenue from advertising do not look bright. TCC has been losing market share of a steadily shrinking market.

[31] For a typical advertisement, see "How's Your Laboratory Detergent Supply." *TCC,* v. 6, n. 9, September 1974, p. 95.
[32] AATCC: Ten Years in North Carolina." *TCC,* v. 5, n. 6, June 1973, p. 28.
[33] *1978 AATCC Technical Manual*, Research Triangle Park, N.C., AATCC, p. 24.
[34] 1981–1982 AATCC Technical Manual, p. 26

Table 12-1. Advertising Pages in *TCC* versus *ADR* (1969–1996)

	TCC	*ADR*	*Total*	*% TCC*
1969	567	567	1,034	50.0
1976	305	468	773	39.5
1986	157	265	422	37.2
1996	125	276	401	31.2

International Aspects of Test Method Development

In the 1970s, the AATCC continued to participate in international organizations that were involved in setting standards for textile-related test methods. AATCC delegates represented the Association as part of the national delegation from the American Standards Association.

The International Standards Organization became increasingly important in the 1970s. In contrast to the decade of the 1950s, when only about 100 ISO International Recommendations had been published, the decade of the 1960s saw some 1,400 approved. By May 1972, some 2,000 ISO International Standards were in force, with over half of those newly approved or revised within the past three years. In the mid-1970s, there were four to five ISO meetings taking place every day around the world, and ISO standards were increasingly being used to regulate international commerce.[35]

As a result, the AATCC expanded its participation in ISO committee work. By 1974 the Association had primary responsibility for four subcommittees within ISO Committee TC38 and, through ASTM, participated in ten more. The AATCC actively pushed its test methods for adoption as ISO standards, with some success.[36]

In May 1973 the AATCC presented a walnut plaque bearing the greetings and good wishes of AATCC to the newly formed Mexican Association of Textile Colorists and Chemists (MATCC) on the occasion of its first annual Congress in Mexico City.[37] In 1979 the Mexican Association reciprocated, when MATCC President Herbert Bostelmann presented the AATCC with an Aztec calendar at the General Meeting in Cherry Hill, New Jersey.[38]

In 1974 the AATCC was invited to join the International Federation of Associations of Textile Chemists and Colorists (IFATCC). Council decided to send an observer to the federation's tenth congress in Barcelona in May 1975.[39] Following the congress Council accepted the invitation, joining eleven other countries from

[35] Fernand Schlaeppi, "International Colorfastness Test Methods." *TCC,* v. 6, n. 5, May 1974, pp. 117–19.
[36] Ibid.
[37] "AATCC Council News." *TCC,* v. 5, n. 6, June 1973, p. 19.
[38] "AATCC Council Highlights." *TCC,* v. 11, n. 11, November 1979, p. 17.
[39] "AATCC Council News." *TCC,* v. 6, n. 12, December 1974, p. 12.

Europe and South America in the organization.[40] Headquartered in Basle, Switzerland, the IFATCC was founded in 1930 in Milan, Italy. The other members of the Federation at the time the AATCC joined were the national associations of Germany, Spain, France, Italy, The Netherlands, Austria, Switzerland, Sweden, Belgium, United Kingdom, and Columbia.[41] The AATCC became an affiliate in the organization, since full membership was impractical due to travel difficulties and cost.[42] In 1996, AATCC dropped its membership in IFATCC because of limited participation and the demand for resources in other activities.

Awards

In February 1979 the AATCC established a new award, the Henry E. Millson Award for Invention. The award was to be given annually to an individual whose invention or innovation had had a significant impact on the American textile industry. The award was named for the donor of the funds: Henry Millson, a well known researcher, scientist, and textile chemist, who made it a condition of his donation that he never be considered as an awardee.[43] The award was not limited to American citizens or to AATCC members. Although the invention did not have to be patented, it must have been made in the previous twenty-five years.[44] Samuel Smith received the first Millson award in 1980 for his work with oil and water repellent fluorochemical textile finishes.[45] Subsequent awardees are listed in Appendix 27.

Also in February 1979 the Council approved a new award for the best paper published annually in *Textile Chemist and Colorist*. This was a revival of the concept behind the American Dyestuff Reporter Award, discontinued in 1968 (see Chapter 10). In 1990, the award was named for J. William Weaver (1916–1990), who was chairman of the *TCC* editorial board at the time of his death.

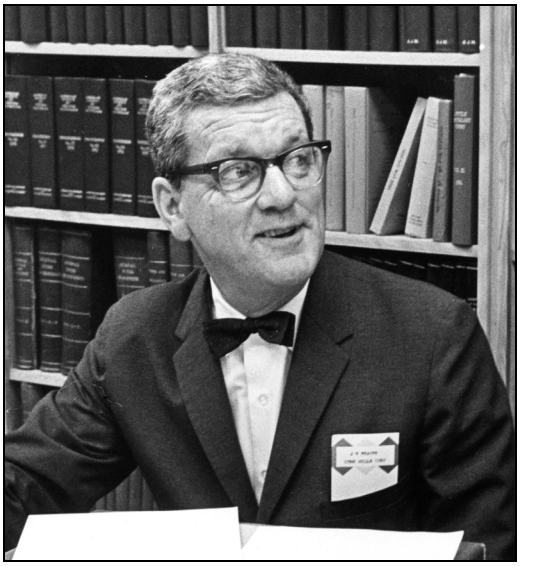
In 1981 long-time Technical Director George Mandikos was named an honorary member of the AATCC, the Association's highest honor, being only the tenth person so honored (see Appendix 33).[46] A scroll was presented to him to mark the occasion.[47]

Publications

Changes in the relationship between the Association and the Howes Publishing Company during the 1970s are detailed in Chapter 10. The AATCC continued to develop

[40] "AATCC Council News." *TCC*, v. 7, n. 12, December 1975, p. 12.
[41] "AATCC Unanimously Approved for Membership In Federation." *TCC*, v. 8, n. 3, June 1976, p. 9.
[42] "AATCC Council News." *TCC*, v. 11, n. 1, January 1979, p. 10.
[43] "AATCC Council News." *TCC*, v. 11, n. 4, April 1979, p. 10.
[44] "A Call For Nominations." *TCC*, v. 12, n. 2, February 1980, p. 28.
[45] "Samuel Smith Named First Recipient of AATCC's Newly Established Millson Award for Invention." *TCC*, v. 12, n. 9, September 1980, p. 58.
[46] "AATCC Council Highlights." *TCC*, v. 13, n. 1, January 1981, p. 10.
[47] "AATCC Council Highlights." *TCC*, v. 13, n. 7, July 1981, p. 8.

Henry E. Millson



J. William Weaver

its publication program for handbooks, monographs, and collections of papers as described in Chapter 9.

Beginning in 1973, the AATCC began to publish annually in *TCC* the changes made to test methods.[48] Since the *Technical Manual* was no longer free each year, as noted in Chapter 11, but had to be purchased, publishing the revisions was a way to motivate those who used the test methods to get the updated version.

Another initiative taken in the mid-1970s was commissioning articles for *TCC* that were later collected for publication. This differed from other collections of published papers (described in Chapter 13) in that the papers in this new program were never given at a conference or seminar.

The first of these series, "The Performance of Textile Coloring Materials," was motivated by a desire of the Technical Committee on Research to share information about the development of Association's test methods. According to the editors of the series, R. Lee Wayland and J. William Weaver, that knowledge was now in "committee files, journal articles or the memories of the test method developers, and is not readily accessible to workers in the textile testing field who might like to know more about the tests they are using."[49]

The editors commissioned a series of papers about existing test methods, written by individuals who had participated in their development and who were fully familiar with the principles on which the test methods were based, their limitations, and the critical and noncritical areas in the methods. The authors were asked to describe the scientific basis of the test methods, the data on which they were based, their limitations, their accuracy and precision, their critical procedures, their correlations with end-use or lack of it, and their proper and improper uses. Although the papers were not official Committee documents, they did reflect the collective experience of committee members.[50] At heart, if the test methods published in the *Technical Manual* answered the question, "How?" the papers would answer the question, "Why?"

Papers in the series included such titles as "Measurement of Color and Color Differences," by Dr. E. I. Stearns of the department of textiles at Clemson University. This paper explored the various ways that color was defined and measured, both by eye and by instrument. It included a detailed discussion of a number of color description systems and terms, such as tristimulus values, trichromatic coefficients, the Munsell color system, and color space. Such a broad description of both practical and theoretical elements was typical of papers in the series.[51]

This series was followed by others, most notably the "Dyeing Primer," a series of twelve articles that dealt with the basics of dyeing.[52] This highly practical series was intended for those who had no formal training in the coloration of textiles. The articles were published as a single volume in 1981.

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[48] "Changes Announced for 1973 Technical Manual." *TCC,* v. 5, n. 6, June 1973, p. 46.
[49] "The Performance of Textile Coloring Materials." *TCC,* v. 6, n. 1, March 1974, p. 16.
[50] Ibid.
[51] E. I. Stearns, "Measurement of Color and Color Differences." *TCC,* v. 6, n. 2, February 1974, pp. 38–49, and v. 6, n. 3, March 1974, pp. 45–51.
[52] "What Are Dyes? What is Dyeing?" *TCC,* v. 12, n. 1, January 1980, p. 40.

The Society of Dyers and Colourists

The revised Volume 5 and the new Volume 6 of the *Colour Index* were published in 1976.[53] A seventh volume appeared along with an updated Volume 5 in 1982.[54]

In 1979, the AATCC reciprocated the gesture the SDC had made in 1971 by making the person who held the office of president of the SDC an honorary member of the AATCC. A certificate of honorary membership was presented to SDC President J. Kenneth Skelly at the AATCC's General Meeting in Cherry Hill, New Jersey, that year.[55]

Sectional Activities

Due to declining membership, the Washington [D.C.] Section voted to disband in April 1975. Membership had been falling steadily since 1967, when there were 147 members. By 1975 that had fallen to thirty-nine making it by far the smallest section.[56] Council divided the Washington Section's territory between the Delaware Valley Section and the Northern Piedmont Section.[57]

Student Chapters

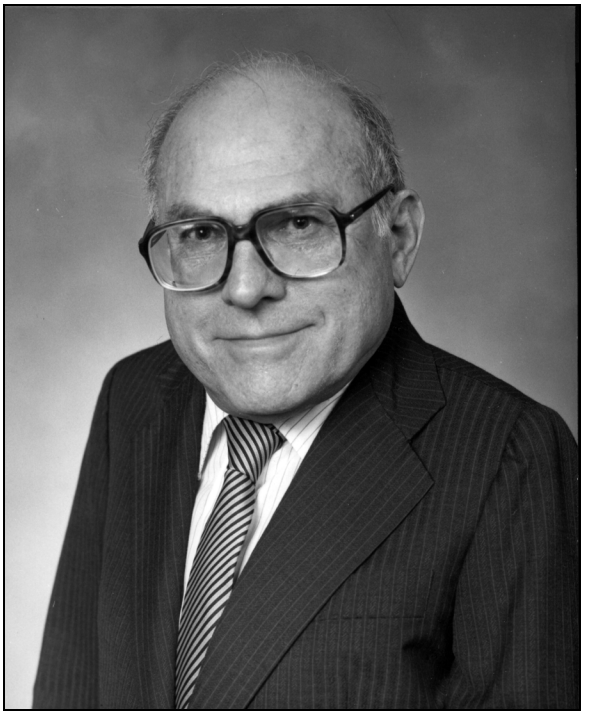
Seventeen new Student Chapters were added during the years 1975–1981 (see Appendix 16). At the November 1981 Council meeting a new competition was authorized for student sections. Similar to the Intersectional Paper Competition, the new competition offered a prize for the best technical paper from a student section presented at a General Meeting. The first competition was held at the 1982 meeting.[58] The awards were endowed by an initial grant of $60,000 from Herman and Myrtle Goldstein in 1995 and named in their honor.[59] A list of all recipients appears in Appendix 32.

General Meetings

In the 1970s, attendance at International Conferences & Exhibitions ranged between 1,200 and 2,500, compared with over 3,000 in the mid-to-late 1960s. Despite decreased attendance, meetings could still turn a profit. For example, the Southeastern Section turned over a surplus of more than $44,000 to the AATCC's general fund

[53] "AATCC Council News." *TCC,* v. 8, n. 6, August 1976, p. 14.
[54] *1983 Publications/Quality Control Aids,* AATCC Archives, p. 1.
[55] "Southeastern Section Wins its First ITPC." *TCC,* v. 11, n. 11, November 1979, p. 16.
[56] Membership Summary, *1975 AATCC Membership Directory,* p. 18.
[57] "AATCC Council News." *TCC,* v. 7, n. 6, June 1975, p. 17.
[58] Ibid.
[59] Dr. Herman Goldstein was the 1973 recipient of The Olney Medal and the 1985 recipient of the Henry E. Millson Award for Invention.

Herman and Myrtle Goldstein, with Student Paper Presenters



Herman Goldstein

after the 1977 conference.[60] Usually, conferences held in the South drew the largest attendance, since the textile industry had continued to grow in that area. As a result, by the 1980s the majority of meetings were in the South for the first time.

The first, and to date the only, General Meeting on the West Coast was held in 1978, at the Disneyland Hotel in Anaheim, California. To encourage attendance, the AATCC arranged three charter flights with United Airlines, leaving from Atlanta, Greensboro, and New York. The fact that two of the three departures were from the South was no accident–the center of AATCC membership had moved there by the mid-1970s. As a result of these efforts, some 1,200 people attended the meeting that featured twelve technical sessions and more than fifty papers.[61]

Beginning in 1974, papers presented at conferences were prepublished as a single book of papers. Surplus copies were offered for sale after the conference until supplies ran out, a practice that continues.

Conclusion

The decade between 1973 and 1983 was a period of considerable frustration for the AATCC and its members. Decline in the chemical and textile industries, the decrease in membership, and constant dues increases to meet expenses and keep up with inflation made it a trying time. However, the Association managed to continue its seminar and workshop programs, expand test method development, and maintain the Technical Center and its staff at stable levels. In much the same way that problems of the 1950s had led to new programs and new directions in the 1960s, this period led to innovations in the way the AATCC was run. Those changes are described in Chapter 14.

[60] "AATCC Council News." *TCC,* v. 10, n. 6, June 1978, p. 10.
[61] "1,200 Attend AATCC's First West Coast Conference." *TCC,* v. 10, n. 12, December 1978, pp. 16–17.

Chapter 13

Short Courses for the Trade (1965–1996)

Since 1965, the AATCC has played an increasing role in educating individuals about changes in technology in the textile industry, as well as the application and use of test methods. This chapter focuses on three areas. One, development of training programs and workshops for performing AATCC test methods; two, organization of symposia on topics of interest to the textile industry outside the context of the annual technical conference; three, publication of specialized information related to these efforts.

Together, these activities constitute the major vehicle for disseminating information of immediate interest to AATCC members. In contrast to the more theoretical focus of the Association's journal *Textile Chemist and Colorist (TCC),* these activities focus on more practical topics, serving the needs of its corporate members.

The AATCC and Education

The initial impetus for AATCC's involvement in education about test method use appears to have been publication of the Report of the Committee on Long-Range Objectives in 1960. Among its recommendations was that support for technical and scientific activities be expanded and that this be accomplished by providing technical support to Association members by a professionally qualified headquarters staff. While providing formal instruction in test methods and other technical matters was not mentioned, it was implied in the description of support activities.[1]

The issues raised by the Committee's report later surfaced during other discussions about the future of the Association. While planning in the early 1960s for the move to the new headquarters building in Research Triangle Park, the AATCC's leadership began to discuss how to take the greatest advantage of its new facilities. One

[1] "Report of the Study Committee on Long-Range Objectives of the AATCC." *ADR,* v. 49, n. 4, February 22, 1960, p. 48 (P122).

popular idea was to use the meeting rooms and Council chamber for purposes beyond staff, business, and research committee events. For example, in his presidential address at the 1962 annual meeting, Elliot Morrill stressed how the new building would be the centerpiece of a dynamic program for the collection and dissemination of information about textile chemistry and dyeing.[2]

In another 1962 article describing plans for the new center published in *American Dyestuff Reporter (ADR)*, George Paine pointed out that the meeting rooms would be used for "seminars, symposia, and study groups," and that the enlarged staff would serve as a liaison between the AATCC and corporate members.[3] Finally, in his remarks at the opening ceremonies for the new headquarters in 1964, AATCC President Ernest R. Kaswell specifically mentioned that the facility would be used for meetings and seminars, and he stressed that the building would be a center for educational programs to benefit the membership as a whole.[4] This early vision led first to workshops in 1965, to symposia in 1966 and 1967, to specialized publications in 1969, and to the appointment of Peggy Pickett, a clothing and textile technologist, as full-time education director in 1996. Pickett has been largely responsible for the growth of these programs over the past two decades.

Workshops

Shortly after the new headquarters was opened the AATCC began to offer "workshops" that provided training in the use of AATCC test methods. The practice was not new, but formalizing the instruction process was. It is clear from allusions in surviving documents that the AATCC's staff had always provided informal instruction on how to run test methods. Prior to World War II, Louis Olney himself or other staff members at the Lowell Textile School answered questions about test methods by mail or by telephone. After the war, the full-time headquarters research staff took over these duties.

Support for test method users was necessary, particularly prior to the editorial revisions of many test methods in the mid-1950s. Until then, the written test methods were often informal and relied on qualitative descriptions for procedures rather than quantitative ones. Consistent results required that the person performing the test know which variables were important and which were not, and such knowledge came only with experience.

By the mid-1960s, the guidelines for writing test methods had improved. In particular, more of the potential environmental variables, particularly temperature and relative humidity, were specified, increasing the likelihood of consistent results. A new complication had arisen, however, from the desire of test method developers to automate test procedures. Some test methods, such as those for colorfastness to washing,

[2] Elliot Morrill, "President's Address." *ADR*, v. 51, n. 24, November 26, 1962, pp. 36–37 (P926–P927).
[3] George P. Paine, "A New National Headquarters for AATCC." *ADR*, v. 51, n. 22, October 29, 1962, pp. 144–144B (P868–P870).
[4] "Dedication Exercises–AATCC National Headquarters Building." *ADR*, v. 53, n. 14, July 6, 1964, pp. 24–25.

Peggy Pickett

had used purpose-designed test equipment from very early on, but by the early 1960s the number of test methods requiring specialized apparatus, such as those for flammability or abrasion resistance, had multiplied enormously. These devices were often complicated and difficult to operate consistently without some training. Thus, it is not surprising that the AATCC's leadership saw a need for training laboratory personnel in how to perform its test methods.

The first workshop on test methods was held at the AATCC Technical Center on September 25, 1965, and was well publicized beforehand. A short article appeared in *American Dyestuff Reporter* the preceding July, and the event was listed prominently in the AATCC Calendar (the listing of upcoming events that appeared in every issue of *ADR*).[5] The announcement of the new workshop series was made by George S. Wham, the chairman of the Executive Committee on Research (ECR), who emphasized that the training was intended to "assist textile technicians with practical demonstrations and instruction in test method techniques."[6]

[5] "AATCC to Hold Wash-Wear Testing Workshop September 25." *ADR,* v. 54, n. 14, July 5, 1965, p. 50 (P526); "AATCC Calendar." *ADR,* v. 54, n. 19, September 13, 1965, p. 88 (P748).

From the beginning, workshops were designed to be ongoing training programs. They were held on Saturdays so that technicians could attend without interfering with their normal work schedules. The workshops were conducted under the direction of William R. Martin Jr., the AATCC's recently hired technical director, using the AATCC's new laboratory facilities.

The use of the laboratory for instructional purposes had been planned early on. The Executive Committee on Research had pointed out in 1961 that "such a laboratory would make an excellent workshop for Headquarters personnel to demonstrate the authentic methodology of AATCC tests."[7] By limiting the size of each class to twenty-five participants, it was possible for all students to get hands-on experience with the test methods. Martin found the laboratory a very useful teaching tool, and he and other staff members worked hard to expand the workshop program.

Martin later recalled the early years of the training program as "a very exciting time" due to continuing changes in the textile industry.[8] Textile manufacturers were eager to learn about the latest test methods and proved willing to send their employees to AATCC workshops. At the time, durable press was just beginning to attract attention. Therefore, it is not surprising that the first seminar was entirely devoted to test methods for those types of fabrics.[9] Along with cellulose reactants and crease resistant finishes, durable press proved to be the biggest draw as a workshop in the early years. Through extensive publicity, Martin was able to run the workshop once a month for over a year, repeating the same material each time.[10]

As time went on, workshops on other topics were added. In late 1965 and early 1966, for example, successive workshops covered colorfastness to water; water resistance and water repellency; colorfastness to ozone, oxides of nitrogen, and bleaching; flammability and electrical resistance; and dimensional changes.[11] This pattern continued, with regular offerings of a different workshop on a monthly basis.[12] The Saturday sessions were offered until the mid-1970s, when Martin replaced George Paine as executive director.[13]

According to Martin, the workshops proved to be very beneficial for the AATCC's image within the textile industry. The workshops served to show off the Association's headquarters building, particularly the laboratory, and that brought more and more attention to the AATCC. Moreover, the workshops solidified the close connection in people's minds between the AATCC and textile test methods.[14] As a result, firms were more willing to allow their employees to participate in AATCC activities and more likely to become corporate members.

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[6] Ibid.
[7] "ECR Proposals Regarding AATCC Research Approved by Council." *ADR*, v. 50, n, 24, November 27, 1961, p. 44 (P928).
[8] Mark Clark interview with William R. Martin Jr., April 11, 1995, AATCC Archives, Research Triangle Park, N.C., p. 12.
[9] "AATCC to Hold Wash-Wear Testing Workshop September 25." *ADR*, v. 54, n. 14, July 5, 1965, p. 50 (P526).
[10] AATCC Calendar." *ADR*, v. 55, n. 1, January 3, 1966, p. 43 (P28).
[11] AATCC Calendar." *ADR*, v. 55, n. 25, December 5, 1966, p. 99 (P1073).
[12] See, for example, "AATCC Calendar." *ADR*, v. 57, n. 1, January 1, 1968, p. 35 (P24).
[13] Ibid.
[14] Martin Interview, p. 15.

In part, this success resulted from a workshop audience different from what the AATCC had thought it would be. The Saturday sessions were designed to appeal to technicians and laboratory personnel, but the Association soon found that the majority of the attendees were managers and supervisors. In 1967, only 23 percent of those who had taken the class were technicians or laboratory workers. As a result, the success of the workshops gave the AATCC credibility at higher organizational levels than expected.[15]

Due to the success of the workshops, the AATCC continued to promote them in *ADR*. With the introduction of *Textile Chemist and Colorist (TCC)* in 1969, advertising effort was increased as part of a larger movement to expand the AATCC's ability to distribute technical information to its members. As described in Chapter 10, the AATCC's leadership anticipated using some of the profits from the new journal to fund a variety of informational programs. The journal itself was a platform to promote the scientific and technical image of the Association, with contents that reflected well on what the AATCC was doing.

It is not surprising, therefore, that workshops and symposia were featured prominently in *TCC* from its beginning. The first issue of *TCC* featured as one department a list of upcoming workshops and symposia. There was also a short article describing an upcoming AATCC workshop on soil release test methods, and an announcement of two symposia planned for 1969.[16]

The second issue went even further, with two full pages devoted to a description of an upcoming symposium on water pollution control. The description looked just like an ordinary article, although in content it was clearly an advertisement. It listed the featured speakers, their topics, the location of the meeting, and ended with a solicitation for registration.[17] This practice of using *TCC* to announce the AATCC's workshops and symposia proved to be very successful and led to continued growth and popularity of this aspect of the Association's activities. According to AATCC records, the 1,000th registrant participated in a workshop in 1969.

Several other changes in the workshop program were made in 1969. The AATCC conducted a number of programs in cooperation with the Apparel Research Foundation and began to offer a number of two-day programs to supplement the regular one-day programs, covering subjects in more depth. The AATCC also joined with six other organizations to sponsor the Textile Wear Test Symposium in Raleigh, North Carolina.[18] The following year the Association's Warp Size Technology Committee and the School of Textiles at North Carolina State University sponsored a seminar on Continuous Filament Yarns. Cooperative efforts were a minor part of the program, however, and most workshops in the 1970s and 1980s were run by the AATCC staff alone.

[15] *1968 AATCC Technical Manual,* Research Triangle Park, N.C.: AATCC, p. A-38.
[16] "AATCC Workshop: Soil Release" and "Symposia," *TCC*, v. 1, n. 1, January 1, 1969, p. 99.
[17] "AATCC Symposium: Water Pollution Control in the Textile Industry." *TCC,* v. 1, n. 2, January 15, 1969, pp. 11–12.
[18] American Apparel Manufacturers Association, American Society for Quality Control, American Society for Testing Materials, Applied Research Foundation, National Retail Merchants Association, and School of Textiles at North Carolina State University. *1970 AATCC Technical Manual,* p. 17.

The number of workshops offered declined in the mid-1970s, but increased again in the 1980s. One reason for the renewed popularity was the opportunity for participants to examine textile testing equipment that they were considering buying. While the AATCC's staff followed strict guidelines when discussing test equipment to avoid favoring one brand over another, the mere presence of a particular brand in the AATCC's laboratory served as a subtle endorsement. Equipment manufacturers understood this, and much of the AATCC's lab equipment was either donated or provided at reduced cost as a result.[19]

In the mid-1970s the AATCC began to offer workshops at sites other than Research Triangle Park. Concerned about the time and expense associated with travel to North Carolina, AATCC staff arranged for workshops at various sites around the country instead. For example, in May 1976 the AATCC staff ran a workshop on textile testing in Spartanburg, South Carolina, and in March 1977 the first carpet printing and testing workshop was held in Dalton, Georgia. As a result, offsite workshops became increasingly common.

Symposia

The first discussions of the possibility of conducting symposia outside the annual General Meeting also date to the early 1960s. The Executive Committee of Council discussed it for the first time in September 1960 and referred it to the ECR for review.[20] ECR recommended hiring a technical director, among whose duties would be "the planning and organization of seminars, symposiums, and study groups at either the national or sectional levels."[21] The Committee also recommended that the AATCC arrange for lecture tours by experts and scientists, bringing the results of research to isolated areas.[22]

These suggestions were eventually brought to fruition through hiring William R. Martin Jr. as technical director. As already described in this chapter, Martin initially focused on workshops for test method use. By 1969 that program was ongoing and successful, and he and the members of ECR turned to bringing scientific and academic research to the attention of industry.

The AATCC already had a long tradition of such activities, with papers presented at General Meetings and at sectional meetings. Both forums had drawbacks from the point of view of AATCC members, however. General Meetings were held at a different site each year, so it was often not convenient for members to attend, particularly if their jobs did not allow them to be away for several days. Section meetings were shorter and were more conveniently located but usually consisted of only a single speaker and did not give an in-depth look at the topic. Both types of meetings suffered from poor images. The lavish parties and receptions at General Meetings and

[19] Mark Clark, Interview with Karen E. Kyllo, April 12, 1995, AATCC Archives, p. 23.
[20] "Council Highlights." *ADR*, v. 49, n. 23, November 14, 1960, p. 71 (P858).
[21] "ECR Proposals Regarding AATCC Research Approved by Council." *ADR*, v. 50, n. 24, November 27, 1961, p. 44 (P928).
[22] Ibid., p. 45 (P929).

the sectional dinners with cocktails before and after were viewed by many mill managers as social rather than technical occasions, and so they were reluctant to send their employees at company expense.

In developing new programs, therefore, the AATCC sought to differentiate its symposia from its other activities to emphasize their seriousness. Symposia were held during the week but not at the AATCC Technical Center. As Martin later put it, "We took the symposia to where the action was. [For example] if it was on carpets we took it to Dalton, Georgia, because that was the center of the carpet industry."[23] By linking the location closely to the topic presented, the AATCC made it easier for people to attend. Also, by holding symposia during the day on a weekday rather than on a weekend, it seemed less like a leisure activity.

As important as the setting of symposia was, such arrangements would have been for nothing if the topics had not been of interest to members. To make sure that the presentations would be relevant, the AATCC relied on the members of the various Technology Committees to select topics for symposia and to arrange for speakers. According to Martin, "The technology committees were the ones that developed the symposia, came up with the topics and participated in them."[24] Since the technology committees had been set up specifically to deal with cutting-edge issues in textile technology (see Chapter 9), their members were the best equipped to select topics of burning interest.

The first AATCC symposium, "What to Test for Durable Press" was held at the Marriott Twin Bridges Motel in Washington, D.C., on March 11, 1966. The program was sponsored by the Durable Press Technology Committee of which J. William Weaver was chairman. The program consisted of public reports of AATCC research committees concerned with durable press and a question and answer session.[25]

The second symposium, "Flock Technology: 1967," sponsored by the Flock Technology Committee and chaired by George Stead Jr. was held December 7–8, 1967, at the Washington Hilton Hotel in Washington, D.C. The fifteen topics covered included new product opportunities, manufacturing processes, adhesives and drying factors, flocking equipment, performance requirements, and the state of the flocking industry in England and France.[26]

Over the next decade, the AATCC typically held, on the average, two symposia a year. Topics varied widely, although programs related to environmental issues were the most common. Topics were selected by the sponsoring committee, that then suggested speakers and a location to the AATCC staff. The staff then made final arrangements, including scheduling, advertisement, and registration. Symposia generally lasted two days, with morning and afternoon sessions both days, as well as lunchtime speakers.

The speakers came from both industry and academia and covered a variety of topics. Most of the talks were entirely technical, but some dealt with issues of regulation

[23] Martin Interview, p 15.
[24] Ibid.
[25] *ADR*, v. 55, n. 17, August 15, 1966, pp. 33–53 (P631–P651).
[26] *ADR*, v. 56. n. 25, December 4, 1967, p. 88 (P969).

and industry structure. The emphasis in all talks was on practical information that firms could use immediately or in the near future.

The registration fees were generally around $150, with a discount to individual and corporate members of AATCC. This differential pricing was designed to encourage people to join the Association, since the price difference was the same as one year of membership dues. The fee included lunch for both days and a book containing the papers presented. The meetings were advertised in *TCC*, generally abstracts of papers appeared the month before the meeting.[27]

By the early 1980s, symposia had become a popular way for Technology Committees to present the results of work in their fields. Because of their focus on a single technical issue and reputation as business rather than social events, symposia have continued to be a popular part of the AATCC's educational efforts. Symposia received a further boost in the early and mid-1990s with the rise of the importance of International Standards Organization (ISO) standards and certification. In particular, the promulgation of what was known as "ISO 9000" certification made business executives more aware of the AATCC's work in test methods as applied to quality control.[28] As a result, both workshops and symposia enjoy continued success. Complete lists of both are given in Appendices 19 and 20.

Specialized Publications

The early 1960s saw an expansion in the scope of the AATCC's publications, as a result of workshops and symposia. The ECR decided early on that the reach and impact of both workshops and symposia would be enhanced if the information generated was published and distributed. ECR's final report to Council on the matter included a recommendation that the AATCC's publication program be expanded to include pamphlets aimed at providing "how-to-do-it" information on dyes and fibers and monographs on topics in textile chemistry not covered in existing literature.[29] Council approved the recommendations, and by mid-1962 ECR, in cooperation with the Publications Committee, began to explore putting together two special publications, one on the problems in chemical finishing of cotton, the other on yarn dyeing.[30]

The real change in the publication program came in the late 1960s, however, when the AATCC began to collect and publish papers as soft bound volumes. Beginning in 1969, participants in AATCC symposia received bound copies of all papers presented at the meeting.[31] The Association also began to publish papers presented at General Meetings in a collected volume for participants.

In addition to collections of symposia papers, in the mid-1970s the AATCC also began to publish handbooks on selected topics. Produced by Technology Commit-

[27] *1970 AATCC Technical Manual*, pp. 40–42.
[28] Martin Interview, pp. 27–28.
[29] "ECR Proposals Regarding AATCC Research Approved by Council." *ADR*, v. 50, n. 24, November 27, 1961, pp. 44–45 (P928–P929)
[30] "Council Highlights." *ADR*, v. 51, n. 16, August 6, 1962, p. 43 (P601).
[31] *1970 AATCC Technical Manual*, p. 17.

tees, these handbooks were inexpensively produced compilations of up-to-date information of interest to industry. The first such handbooks were prepared by Committees RA76; Flock Technology, and RA70; Bonded and Laminated Fabrics.[32] These handbooks were kept in stock at the Technical Center and sold by mail order. As a result of the printing of collections of symposia papers and the handbooks and monographs prepared by various Technology Committees, the AATCC was able to offer its members and the textile industry in general a wide variety of publications on topics of immediate interest (see Appendix 21).

Conclusion

The creation of workshops and symposia reflect the AATCC leadership's response to the needs of the textile industry. Through connections with industry provided by the Technology Committees, the Association has been able to provide programs that are relevant and useful. Above all, these programs owe their success to their highly practical nature. By focusing on topics of interest to particular groups within the Association, they allow staff members to direct precise information to a specific audience. This makes maximum use of limited resources and allows the AATCC to charge more than for more generalized presentations, keeping the operation profitable. Given the success of such programs, it appears likely that the AATCC will continue to use them as one means of technical communication.

[32] *1975 AATCC Technical Manual,* p. 17.

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Chapter 14

Meeting the International Challenge (1984–1996)

The focus of this chapter is twofold: the impact of the continuing decline in American dye and textile manufacture on AATCC membership and the growing emphasis on international links to compensate. The chapter also examines recent trends in test methods, the increasing role of women in the Association, section activities, and changes in management of the AATCC International Technical Conference from sectional to AATCC staff control. The chapter concludes with an examination of the renewed interest in history within the AATCC since the late 1980s.

Organizational Changes

In late 1983, the Association hired Laura G. Crumpler to fill a new position as director of membership services.[1] The newly created position carried several responsibilities. First, to develop ways to attract new members, both corporate and individual. Second, to explore programs to increase retention of existing members. Third, to serve as a liaison between members and the Association, working to assist recruitment by individuals and sections.

Crumpler immediately moved to put into place a number of programs to halt membership decline. She started a recruitment program that ran on a continuous basis, giving prizes to members who recruited new members.[2] She also began to publish short articles in *TCC*, describing the history of the AATCC's involvement with test methods, the theme of which was the positive benefits that accrued from corporate members even though they could not vote.[3] Her efforts halted the continued decline in membership that, by 1986, had stabilized at just over 6,000.

The AATCC also introduced a program of sustaining membership, offering members the opportunity to contribute an additional $20 or more, per year in addition to

[1] "AATCC Council Highlights." *TCC*, v. 16, n. 2, February 1984, p. 12.
[2] Mark Clark, Interview with Kathy Pendziwater, April 12, 1995, AATCC Archives, Research Triangle Park, N.C., p. 12.
[3] "Thanks To Our Corporate Allies." *TCC*, v. 16, n. 9, September 1984, pp. 56–57.

regular dues. Sustaining members were recognized by listing their names in the membership directory. In 1985 the program brought in over $15,000. The program was strengthened by changing the membership form to include the sustaining amount in a prominent fashion, boosting the number of contributors significantly.[4]

Beginning in 1986, a list was published annually in *TCC* of all AATCC members who had been members for fifty years or more. Although no charter members were still alive in 1986, there were still five active members who had joined in 1923. One of these, Robert Joerger, is still alive as of this writing. Joerger, who was born in 1905, joined the AATCC at the age of 18.

Crumpler, who left the AATCC in 1986, was replaced by Kathy Jones (now Pendziwater). Jones had previously worked for the North Carolina Association of School Administrators as membership director and conference coordinator. As she recalled, she made a number of changes in the recruiting process:

> "I decided to recruit on a short term basis (perhaps a special offer for three months or on a yearly basis) rather than continuously. I named our recruitment program the PRO Club. PRO was Professionals Recruiting Others. People saw the name and immediately recognized that it had something to do with a recruitment program. We also put out a monthly newsletter called PROLOGUE to all the recruiters, as well as sectional and national officers."[5]

The recruiters were volunteers from the AATCC's ranks. They became eligible for prizes for each person recruited. For example, recruiting five persons in one year made the recruiter eligible for a plaque recognizing his or her efforts, or a year's free membership. The recruiters also had the satisfaction of seeing their name in print in PROLOGUE.[6]

However, Jones found that her most effective recruitment tool was mass mailings to qualified prospects. Names came from lists of persons who attended an AATCC workshop or symposium or who had written to the Association for information. She also included persons who had attended meetings on textiles at which an AATCC staff member had been present and had brought back the attendance list. Jones learned that it took approximately seven letters to recruit one member by using mailings from this list, and using a different letter and a different brochure each time.[7]

Initially, Jones spent the majority of her time on the recruitment of new members. In more recent years, she has spent an increasing amount of time on member retention. In contrast to the more centralized efforts that go into recruiting new members, retention efforts are concentrated in the sections, primarily with membership chairmen. Pendziwater and her staff provide guidance and advice, and in recent years they have begun to travel to sections to orient new officers in recruitment and retention efforts. As a result of this program, retention was roughly 87 percent in 1995, a figure that compares favorably with other professional societies.[8]

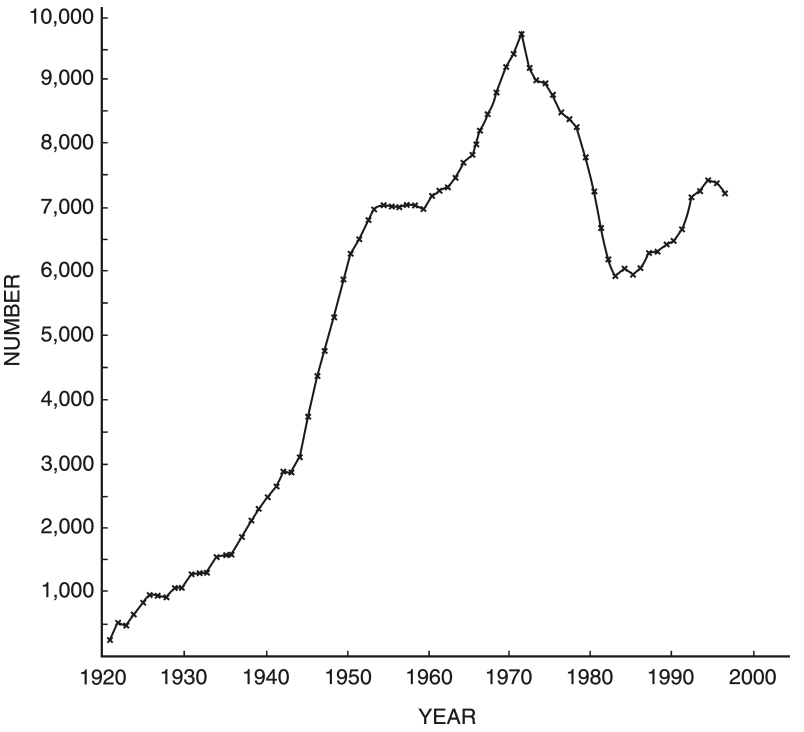
[4] Mark Clark, Interview with William R. Martin Jr., April 11, 1995, AATCC Archives, Research Triangle Park, N.C., p. 40.
[5] Pendziwater Interview, p. 12.
[6] Ibid., p. 12–13.
[7] Ibid., p. 13.
[8] Ibid., p. 15.

Kathy Jones Pendziwater

In addition, in the early 1990s, Jones was given major responsibilities for convention planning to bring the administration of the annual General Meeting in-house (described in more detail later in this chapter). By the mid-1990s, she was spending roughly 75 percent of her time on membership services and 25 percent on convention-related business.[9]

Through the efforts of Jones and her staff, membership began to increase in 1987 and continued to rise steadily through 1995, reaching a total of 7,649. The total dipped slightly in 1996 to 7,419. Given overall employment trends in the American textile industry, this is good performance. In part it is due to an increase in foreign membership, which topped 800 in 1996, matching the level reached in the early 1970s before a decline that mirrored the domestic decline. Since overall membership was smaller, international members made up the largest percentage ever: 10.9 percent. India and Bangladesh were the largest source of growth during the mid-1990s, including the AATCC's only foreign section as of 1996, a student section at Bangladesh College of Textile Engineering.[10] As of this writing, the number of corporate members stands at 276 with four having joined shortly after the Association was formed: Ciba Geigy (1923); DuPont (1925); Rohm and Haas (1926); and Allied Signal (1928).

[9] Ibid., p. 20.
[10] Ibid., p. 29.



Changes in AATCC Membership (1921–1996)

In the late 1980s the AATCC made a major switch from section volunteers to Association staff to run the annual Technical Conference. Prior to that time, a section would "invite" the AATCC to hold the Conference in its area. Volunteers would be in charge of arrangements, with the AATCC's staff serving only as advisors. The volunteers had to do a huge amount of work, often putting in long hours years in advance of the event. The general prosperity of the textile and dye industries in the post-World War II period gave firms the luxury of allowing their employees this time off. As described in Chapter 12, however, by the mid-1970s conditions within the industry had begun to change, and as time went on sections found it increasingly difficult to find members willing to volunteer for the jobs. As Bill Martin recalled, it was not a situation unique to AATCC, but one that plagued almost all technical and scientific societies.[11]

With the decline in volunteer labor, the AATCC's staff took over. Kathy Jones, the membership director, had experience with convention planning before coming to AATCC, and she was given a major role in dealing with hotels and convention centers. Jerry Tew, the AATCC's technical director, coordinated the creation of a manual that formalized procedures.

[11] Martin Interview, p. 32.

Since the AATCC staff members no longer had to train volunteers every year but did the job over and over again themselves, they became more proficient at meetings management. Moreover, the companies with which they dealt became more cooperative. The reason was simple, as Martin pointed out:

> "As a result of the ongoing experience of the AATCC's staff the hotel people talk to each other. They know who's good at this and who's not. They now have a sense that we know what we're talking about when we go there. We can talk their language. We've gone to a great effort to learn to talk their language because there's no point in going in and saying that we want to lock up all their function space and keep it locked up from now on because they're in the business of selling function space. We tell them that we want to work with them. All of these kinds of things help [give] the Association… a reputation that here's a [high] quality outfit that knows what it's doing… We start our staff meetings the first Wednesday morning in June each year and meet each week right on up to the conference. By the time the conference comes everybody is aware of what is going on and who's doing what. Problems have already been resolved."[12]

The AATCC staff did all conference planning and administration after 1989, with the exception of the 1993 International Technical Conference and Exhibition in Montreal, where the CATCC had a prior agreement. All future meetings, including those in Canada, will be run by AATCC staff.

What is remarkable is that the AATCC did not add a single staff person to aid in running the conferences. This was due in part to increased computerization that allowed some functions, particularly mailings and billing, to be handled more easily.[13] However, just as important was Martin's management style, that was highly effective at extracting large amounts of work from his staff.

In 1987 Marguerita C. Hindle, the first woman to become president of the AATCC, was elected. Hindle, then vice president for research and development at Kenyon Industries, in Kenyon, Rhode Island, had been active in the AATCC since joining in 1960. She had served previously as vice president of the New England Region, chairman of the Rhode Island Section, and national councilor for that section. She had also been chairman of the Executive Committee on Research and had served on various national administrative, technology, and test method committees.[14]

Hindle attended the annual dinner meeting of the Society of Dyers and Colourists in Bradford, England, as an invited guest in May 1987. It is believed she was the first woman to ever attend the event.[15]

George Mandikos, who had retired from the AATCC's staff in 1985, succeeded Hindle as president in 1989. Trained at Lowell Textile Institute by Louis Olney, Mandikos joined the AATCC's staff in 1944 and had served successively as a research associate, technical manager, technical secretary, and finally as technical director from 1976

[12] Ibid., p. 36.
[13] Ibid., pp. 34–35.
[14] "Marguerita C. Hindle Elected President of AATCC." *TCC,* v. 19, n. 1, January 1987, p. 17.
[15] "AATCC Council Highlights." *TCC*, v. 19, n. 9, September 1987, p. 77.

until his retirement.[16] Mandikos was not motivated by any particular desire to make changes when he decided to run. Rather, he was persuaded by a number of friends within the Association that he would make a good president. His candidacy proved popular, and he was elected by a wide margin. The most notable effect of his election was that the responsibilities of the office prevented him from finishing the history of the Association he had been planning to write.[17]

William R. Martin Jr. officially retired as executive director in May 1996. During the November 1995 Council meeting, Martin was awarded an honorary membership in the AATCC in recognition of his distinguished service since joining the Association's staff in 1964.[18] The award was kept secret, and he was completely surprised, as can be seen in the picture (14.3) that appeared in *TCC* the following January.[19]

Martin was succeeded by John Y. Daniels, who started work on March 1, 1996. An Association member for more than twenty years, he had been AATCC's laboratory manager from 1974 to 1979. Daniels' experience included textile laboratory management, director of research, director of product development, and most recently as director of automotive fabrics for Clark-Schwebel Inc., a subsidiary of Springs Industries.[20]

Technical Development and the AATCC

In contrast to earlier periods when such topics as durable press and environmental matters were prominent in the AATCC's technical agenda, the years since 1984 have been more diverse. No particular subject has dominated discussion.

One new topic has been the application of computer hardware and software to textile wet processing. Committee RA101, Computer Technology in Wet Processing, was organized in May 1984. The committee has emphasized helping new entrants to the field understand the technology through invited speakers at regularly held meetings.[21]

Symposia and workshops continued to be offered to the public. Table 14-1 shows the number of each given, 1983–1996. Subjects are covered in Appendices 19 and 20.

Technical Manual Improvements

The Technical Manual Editorial Review Committee was established in November 1983 at the suggestion of Herbert T. Pratt. To make coordination easier, membership in the committee was limited to five persons, and most business of the committee was conducted by mail. Its initial focus was on changing the format of the *Technical Manual*.

The 1985 manual reflected these changes. For the first time, test methods were arranged and indexed strictly by numerical order rather than grouped by type. The

[16] "George J. Mandikos Elected President of AATCC." *TCC,* v. 21, n. 1, January 1989, p. 19.
[17] Mark Clark interview with George J. Mandikos, AATCC Archives, pp. 45–47.
[18] "William R Martin Jr. Named Honorary Member." *TCC*, v. 27, n. 12, December 1995, p. 12.
[19] "AATCC Council Highlights." *TCC*, v. 28, n. 1, January 1996, p. 11.
[20] "John Y. (Jack) Daniels named Executive Director." *TCC*, v. 28, n. 4, April 1996, p. 2.
[21] *1986 AATCC Technical Manual*, Research Triangle Park, N.C.: AATCC, p. 342.

William R. Martin Jr. (center) Receiving Honorary Membership with his wife Betsy and George Mandikos, May 21, 1996

John Y. Daniels, Executive Director

Table 14-1. Number of Symposia and Workshops (1983–1996)

	Symposia	Workshops	Number
1983	3	3	6
1984	2	5	7
1985	3	6	9
1986	2	6	8
1987	4	9	13
1988	3	6	9
1989	3	8	11
1990	4	7	11
1992	6	3	9
1993	6	7	13
1994	3	8	11
1995	5	5	10
1996	5	8	13
Totals	49	81	130

numerical index was supplemented by indexes listing methods both by title and by type. A Glossary of AATCC Standard Terminology appeared in the back of the manual, along with the AATCC Style Guide for Writing Test Methods and Rules of Procedure for AATCC Test Method and Technology Committees. Taken together, these changes made it much easier for users to find the information they were looking for.

The committee also found in 1985 that procedures for re-affirming test methods every five years were not being followed, some thirty methods being overdue that year.[22] As a result, the committee rewrote and amplified the Style Guide to bring greater uniformity to test method content and format.[23] Around 1985 Technical Director Jerry Tew began sponsoring a periodic dinner for chairmen at Technical Committee meetings, the purpose being to keep them up to date with the many changes in procedure. By 1986, 98 percent of test methods had been revised to reflect at least some of the committee's new requirements.[24]

During the next decade the Committee made a series of changes designed to bring test methods up to the highest professional standards. Most notably, it required all test methods to include definitions of terms used, as well as statements of the

[22] *1987 AATCC Technical Manual*, p. 358.
[23] "AATCC Council Highlights." *TCC*, v. 16, n. 4, April 1984, p. 12.
[24] *1988 AATCC Technical Manual*, p. 372.

expected precision and bias of test results. As a result, by the mid-1990s the quality of the *AATCC Technical Manual* was considered to be world-class.

As discussed in Chapter 5, the AATCC has, since 1938, sold the special apparatus and supplies necessary to perform a number of the test methods it has developed. At present, there are more than seventy items in stock including apparatus for measuring wrinkle recovery, water resistance, static propensity, fabric shrinkage, and fiber and fabric microscopy. Consumable materials include standard laundry detergents; control reference fabrics for measuring colorfastness to light, chlorine, and ozone; and standard dyes for determining exhaustion rates. White tiles measure the resistance of vinyl floor covering to being stained by colored carpet. Of special technical importance are the standard visual/numerical scales to quantify color properties such as transference due to staining or crocking, stability of dye dispersions, and shade depth scales for determining dye concentrations. Other scales quantify fabric crease retention, surface smoothness (mussiness), seam puckering after laundering, wrinkle recovery after simulated wearing, stain retention, and shade uniformity of dyed fabrics.

International Relations

On May 9, 1985, Council agreed to confer on the president of the Canadian Association of Textile Colourists and Chemists the privileges of honorary membership, in the same fashion as it had done for the president of Great Britain's Society of Dyers and Colourists in 1979. The Membership Scroll was presented during the awards luncheon at the AATCC General Meeting in 1985.[25]

The *Colour Index*

Preparation of the fourth edition of the *Colour Index* became a difficult proposition with the announcement, in 1992, by three major dye manufacturers–Bayer, Ciba-Geigy, and Sandoz–that they were no longer willing to list their products under *Colour Index* generic names. The essential complaint was the listing system in the *Colour Index* implied that all products listed under a generic name had comparable application and colorfastness properties. Increased competition, particularly from emerging Third World competitors, meant that European producers were unwilling to do anything that would lessen the perceived quality advantage they had.[26]

Despite continued negotiations among the AATCC, SDC, and the European dyemakers, the issue has not been resolved as of this writing. To deal with the delay, the AATCC and the SDC decided to release a CD-ROM computerized version of the third edition of the *Colour Index*. It was offered for sale in 1995 and contained all previously produced Supplements in a computer-searchable format.

[25] "AATCC Council Highlights." *TCC*, v. 17, n. 8, August 1985, p. 13.
[26] "AATCC Council Highlights." *TCC*, v. 24, n. 2, February 1992, p. 26.

Student Chapters

Student chapters were provided free exhibition space at General Meetings for the first time in 1985. At that meeting, ten booths were provided on a first-come, first-served basis.[27] Since that time, booth space for student chapters has become a regular feature of the International Conference and exhibition, providing a location for both students and alumni to gather and interact.

A student chapter was established at Oregon State University in May 1987[28] and at the Institute of Textile Technology in Charlottesville, Virginia, in February 1988 (see Appendix 16 for a complete list of student chapters).[29]

As of May 1996 there were twenty-four active student chapters. The two largest were at the Fashion Institute of Technology in New York City with sixty-two members and at North Carolina State University with sixty-one. The total number of student members in 1996 was only 365, down from a high of 451 in 1992.[30]

General Meetings

The growing size and complexity of the General Meeting meant that by the mid-1980s meeting sites were being selected ten years in advance.[31] That pattern continued when the AATCC Technical Center staff took over the planning and administration of the conferences.[32] Attendance averaged 2,500 during this period.

Between 1984 and 1996 the AATCC met in the South eight times (Atlanta and Charlotte three times each, Nashville twice), Montreal twice, and once each in Boston, Philadelphia, and Chicago. The 1984 meeting was in Chicago, but given the decline of the textile industry in the Midwest, it is unlikely the Association will meet there again. Moreover, meeting attendance was lower in Chicago since it was considered to be less attractive to spouses of members as a tourist destination. By contrast, meetings in Montreal are likely to remain on the schedule, because that city is viewed as a very desirable place to visit.[33]

By the mid-1990s the schedule had settled into an informal pattern, with four out of five General Meetings in the Southeast, roughly defined by Orlando, New Orleans, Nashville, Atlanta, and Charlotte. This area is within a days drive of the vast majority of AATCC members. The meeting will be in Canada (Montreal) once every ten years, and somewhere on the East Coast, either Boston or Philadelphia, every ten years. Although some members would like a West Coast meeting, it is unlikely since exhibitors object to the cost of moving their displays such a great distance.[34]

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[27] "AATCC Council Highlights." *TCC*, v. 17, n. 1, January 1985, p. 11.
[28] "AATCC Council Highlights." *TCC*, v. 19, n. 9, September 1987, p. 76.
[29] "AATCC Council Highlights." *TCC*, v. 20, n. 5, May 1988, p. 9.
[30] "Membership Summary." *1996 AATCC Membership Directory*, p. 137.
[31] "AATCC Council Highlights." *TCC*, v. 17, n. 1, January 1985, p. 11.
[32] Martin Interview, p. 46.
[33] Ibid.
[34] Ibid.

Beginning in 1987, Bill Davis, AATCC advertising director, became responsible for the sale of exhibit space at the International Technical Conference. This proved to be a great success, since he could combine sales calls for exhibit space and *TCC* advertising. Davis estimates that this increased the number of advertisers by 5 percent and the number of exhibitors by 20 percent (see Table 14-2).[35] As a result, record numbers of exhibit spaces were sold in the 1990s. Sales were so brisk for the 1995 conference that Davis had to make last-minute arrangements to find more space for booths.[36]

Table 14-2. Comparison of Types of Exhibitors at General Meetings (1970, 1986, 1996)

Type of Exhibitor	1970	1986	1996
Dye manufacturer	11	4	9
Chemical manufacturer	26	19	33
Machinery manufacturer	10	10	11
Instrument manufacturer	8	19	13
Other manufacturer*	4	3	10
Miscellaneous firms**	4	3	8
Student sections	2	10	13
TOTAL	65	68	97

*Container manufacturers, etc.
**Publishers, other associations, etc.

History and Archives

Member interest in the history of the wet processing industry was renewed in the late 1980s, was largely the result of the efforts of Herbert T. Pratt, a retired DuPont technical marketing associate. Pratt had had an interest in history, particularly the history of chemistry, since his days as an undergraduate. He chaired the reorganized History and Archives Committee, the successor to Sidney Edelstein's Archives Committee, from 1980 to 1985, but he was unable to generate much interest among other members (often he was the only one at committee meetings).

It was only after his retirement from DuPont in 1985 that he was able to pursue his interest in history full time. He returned to school to earn a master's degree in history, and the work he did toward that degree formed the basis for a series of articles on the history of dyeing and finishing that began appearing in *TCC* in 1985.[37] As described in Chapter 11, Pratt also was behind the introduction of the "I Remember When" column in *TCC* and has served as editor of the series from the beginning.

[35] Mark Clark interview with William B. Davis, April 10, 1995, AATCC Archives, p. 8.
[36] Davis, personal communication.
[37] Herbert T. Pratt, "How Ammonia Got its Name." *TCC*, v. 17, n. 9, September 1985, pp. 189–190. Thirteen papers were published between 1985 and 1993.

As a result of Pratt's work, others began to publish historical articles in *TCC*.[38] Since the late 1980s there have been two or more historical articles a year in *TCC*.

The AATCC also showed its interest in history by affiliating with the National Foundation for History of Chemistry (now the Chemical Heritage Foundation (CHF) in 1989. The Foundation had been set up in 1982 by the American Chemical Society and the American Institute of Chemical Engineers to promote all aspects of the history of the chemical and molecular sciences. As an inducement to AATCC, Sidney Edelstein, who had been an early supporter of the Foundation as well as the chairman of the AATCC Archives Committee from 1956 to 1980, paid the first year's dues.

The affiliation proved to be controversial. In 1990, Past President Ralph E. Elwell campaigned to withdraw the Association's support of the Foundation in view of the $5,000 annual cost. After a lengthy discussion in Council, Elwell's motion failed on a twenty-three to fourteen vote.[39] The AATCC continues to be affiliated with the Foundation, with Pratt representing the Association on the CHF Board of Directors. This affiliation has given the AATCC much needed exposure in the chemical community that it had not enjoyed before.

In 1992 the History and Archives Committee initiated a search for the oldest dyehouse still in use. Eleven buildings built before 1900 were located, the oldest being the Lippit Mill in West Warwick, Rhode Island. Built in 1809–1810, it was the home of the Riverpoint Lace Works Inc., one the country's few remaining dyers and finishers of leavers lace. A bronze plaque identifying the mill as the oldest operating dyehouse in the United States was presented to the mill's owners at the spring meeting of the AATCC Council in May 1993.[40]

A contest to find the oldest existing instrument or piece of equipment associated with a current or obsolete AATCC test method the following year proved much less successful.[41] The Committee received no cooperation, apparently because firms were ashamed to admit that they were still using old test apparatus in their laboratories.[42] The oldest instrument that the Committee could find, though not still used, was owned by the AATCC. It was the first Crockmeter, built by Walter C. Durfee around 1936 (see Chapter 15 for a description of its development).

Conclusion

Focus on recruitment and retention in the 1980s reversed the AATCC's decline in membership. Combined with a policy of expanding responsibilities of the AATCC staff to assist the work of the sections and to run General Meetings, these factors reinvigorated the Association and allowed it to deal with the difficulties of the textile industry's decline in the United States.

[38] Anthony S. Travis, "William Henry Perkin." *TCC*, v. 20, n. 8, August 1988, p. 13.
[39] "AATCC Council Highlights." *TCC*, v. 23, n. 9, September 1991, p. 58.
[40] Herbert T. Pratt, "America's Oldest Dyehouse." *TCC*, v. 25, n. 10, October 1993, p. 18.
[41] "New Contest." *TCC*, v. 26, n. 5, May 1994, p. 10.
[42] "AATCC Council Highlights." *TCC*, v. 27, n. 3, March 1995, p. 12.

Part IV

A Reason for Being (1921–1996)

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Chapter 15

Test Method Development: Three Case Studies (1922–1996)

Since 1922, the AATCC has published 191 test methods. Of these, 154 are still in force, most having been revised time and again to improve some aspect of the procedures. This chapter examines in detail the history of the development and implementation of three of these methods: Colorfastness to Light, Colorfastness to Washing, and Colorfastness to Crocking. To examine all 191 would require another several volumes as large as this one. The methods chosen were based on three criteria: (1) they were originally developed in the early years of the AATCC; (2) they have been and still are widely used in the wet processing industry; and (3) they have been extensively modified over the years. It is hoped that this in-depth look at these particular methods will give the reader a sense of the vast amount of technical work and compromise that goes into the creation of all test methods developed by the consensus process, and how they evolve over time to meet changing industry needs.

Colorfastness to Light

Although early AATCC development programs embraced a variety of test methods and constantly sought to expand the number offered to industry, the primary focus of its efforts for the first ten to fifteen years was colorfastness to light. As described in Chapter 3, the earliest organized colorfastness program in England looked at light fastness, but despite continued research, there was still no consensus on the best methods for such testing in the early 1920s. The AATCC was unable to publish even a preliminary method before 1929, in contrast to washfastness tests that were published almost immediately. Articles on colorfastness to light published in *ADR* in 1922 and 1923 pointed to a variety of problems with past research protocols, including the inability to quantify exposure to sunlight, the difficulty of finding an artificial light source that would allow accelerated testing, and the lack of data on the impact of humidity and temperature on fading.

As a result, the first major program funded by the AATCC Research Committee involved a wide-ranging inquiry into colorfastness to light. Initial efforts by the Subcommittee on Light Fastness focused on the use of artificial light sources to provide accelerated fading. The committee prepared a series of forty dyeings using three fabrics (cotton, silk, and wool) in a variety of colors, and then exposed the samples to both sunlight and artificial light. Initial results were reported at the third annual meeting, December 8, 1923. The committee found that several artificial light sources, including the carbon-arc Fade-Ometer manufactured by Atlas Electric Devices gave results similar to sunlight for most dyes. However, the tests also showed that there were noticeable differences between sun exposure and unfiltered mercury vapor lamps, in common use at the time for colorfastness testing. Thus, the only concrete recommendation was a negative one, namely, stop using unfiltered mercury vapor lamps.[1]

The Research Committee was criticized by some members of the New York Section, who pointed out that in its hurry to start testing, it had failed to standardize the fabrics used in the tests, the dyes, and the dyeing methods. After discussion, a consensus emerged that the initial tests at least had been useful in arousing the interest of the membership. The Committee welcomed the criticism and indicated it would redesign the test procedures. Dr. Olney, Committee chairman, closed by saying that although extra deliberation might cause some delay, even if the work took five years, if it was done right it would be worth it.

As it turned out, the work took more than five years. A standard method for sun testing was not adopted until 1930, and testing using artificial light was not recognized as an approved procedure until 1941. Why did it take so long?

Two factors account for the delay. First, testing for colorfastness to light, especially using the sun, was time consuming. After samples were prepared, they had to be exposed to sunlight for weeks or even months. To ensure comparable results, they had to be exposed only on sunny days, so bad weather could create even more delays. Artificial light sources were not appreciably quicker; Fade-Ometers available at the time were only approximately 30 percent faster than direct sunlight.

Second, without a simple way to measure total light exposure, tests that seemed identical yielded different results. Artificial light sources were not always consistent as light sources. Line voltage variations or deteriorating instrument components could change the output characteristics of the radiation sufficiently to affect test results. Moreover, while some dyes responded identically to natural and artificial light, others behaved differently.

The net result was that any test of colorfastness to light required a large number of samples exposed in a variety of ways to provide an accurate result. The AATCC eventually tested thousands of samples before arriving at the final form of the test and continued to test even more to refine and validate the results.

In the wake of the criticisms it received, the subcommittee went back to the "drawing board." Further testing of artificial light sources (carbon arc and mercury vapor)

[1] *ADR*, v. 13, n. 1, pp. 10–14.

showed that while they were useful for rapid, simple testing, these light sources did not accurately duplicate sunlight for the purposes of precise measurement. The focus now became procedures for standardizing exposures to natural sunlight and a review of the literature.[2]

After a year-long survey of existing publications related to fastness to light, the chairman of the subcommittee, William H. Cady, reported in 1925 that no universally acceptable test method existed, and that "the problem is still far from being solved."[3] The researchers then focused their efforts on three approaches. First, they conducted experiments with a Barium photo-electric cell developed at the laboratories of the Case School of Applied Science (now Case-Western Reserve University), hoping to correlate light energy with fading. The use of such a cell would have allowed sun exposure on cloudy days, since the cell would be able to measure total insolation.[4] This work apparently proved unsuccessful, since it was not mentioned again.

Second, they began a series of experiments that varied the mechanical details of sun exposure, such as angle to the sun, absence or presence of a glass cover, and other details. Finally, they tested several artificial light sources that had been modified with various filters to more closely model the spectral distribution of sunlight.[5]

The efforts of the subcommittee soon centered around the development of a standard sample for comparison purposes. Exposures using large numbers of samples in sunlight showed that even minor variations in mechanical details such as angle to the sun or glass covering made a major difference in the time required to cause fading. Thus, a time-based standard of exposure seemed to be unacceptably vague. On the other hand, a standard sample, exposed at the same time as the test sample, could indicate the true degree of insolation by its known fading characteristics.

In pursuit of uniform and consistent fading, the subcommittee arranged in early 1926 for dyeing a large number of colors that had been suggested as standards by other authorities, in particular the proposals of the "Echtheitskommission" of the Verein Deutscher Chemiker in 1914 and 1916.[6] Divided among wool, silk and cotton, 1,047 separate sample dyeings were further divided into ten pieces each and exposed to both natural and artificial light during the summer of 1926. The natural light exposures were done at the National Bureau of Standards (NBS) in Washington, D.C. Simultaneously, Fade-Ometer tests were conducted with the same set of samples.

Preliminary results were reported to the AATCC that winter. The following summer an additional 200 samples were added to the test, including some prepared in England and Germany. By 1928, the subcommittee again reported its findings and recommended a preliminary method for testing colorfastness to light. However, this method merely described the ideal form of mounting samples for exposure to the sun and provided no standard of measurement of the resulting fading.[7]

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[2] *1924 AATCC Yearbook,* New York City, Howes Publishing Co., pp. 73–74.
[3] *1925 AATCC Yearbook,* pp. 83–84.
[4] Insolation is the rate of delivery of all direct solar energy per unit of horizontal surface.
[5] *1925 AATCC Yearbook,* pp. 83–84.
[6] *1926 AATCC Yearbook,* pp. 83–84.
[7] *1928 AATCC Yearbook,* p. 101.

Testing with both natural and artificial light continued over the next several years. The subcommittee published the results of much of its work in the June 8, 1931, issue of *ADR*, listing the fastness to light of 366 dyes on wool, silk, and cotton. Of this group, six wool dyeings were selected as tentative standards and published in 1931.[8] In June 1932, the German Echtheitskommission published its own list of eight wool standards, all different dyes than it had used in the past. The dyes were ranked from 1 to 8, with 1 being the least fast and 8 the most fast. The AATCC proceeded to test them.[9] In 1934 the Society of Dyers and Colourists published its standards, and again the AATCC proceeded to test them.[10] After a comparison of all the dyes from the three series of standards, the committee decided to select the best dyes from all three lists and develop a new scale using only blue dyes with wool fabric.[11]

The initial list included eight dyes, four of which (1, 3, 5, 8) were formally adopted as standards in 1938. The American Society for Testing and Materials also adopted these dyeings as standards for testing dress fabrics. Samples from woolen fabrics dyed by a standardized procedure were prepared and sold by the AATCC for test purposes.[12] As a result, the AATCC was able for the first time to specify exposure times as well as exposure methods for colorfastness to light in 1938.[13] In this method, resistance of dyes to fading was graded on a 1 to 8 scale, 8 being best, conforming to German practice. The following year, these four dyes were also adopted by the German and British societies for their use. These dyes also continued to be used in ISO Blue Wool Standards into the 1990s.

In 1940, the AATCC finally replaced the natural sunlight standard with a test method based on the Fade-Ometer, a standardized high-intensity carbon-arc light source. First developed in 1919 by Atlas Electric Devices of Chicago, various versions of the Fade-Ometer had been undergoing testing by the AATCC since 1923. By 1939, changes in the Fade-Ometer's design that reduced variations in temperature and humidity, as well as improvements in its light filter, gave test results that convinced the committee (the subcommittee had become a committee during an Association reorganization in 1937) that the instrument could produce consistent results. Moreover, the adoption of the blue wool standards served as a check on the instrument's accuracy.[14] In 1941 the AATCC officially adopted the four remaining wool standards. As a result of World War II, the adoption was not coordinated with German or British representatives.[15] Only two years later, these standards were replaced by a new set of eight fabrics from stock dyed fibers, most of which used a mixture of two dyes rather than a single dye.[16] The new standards, known as AATCC Blue Wool L2–L8 Light-

[8] *1931 AATCC Yearbook*, p. 119.
[9] *1932 AATCC Yearbook*, p. 116.
[10] *1934 AATCC Yearbook*, pp. 117–118.
[11] *1937 AATCC Yearbook*, p. 94.
[12] *1938 AATCC Yearbook*, p. 96.
[13] Ibid., pp. 170–71.
[14] *1940 AATCC Yearbook*, p. 102.
[15] *1941 AATCC Yearbook*, p. 214.
[16] *1943 AATCC Yearbook*, p. 212; ADR, v. 33, n. 2, January 17, 1944, pp. P33–38.

fastness Standards, demonstrated a more consistent and identifiable response to fading. These standards continued in use through the 1990s.[17]

The difficulty in establishing a standard for colorfastness to light demonstrates the importance the AATCC attached to consistent results. The huge series of test dyeings, slowly collected, tested, examined, and analyzed, represents an enormous investment of money and resources. The desire to "do things right" and not settle for second-rate results makes clear Louis Olney's attitude toward science. As he said in 1923, he was willing to wait five years for results, and as it turned out, he was willing to wait much longer. In no other test method from this period is his influence more clear.

The Committee on Fastness to Light devoted its efforts in the 1945–1956 period to develop new comparison standards to replace the blue wool fabrics developed for use with the Atlas Fade-Ometer. This work proceeded along two lines. First, there was pressure from within the textile industry for an absolute standard, to be expressed as "Fade-Ometer Hours;" i.e., the amount of fading produced by a certain amount of exposure in the Fade-Ometer. By the mid-1940s, the carbon-arc Fade-Ometer had become the industry standard for measuring colorfastness to light, in large part because of its manufacturer's association with the AATCC. In 1946 the AATCC began to work with the National Bureau of Standards (NBS) to develop a standard of exposure based on time.[18] However, experiments soon showed that the effect of variations in humidity, temperature, machine controls, and operator error made any standard based on exposure hours too vague to be worthwhile.

As a result, the NBS and the AATCC shifted their efforts. Researchers at NBS suggested the use of a dyed blue paper as an exposure standard to replace the blue wool standards. In 1948 the Committee adopted a paper, known as Paper A, as a tentative standard. The Committee admitted that Paper A's performance was less than ideal, but suggested its use as a way to calibrate the large number of existing Fade-Ometers.[19] Adopted as a tentative appendix to the existing test method, Paper A continued to be listed for calibration purposes through 1956.

However, Paper A did not and could not replace the blue wool standards. Although Paper A worked reasonably well in the Fade-Ometer for dry tests, it was not suitable for the new tentative test method developed in 1955 that alternated washing and light exposure for a comprehensive consumer end-use test. Moreover, Paper A was not suitable for outdoor tests for colorfastness to sunlight, which required exposure to the weather and washing the sample to remove dirt prior to final evaluation. As a result, the blue wool standards remained at the heart of test methods for colorfastness to light, as they do at present.

By 1957, the Committee had determined to its satisfaction that test method evaluations based on abstract "hours of exposure" were unworkable, due to inevitable variations in light sources from Fade-Ometer to Fade-Ometer. As a result, the committee strongly recommended that colorfastness to light be tested only by simultaneously

[17] *1945 AATCC Yearbook*, p. 217.
[18] *1946 AATCC Yearbook*, p. 133.
[19] *1947–1948 AATCC Technical Manual*, New York City, Howes Publishing Co., p. 84.

exposing a sample along with the set of AATCC blue wool lightfastness standards.[20] Based on these results and discussions with other countries' organizations through the International Standards Organization (ISO), the committee revised its test methods for exposure to sunlight in 1958 (the test method for exposure to carbon arc fading was unaffected).[21]

The following year the committee set up four subcommittees to continue this revisionary work. Subcommittee 1 worked on improving the repeatability of sunlight exposure tests. Subcommittee 2 focused on improving the correlation between sunlight (sun exposure from 9 a.m. to 3 p.m. only) and daylight (exposure for 24 hours) test methods. Subcommittee 3 studied the combined effects of light and atmospheric contaminants. Finally, subcommittee 4 studied colorfastness to weathering (the combined effects of light and humidity).[22]

The result of these studies was the extensive revision of the daylight and sunlight test methods in 1963, and further editorial revision to those methods and the carbon arc method in 1964. These revisions standardized the exposure conditions of temperature and humidity for samples. The Committee also approved three new test methods as tentative standards in 1964. One was a variation of the existing carbon arc method that called for alternating periods of light and dark to simulate weathering. The other two were essentially duplicates of the carbon-arc methods, using a new test apparatus, the xenon arc lamp. Still a tentative test method in 1964, the xenon arc produced a light spectrum closer to daylight than did a carbon arc and had the potential to produce results more closely correlated with sunlight tests.[23] The xenon arc would become the primary focus of lightfastness test development in the late 1960s and 1970s.

After a major editorial revision of the various test methods for colorfastness to light in 1964, the committee turned to a joint project with the Canadian Association of Textile Colourists and Chemists (CATCC). This work involved exposure of a variety of samples to sunlight at different latitudes to explore the effect of location on colorfastness to light. Four sites were used: Florida, Arizona, Ottawa, and a location at the Arctic Circle.[24] The CATCC assumed primary responsibility for the project, the AATCC's only responsibility was the exposure of samples provided by the CATCC in Florida and Arizona.[25] The testing was completed and the results published in 1966.

In 1966 a subcommittee was formed to determine the correlation among test methods that employed daylight, and carbon-arc and xenon-arc light sources by testing a representative range of dyes applied by specific procedures to a number of fabrics, both natural and synthetic. Field work began that year, as a total of forty-four samples were dyed and sent to exposure facilities in Florida and Arizona.[26] Work continued during the early 1970s, until conclusive results were obtained.

[20] *1957 AATCC Technical Manual,* p. 50.
[21] *1958 AATCC Technical Manual,* p. 49.
[22] *1959 AATCC Technical Manual,* p. 47.
[23] *1964 AATCC Technical Manual,* Research Triangle Park, N.C.:, AATCC, p. B-65.
[24] *1966 AATCC Technical Manual,* p. A-41.
[25] Ibid., p. A-44.
[26] *1967 AATCC Technical Manual,* p. A-43.

The focus of work by the Committee on Colorfastness to Light during the 1970s was to develop an alternative to the Blue Wool Lightfastness Standards, in use since 1944. In part, this was due to the arrival of a new lot of the Blue Wool L4 test cloth in 1973, which had slightly different fading properties compared with the previous lot. Since the Blue Wool Standards were the only way to correlate results from tests run with different sources of light (sunlight, carbon arc, or xenon arc), any change in their response caused problems for users. As a result, work followed two tracks: first, research to define the color characteristics of the Blue Wool Standards more accurately and second, research to develop an alternative standard to eventually replace the Blue Wool Standards.[27]

The committee set out to develop spectrophotometric and colorimetric procedures for measuring the fading of the Blue Wool Standards by comparing exposed and unexposed parts of the sample.[28] The committee also set up a program to evaluate fading to sunlight with a series of exposure tests done by the South Florida Test Service. Exposing Blue Wool Standards to sunlight under three types of glass indicated that differences in the transmission qualities between the glass used caused marked differences in fading.[29] After three years of work, the Committee found good correlation between the results of these tests and xenon arc tests under high temperature and humidity conditions. However, tests done in Arizona did not correlate as well. The Committee then decided to do more extensive testing, using recently developed instruments that could more accurately measure radiant energy striking the samples.[30]

Beginning in 1976 the Committee began to evaluate a polyester doubleknit fabric as a proposed new standard for fading. The fabric was dyed with a specially compounded disperse violet dye developed by the Dyes and Chemicals Technical Laboratory of the DuPont Company. Ray Babiarz of DuPont led the effort. Qualities claimed for the new fabric were high sensitivity, essentially linear rate of fade, good reproducibility on repeated exposures, insensitivity to atmospheric contaminants, usable with both instrumental and visual evaluation methods, and high sensitivity for detecting small differences in fading.[31]

The committee approved the new fabric as a standard for the xenon arc test method in 1977.[32] The following year the Committee commissioned a large batch of the fabric for use as standard, dyeing of which was completed in October 1979.[33] Two shades were produced: a lighter shade, XRF-1 (Xenon Reference Standard), considered a replacement for the L-4 Blue Wool Standard and a darker shade, XRF-2 (twice the strength) suitable for long-term exposure. The major initial intended usage of XRF-2 was as a standard for automobile fabric exposure tests, which were more severe in both temperature and relative humidity, and as a possible replacement for the L5 Blue Wool Standard.[34]

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[27] 1974 AATCC Technical Manual, p. 20–21.
[28] 1975 AATCC Technical Manual, p. 18.
[29] Ibid.
[30] 1982–1983 AATCC Technical Manual, p. 22.
[31] 1977 AATCC Technical Manual, p. 18.
[32] *1978 AATCC Technical Manual*, p. 22.
[33] *1979 AATCC Technical Manual*, p. 21.
[34] *1980 AATCC Technical Manual*, p. 18; TCC v. 9, n. 3, March 1977, pp. P28–P31.

XRF-1 was approved by letter ballot of the Committee and the Technical Committee on Research (TCR) in 1980 as an exposure standard for xenon-arc testing.[35] The Committee had hoped to replace the Blue Wool Standards with the new fabric, but pressure from the ISO and testing organizations in other countries that were concerned about the continued need for a carbon arc standard led the committee to reverse that decision and commission the manufacture of another lot of the Blue Wool Standards. Investigators also found that XRF-1 was sensitive to small changes in testing temperatures. If the test chamber had a higher black-panel temperature, the XRF-1 would fade to a greater degree over the same exposure interval. The British in particular were critical of the use of XRF-1 as a standard, and the Committee was forced to prepare a report defending its work.[36]

Because of the late reversal of the planned elimination of the Blue Wool Standards, the AATCC actually ran out of the L4 Blue Wool Standard used to calibrate carbon arc instruments. The Committee was forced to recommend the use of the L-2 Blue Wool Standard, which would be faded to a greater color difference than in its normal use, as a temporary replacement, and published specifications on how to do so.[37] Because of the high cost of dyeing the wool standards, the Committee decided to produce only L-2, L-3, and L-4. For reasons of cost as well as indications that it gave better results, the Committee decided to replace the L-4 with the L-2 for calibration of carbon-arc testing equipment. As a result of further delays, the new batch of Blue Wool Standards was not ready until 1984.[38] Thus, after eight years of work, the Committee was back where it had started.

One of the most significant changes to take place in the history of testing for colorfastness to light at AATCC occurred in 1984, when the Committee formulated a position statement that endorsed the use of xenon arc instruments over carbon arc. In an unambiguous statement, the Committee strongly recommended that firms using carbon-arc equipment switch to xenon arc equipment. The Committee also recommended not using the amount of time an instrument ran (clock or machine hours) as a measure of exposure, because variations in line voltage and other factors did not make the amount of exposure reliable. The discovery by the NBS that twenty machine hours was actually equivalent to about fourteen standard hours, when tested by a new lot of NBS Blue Papers, resulted in a severe controversy that was hushed, the reason being that all previous laboratory work by everyone was underexposed by a factor of two-thirds. Considerable committee effort was devoted to trying to either substantiate the NBS claim or disprove it. The final result, after many months of additional work, showed NBS to be correct, hence, the birth of the Standard Fading Unit. The terms “machine hours” and “clock hours” were abandoned forever. Only the use of standards and AATCC Fading Units allowed unambiguous

[35] *1981–1982 AATCC Technical Manual*, p. 22.
[36] Ibid.
[37] Ibid. The designation L2, L3, and L4 refer to standard wool fabric samples dyed with a specific mixture of two dyes under carefully controlled conditions. Adopted by the AATCC in the early 1940s, the Blue Wool Standards allowed calibration and comparison of tests done in different Fade-Ometers. See Chapter 3.
[38] *1984 AATCC Technical Manual*, p. 44.

comparison between test runs.[39] NBS subsequently stopped production of its Blue Papers.

Continued problems with the manufacture of Blue Wool Standards caused the cancellation of the publication of an interim statement on the use of the L2 as a calibration standard to replace L4, since L2 was not available. The delay was caused by testing to determine if the new lot of L2 was sufficiently similar to the old.[40] The L2 Blue Wool Standard became available again in 1984. It was approved for use in carbon arc, xenon arc, and sunlight test methods.[41]

Florida and Arizona exposure tests to determine correlation of sunlight to xenon arc exposure continued, with fluorescent sun lamp exposure added to the test. The first exposures to the sun were started on March 23, 1984, (the vernal equinox) and were scheduled to run over a two-year period[42] The tests proceeded well.[43] They were finished and the samples evaluated in 1986; machine exposures began soon after.[44]

In 1988, seven different test procedures included under Test Method 16: Colorfastness To Light: General Method were combined into a single test method. Through the use of Blue Wool Standards, as well as common methods of exposure and variation, the methods were made comparable.[45] XRF-1 is still part of the test method.

In 1989, the Committee was faced with the pending end in the United States of stock (fiber) dyeing with chrome dyes to produce the Blue Wool Standards. Thus, the Committee decided to try to produce the standards by piece (fabric) dyeing. After Forstmann Woolen Company produced laboratory-sized dyeings of standards L4 and L9 by piece dyeing, the Committee set up a pilot production run to fully evaluate the procedure.[46] By the following year, piece dyeing produced samples the performance of which was essentially equal to that of stock dyed goods. The Committee designed a series of laboratory tests to determine if the process would produce acceptable L3, L4, L7, and L9 fabrics on a production basis.[47] The transition was complicated by the shortage of the dye C. I. Vat Blue 8, a dye no longer in regular production. Because of the shortage, the Committee decided to produce only standards L2, L4, and L6. A lot of 100 yards of L2 and a lot of 50 yards of L4 were produced for evaluation by a subcommittee, which still has tests underway to decide whether to accept or reject the lot as a replacement.[48]

The primary focus of work after 1992 was the evaluation of water-cooled and air-cooled xenon arc machines in the context of various test methods.[49] That work continues as of this writing.

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[39] *1986 AATCC Technical Manual,* p. 334.
[40] *1985 AATCC Technical Manual,* p. 326.
[41] 1*986 AATCC Technical Manual,* p. 339.
[42] *1985 AATCC Technical Manual,* p. 326.
[43] *1987 AATCC Technical Manual,* p. 355.
[44] *1988 AATCC Technical Manual,* p. 368.
[45] *1990 AATCC Technical Manual,* p. 381.
[46] *1991 AATCC Technical Manual,* p. 380.
[47] *1992 AATCC Technical Manual,* p. 387.
[48] *1995 AATCC Technical Manual,* p. 407.
[49] Ibid.

Colorfastness to Washing

In contrast to the extensive efforts associated with the early development of tests for colorfastness to light, the test methods associated with colorfastness to washing were derived much more simply. The first test for washfastness was copied from German textbook descriptions and adopted essentially unchanged by the AATCC subcommittee. Over the next five years, changes in the test method reflected not a revolution in technique, but the gradual evolution of more specific descriptions of the test procedures.

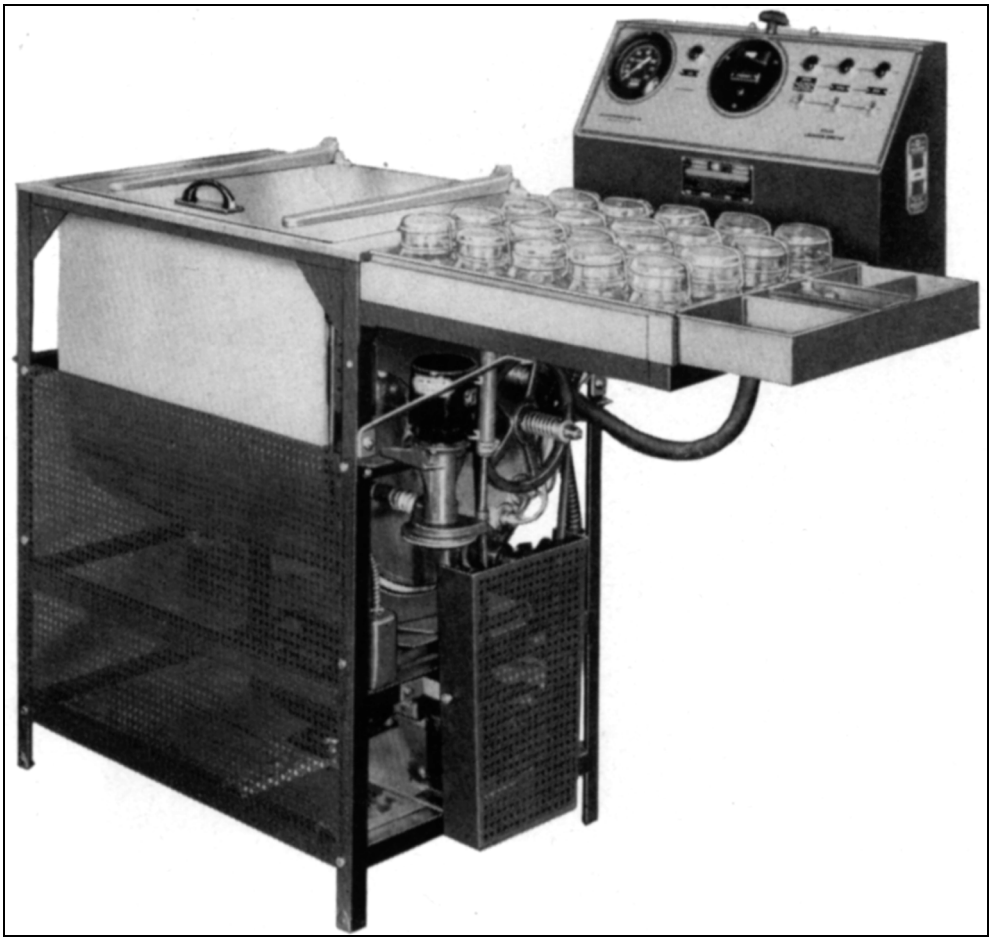
The only major change in test methodology prior to 1945 was the introduction of the AATCC Launder-Ometer, a standard washing machine, that drastically reduced the difficulty of comparing test results between laboratories. Two researchers, Hugh Christison of Arlington Mills and William D. Appel of the National Bureau of Standards, were independently developing laboratory washing machines in the 1920s. Both were members of the AATCC's Committee on Research, and once each became aware of the other's work, they combined their efforts and built a prototype based on a combination of their ideas. They donated the rights to the machine to the AATCC, which in turn contracted with Atlas Electric Devices to manufacture and sell it, in exchange for royalty payments on each machine sold.

The machine consisted of a large tub of water held at a constant temperature, within which twenty pint-sized glass fruit jars were mounted on a horizontal shaft that rotated through the water to simulate the action of a larger machine. Test samples were placed within the jars, along with a measured amount of water, detergent, and small balls or cubes to ensure agitation and provide abrasion. The tests for cotton fabrics were originally conducted with ten rubber balls; wool tests for colorfastness to fulling used four stainless steel balls. Wool tests for washfastness and all silk and rayon tests did not use agitator balls. In 1945, all wash tests using agitators were standardized to use ten stainless steel balls.[50]

The Launder-Ometer was officially adopted in 1928, and over the next several years the test methods for wool, silk, and cotton were rewritten to make use of the new machine.[51] In the process, time, temperature, amount and type of detergent added, type and size of agitator balls, and other aspects of the washing process were more precisely specified. As with the work on colorfastness to light, the objective was to achieve a high degree of interlaboratory consistency. The introduction of the Launder-Ometer considerably eased the task of standardizing this particular set of test methods. The procedures developed by the early 1930s were used essentially unchanged through the late 1940s.

A significant change in 1937 was the introduction of the standard multifiber test cloth. Prior to that time, all tests of potential staining by dye transfer during washing were carried out using test materials prepared in the laboratory doing the test. For example, the test methods for colorfastness to fulling for dyed cotton instructed the operator to braid the dyed cotton yarn with white cotton, silk, and worsted yarns.[52]

[50] *1945 AATCC Yearbook*, pp. 191–208.
[51] *AATCC Yearbooks* for 1928, 1929, and 1930.
[52] *1937 AATCC Yearbook*, p. 145.



Early Launder-Ometer

Other tests called for fabrics to be sewn together just prior to the test,[53] or rolled up and tied in a ball.[54] This was obviously inconvenient and made standardization difficult.

In 1937 the American Woolen Company introduced a fabric to assess staining that used a wool base, interwoven side-by-side with cotton, silk, viscose rayon, and acetate yarns. Initially mentioned only in tests involving fulling of wool, the test cloth was gradually introduced into other test methods, such as washfastness of wool and rayon.[55] Beginning in 1944, the AATCC began to sell the multifiber test fabric

[53] Ibid., p. 149.
[54] *1930 AATCC Yearbook*, p. 104.
[55] *1937 AATCC Yearbook*, p. 163; *1939 AATCC Yearbook*, p. 181; *1941 AATCC Yearbook*, p. 193.

directly. This fabric, which contained wool, cotton, nylon, viscose, acetate, and cuprammonium rayon in equal-width stripes, is the ancestor of the multifiber fabrics used in current test methods.

In the decade after 1945, the Committee on Fastness to Washing began to focus on how its existing test methods that used the Launder-Ometer compared with actual commercial and home laundering using washing machines. In a series of test launderings using cotton and synthetic textiles (beginning in 1945 and continuing through 1949), the Committee compared the fading caused by the Launder-Ometer versus commercial washers.[56] The Committee was motivated by the accelerated method's failure in 1944 to predict fading of fabrics colored with resin-bonded pigments.[57] By examining the results of the commercial washings, the Committee hoped to develop a more abrasive Launder-Ometer test method that better reflected end use conditions. This method was in marked contrast to the development of the 1939 version of the test, which had relied on the experience of commercial dyers rather than actual testing with commercial laundering equipment.[58]

The Committee was frustrated in its efforts by the extreme variations among different commercial laundries. Some laundries could wash the test fabric eighteen times before it failed, whereas in others, it failed after eight washings. As a result, the committee embarked on a more extensive series of investigations in cooperation with the National Laundry Owners' Association and developed a series of recommendations for the proper washing of garments. Subsequent development of a test method for colorfastness to washing was then based on those recommendations.[59]

By 1950 the Committee had developed a series of standard commercial washing methods for comparison purposes, and had brought the Launder-Ometer test method in line with those standards. First published in preliminary form in 1950 and then as a tentative method the following year, the new test method (no. 61) used a larger container (a 3.5-inch diameter cylinder 8 inches long) holding 50 milliliters of standard soap solution and 100 steel balls, of 0.25-inch diameter. The sample was loaded into the cylinder, which then rotated in the Launder-Ometer for 45 minutes at 160 to 165 degrees Fahrenheit. The result was washdown similar to the effect of five commercial or home launderings for cotton fabrics.[60] This development started the trend to develop laundering test methods that could be used with any fiber and that would predict what occurs in domestic washing rather than dyehouse scouring. The tentative test method was made permanent in 1954, and in 1956 methods previously used for wool, silk, and manufactured fibers were discontinued, leaving methods 36 and 61.[61] Method 36 was discontinued in 1974. With this change, colorfastness to washing was firmly established as a consumer-oriented test method, with an explicit correlation between test results and the effects of commercial and home laundering.

[56] *1946 AATCC Yearbook,* p. 132.
[57] *1947–1948 AATCC Technical Manual,* pp. 82–84.
[58] Ibid., p. 83.
[59] Ibid.
[60] *1950 AATCC Technical Manual,* p. 71.
[61] *1956 AATCC Technical Manual,* p. 52.

The major focus of the Committee in the late 1950s was the development of test methods for simulating the harsh conditions of commercial laundering of work clothing.[62] Research showed that the primary cause of color change in such laundering was due not to color loss or chemical action but to physical abrasion.[63] The result was a new test method that subjected the sample not to typical washing but to accelerated liquid and abrasive wear in a special apparatus previously developed by the AATCC called the Accelerotor.[64]

In the early 1960s the Committee shifted its efforts to developing a standard method for hand washing. This proved to be difficult, since the Launder-Ometer did not give sufficiently gentle mechanical action. After an extended series of experiments, using variations of temperature, the number and size of agitator balls, and detergent concentration, a reasonably satisfactory test method for hand washing was developed, although it did cause somewhat more staining than actual hand washing.[65] Aside from this new method, no major changes were made to the colorfastness to washing methods prior to the mid-1960s.

In 1966 the Committee decided to reconsider the conditions for colorfastness to washing, since the trend in domestic washing machines, especially the coin-operated variety, was toward more vigorous agitation. The Committee was not motivated by any problems with accuracy of the existing method. Rather, as consumer expectations of performance had risen, the test method had not kept pace and was no longer a useful measure of end-use performance.[66] A round of testing showed that the method was still adequate and correlated well with domestic laundering for colorfastness. Further studies were done to see if the same correlation existed for staining.[67]

The studies showed significant differences in test results between soap and synthetic detergent (soap had been the standard for the test method from its beginnings in the 1920s). The Committee, in consultation with the Committee on Wash and Wear, established a standard "reference detergent," a mixture of anionic and nonionic surfactants similar in formulation to commercial detergents.[68] The formulation was eventually standardized in two versions: AATCC Detergent 124, and AATCC Detergent WOB (a version without optical brighteners).[69] The Committee eventually found that results obtained with the detergent correlated better with home laundry practices than did soap, so switched its test methods accordingly.[70]

Further work showed poor correlation between the test method and home laundering with regards to staining.[71] Along with a number of other test committees, the Committee on Colorfastness to Washing discovered that the increasing complexity of chemical composition of commercial detergents had complicated the testing process.

[62] *1957 AATCC Technical Manual,* p. 54.
[63] *1958 AATCC Technical Manual,* pp. 50–51.
[64] *1959 AATCC Technical Manual,* p. 50.
[65] *1960 AATCC Technical Manual,* p. 40.
[66] *1966 AATCC Technical Manual,* p. A-46.
[67] *1967 AATCC Technical Manual,* p. A-45.
[68] *1968 AATCC Technical Manual,* p. A-44; *ADR,* v. 56, n. 8, April 10, 1967, pp. 51–53 (P263–P265).
[69] *1968 AATCC Technical Manual,* p. A-40.
[70] *1970 AATCC Technical Manual,* p. 24.
[71] 1969 AATCC Technical Manual, p. 23.

An ad hoc AATCC study committee on detergents was set up in 1971 to gather information. The Committee contacted detergent manufacturers and in 1972 established a closer relationship with ASTM Committee D-12, Soaps and Other Detergents, by adding members of that committee to the AATCC's liaison group.[72]

In 1969, the Committee agreed to participate in an international interlaboratory test program organized by Professor René Freytag of France, comparing various washfastness test methods, including those from AATCC and ISO.[73] In support of the program, the AATCC staff processed over 600 samples at the laboratory in Research Triangle Park.[74]

Also in 1969, the seven test methods for colorfastness to washing were balloted for the first time under the newly instituted five-year review procedures. As a result, four methods were reaffirmed, and three were dropped. One of the methods dropped, AATCC Test Method 1, Colorfastness to Washing, Mill Washing & Scouring: Wool Textiles, was the oldest AATCC test method, predating even the *AATCC Yearbook and Technical Manual*, having survived for forty-seven years essentially unchanged from its initial publication in *ADR* in May 1922.[75] The new review policy was clearly doing what it was intended to do: clear out older methods that were no longer being used.

In the mid-1970s the primary focus of the Committee was on the problems associated with the new nonphosphate detergents, which substituted sodium carbonate for phosphates to reduce stream pollution. The problem was that these types of detergents left a deposit of white calcium and magnesium carbonates on fabrics, a deposit that made fading appear to be worse than it was. Subsequent washing with a phosphate detergent or treatment with acetic acid was required to remove the carbonate and get an accurate measure of colorfastness. Since nonphosphate detergents represented only 15 percent of national consumption in 1973, the Committee concluded that no further work was necessary on the test method.[76] However, the work associated with this question led to the establishment of Committee RA88: Home Laundering Technology in 1973 to focus on two issues: nonphosphate detergents and the impact of home washing on flame-resistant fabrics.[77]

In 1973 the Committee completed its work on the prediction of staining, finding that the large number of variables involved did not allow an accurate method to be developed. This finding was included in an editorial revision of the Colorfastness to Washing test method for the *1973 AATCC Technical Manual*.[78]

In 1979 the Committee began participating in a large-scale interlaboratory comparison of ISO and AATCC test methods for accelerated testing as well as for com-

[72] *1972 AATCC Technical Manual*, p. 17.
[73] *1970 AATCC Technical Manual*, p. 18.
[74] *1971 AATCC Technical Manual*, p. 18.
[75] Ibid., pp. 332–334.
[76] *1974 AATCC Technical Manual*, p. 18.
[77] Ibid., p. 24.
[78] *1973 AATCC Technical Manual*, p. 22.

mercial and domestic laundering.[79] The purpose was to prepare for the June 1981 meeting of the ISO/TC38/SC2-Washing working-group in Copenhagen, Denmark.[80]

Also in 1979, the Committee began to develop a test method for colorfastness to hypochlorite bleach. By 1982, early results showed high variance between laboratories.[81] Further statistical analysis showed that operator variance was not a factor, but that test method variance was too high for the method to be useful. The Committee then focused on the development of a standard dyed comparison fabric to reduce variance in test results.[82] The Committee also set in motion a comprehensive interlaboratory evaluation of colorfastness to hypochlorite bleach, including an investigation into whether an accelerated test was possible.[83]

In 1985 the Committee evaluated a series of comparative tests on a variety of fabrics to determine if AATCC Method 61A, colorfastness to accelerated laundering, and the ISO C06-A1M test gave comparable results. There was no appreciable difference in the results, but the Committee decided to continue the test series with other types of fabric.[84] By 1988, extensive testing by individual laboratories and several interlaboratory trials showed very good correlation between a home washing machine procedure and a test method based on the Launder-Ometer. A first draft of the revised Test Method 61 that incorporated the new test procedure was prepared in 1985 and approved the following year.[85]

In 1984 the Committee initiated preliminary work on an accelerated test method for evaluation of colorfastness to nonchlorine bleaches used in home laundering. This effort was motivated by a desire to provide fabric makers and apparel makers a test method to meet requirements for care labeling.[86] Poor test results led to further testing in 1985.[87] When the method still proved unreliable it was abandoned in 1986 and a new method was drafted and approved in 1987.[88]

In the early 1990s the Committee turned to evaluating a new phosphate-free Standard Reference Detergent. By 1992 the Committee had found that the new detergent produced results approximately comparable to the existing Standard Reference Detergent WOB (which contained phosphate).[89] As a result a proposal was made in 1993 to change the test method to use phosphate-free detergent.[90]

In 1993, Test Method 61, Colorfastness to Laundering, Commercial and Home: Accelerated was revised. An alternative machine that had been included was deleted, a second test fabric supplier was added, the use of the new AATCC Standard Reference Detergent WOB was specified, and errors in the precision and bias statement

[79] *1980 AATCC Technical Manual,* p. 18.
[80] *1981–1982 AATCC Technical Manual,* p. 23.
[81] *1982–1983 AATCC Technical Manual,* p. 23.
[82] *1984 AATCC Technical Manual,* p. 45.
[83] *1985 AATCC Technical Manual,* p. 327.
[84] Ibid.
[85] *1987 AATCC Technical Manual,* p. 356;1988 AATCC Technical Manual, p. 368.
[86] *1986 AATCC Technical Manual,* p. 339.
[87] *1987 AATCC Technical Manual,* p. 356.
[88] *1988 AATCC Technical Manual,* p. 369;1989 AATCC Technical Manual, p. 378.
[89] *1994 AATCC Technical Manual,* p. 407.
[90] *1995 AATCC Technical Manual,* p. 408.

were corrected. The Committee then turned to other questions, most notably the correlation between the method and home laundering. The Committee also recommended that the new detergent be used in the test method for Colorfastness to Non-Chlorine Bleach in Home Laundering.[91] The Committee on Colorfastness to Washing continues to compare AATCC methods with those being proposed by ISO.

Crocking

Crocking is a measure of the ease by which dye is transferred from one fabric to another by physical means; i.e., rubbing. The traditional test for crocking was to place a white handkerchief, over the tip of a forefinger, and then rub the fabric in question forcefully with the handkerchief. If the cloth was subject to crocking, the color transfer to the handkerchief would be readily apparent. This test was quite widely used and is still done as a casual measure of crocking in some dyehouses and particularly by garment cutters.[92]

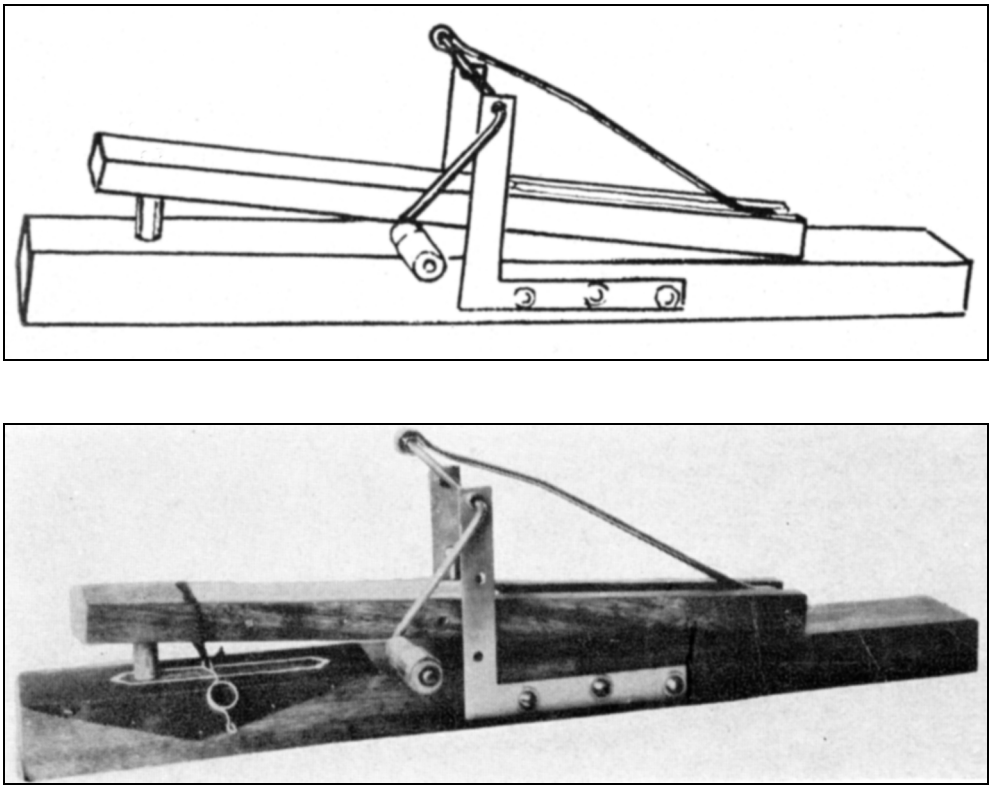
The first test method for crocking, promulgated by the AATCC in 1928, is merely a formalized version of the above described test. The technician placed a piece of unsized white cloth over the index finger and then rubbed the sample ten times, each stroke being 4 inches long. The test was then repeated with a damp cloth.

Clearly, this was not an exact test method–the instruction to the technician to use "plenty of pressure" when pressing down was a far cry from being repeatable, nor would it give reproducible test results. The description of the test method was honest enough to admit this, calling the method "subject to so many variable factors."[93]

Despite its limitations, this test method continued in use, the description unchanged, through 1936. That year saw the introduction of the Crockmeter, developed by Walter C. Durfee, a charter member of the AATCC. The Crockmeter was a simple mechanical device that simulated the action of a human finger rubbing across a cloth sample. The machine consisted of a movable weighted wooden bar mounted above a second wooden bar. On the movable bar was a small wooden dowel, around which the white test cloth was fastened. Turning a crank moved the dowel and test cloth back and forth about 4 inches across the fabric sample. The dowel was so positioned that a constant weight was placed on the dowel as it moved across the sample. Durfee assigned his patent to the AATCC, which made the machine available for sale, along with precut white cotton test cloths.[94]

The *1937 AATCC Yearbook* included a set of shaded dots that could be used as comparisons to determine the extent of crocking. The test method also described three dyes that would provide a range of crocking results.[95] In 1945, crocking results

[91] Ibid., p. 406.
[92] The author witnessed such a check during the research for this book.
[93] *1928 AATCC Yearbook*, p. 107.
[94] *1935–1936 AATCC Yearbook*, pp. 131–32.
[95] Victoria Blue B (substantial), Patent Blue A (medium), and Alizarine Rubinol 36 (faint). *1937 AATCC Yearbook*, pp. 176–181.



First Crockmeter

were evaluated by comparison with Munsell color chips. This color chip technique was expanded when the Color Transference Chart was developed the same year.

Crocking, in the same fashion as the test methods for colorfastness to light and washing, during the 1930s shifted from a skill-based technique to an instrument-dominated automatic procedure. By standardizing the test methods, the AATCC made them universally comparable and acceptable, increasing the likelihood they would be used. The AATCC committees adopted mechanization as a conscious policy to make their test methods more attractive.

The crocking test method remained essentially unchanged through 1956, and the Committee was on reference status during most of that period. The Committee was reactivated in 1955 due to concerns about the repeatability of the test under varying conditions of temperature and humidity. There had also been a number of suggestions as to how the design of the Crockmeter itself could be improved. However, a series of experiments in early 1956 resulted in no firm conclusions about how the test method could be improved.[96]

[96] Quarterly Meeting: Committee on Colorfastness to Crocking, AATCC Archives, June 14, 1956.

The test method was revised slightly in 1957. The method for evaluating color transfer was changed so that a comparison could be made using either the AATCC chart for measuring transference of color or a new standard gray scale promulgated by the ISO.[97] A series of laboratory trials to ferret out variance showed that results from the revised crocking test method were reproducible if the tests were done dry, but wet tests showed considerable variation. The Committee also tested garments returned by consumers who claimed the color rubbed off. On finding that the complaints were justified, and that faulty goods were reaching the market, the Committee decided to further improve the method, particularly with respect to wet crocking.[98]

It was shown that variations in the amount of moisture present in the crock fabric during the wet test caused irreproducibility. A fabric moisture content of 60 to 70 percent gave the most consistent results.[99] As a result, the test method was revised in 1961 to include a specification of the moisture content of the crock fabric used in the wet test. The design of the Crockmeter itself was changed as well, with metal and plastic replacing wood, although previous models were still approved for use.[100]

In 1965, the Committee approved the development of a new type of Crockmeter. Based on a rotary motion, the new instrument was designed to test fabric areas as small as one-half inch in diameter. It was particularly useful for testing printed fabrics, since it allowed testing one color in a print pattern without interference from another. Test results of rotary and linear Crockmeters correlated well but not exactly, so the two machines could not be used interchangeably. Atlas Electric Devices offered the first rotary machines for sale in late 1965.[101] A test method using the new machine, 116T-Colorfastness to Crocking (Rubbing): Rotary Vertical Crockmeter was approved in 1966 and published as a tentative test method.[102]

In response to requests from the garment industry, which had found that some fabrics had much poorer crocking characteristics after laundering and drycleaning, the Committee began to investigate the matter in 1965.[103] In 1966, a note was added to the test method that washing or drycleaning the sample could affect the results of the test, and that this should be borne in mind when deciding how to set up a test program.[104]

The Committee also began to develop a test method for crocking of white pigmented fabrics, with efforts focused on finding a suitable dark-colored test cloth. During 1966, researchers found a cotton fabric dyed with aniline black was unsuitable, but that a fabric of black solution-dyed polyester might work.[105] In 1967, Testfabrics Inc. provided samples for evaluation.[106] Rejection of that fabric in 1968 was followed by two more years of testing.[107] In 1970, the Committee investigated a

[97] *1957 AATCC Technical Manual,* pp. 90–91.
[98] Ibid., p. 46.
[99] *1961 AATCC Technical Manual,* p. 34.
[100] *1962 AATCC Technical Manual,* p. B-57.
[101] *1965 AATCC Technical Manual,* p. A-40.
[102] *1967 AATCC Technical Manual,* p. A-42.
[103] *1965 AATCC Technical Manual,* p. A-40.
[104] *1966 AATCC Technical Manual,* p. A-43.
[105] *1967 AATCC Technical Manual,* p. A-42.
[106] *1968 AATCC Technical Manual,* p. A-43.
[107] *1969 AATCC Technical Manual,* p. 21.

medium gray fabric.[108] Work continued with this new cloth through the early 1970s.[109] In 1973, after an eighteen-month round of interlaboratory comparisons, the Committee selected a vat-dyed gray cloth as being superior to a fiber-reactive-dyed gray cloth and arranged further tests of the former.[110] Committee members apparently lost interest, however, and no further work was done after late 1973.

In 1969, the Committee began preliminary investigation of a low cost instrument for the colorimetric measurement of crocking tests to replace subjective evaluation.[111] Work along these lines continued through the early 1970s.[112]

Due to lack of interest, the Committee was largely inactive from 1973 until 1977, when several new topics led to its reactivation: crock tests for carpets, the importance of wet pickup, and the removal of extraneous fibers from the test fabric prior to the evaluation of both wet and dry tests.[113] The latter two led to editorial revisions of the test method in 1977, while the carpet project continued until 1978.

In late 1979, the Committee took up the question of test accuracy with certain corduroy, twill, and cord fabrics because the crock square stretched during testing. After a series of interlaboratory trials the Committee recommended a change in the wording of the orientation of the crock cloth from "oblique" to "warp wise." The firm that supplied the test fabric, Testfabrics Inc., agreed to prepare and supply crock squares with the edge pinked in the warp direction.[114] The change was approved in 1983.

The Committee did not meet again until 1985, when it initiated a new study to determine if interlaboratory variation in test results resulted from differences in ambient moisture test conditions on either the crock cloth or test specimens.[115]

An interlaboratory test series to develop data for a precision and bias statement was completed in 1986 with twelve laboratories participating.[116] Statistical analysis of test results showed high variance among labs. When the Committee met in 1987 to consider the data, no firm conclusions were reached, but there was considerable discussion about how the design of the Crockmeter could be improved.[117] Revising the method to include sections on verification, conditioning, and precision and bias were balloted and approved in 1988.[118]

In 1989, the Committee began to develop a nine-step Color Transference Scale to replace or supplement the five-step Color Transference Scale and the ISO Gray Scale for Staining.[119] Prototypes of the nine-step scales were distributed in 1990.[120] The new scale proved popular and was balloted in 1992. Negative ballots forced a rewrite,

[108] *1970 AATCC Technical Manual,* p. 21.
[109] *1973 AATCC Technical Manual,* p. 20.
[110] *1974 AATCC Technical Manual,* p. 20.
[111] *1970 AATCC Technical Manual,* p. 21.
[112] *1971 AATCC Technical Manual,* p. 19.
[113] *1978 AATCC Technical Manual,* p. 21.
[114] *1981–1982 AATCC Technical Manual,* p. 21.
[115] *1987 AATCC Technical Manual,* p. 354-55.
[116] *1988 AATCC Technical Manual,* p. 367.
[117] *1989 AATCC Technical Manual,* p. 377.
[118] *1990 AATCC Technical Manual,* p. 380.
[119] *1991 AATCC Technical Manual,* p. 379.
[120] *1992 AATCC Technical Manual,* p. 387.

and the method was resubmitted.[121] The Committee continued to test the model through 1994.[122] The nine-step Chromatic Transference Scale was approved in 1996.

Conclusion

The history of the three test methods and their changes discussed in this chapter—colorfastness to light, to washing, and to crocking—gives some idea of the complexity of the work surrounding their development and ongoing review. As these examples make clear, changes in test methods are driven both by demands of the marketplace and the interests of users of the methods in obtaining more consistent and reliable test results. The most notable changes in test methods that have resulted from this pressure are: an increase in the use of standard test instruments, such as the Fade-Ometer, the Launder-Ometer, and the Crockmeter, and standard test materials, such as the Blue Wool Standards, multifiber test cloth, and standard detergents. These changes are the physical embodiment of the AATCC's search for increased test method accuracy. The same kind of objectives and studies have prevailed for all other AATCC test methods.

This increase in the use of standard instrumentation has been accompanied by changes in the way the test methods themselves have been written. A comparison of test methods published in the 1920s with those published in the 1990s reveals that the more recent test procedures are longer and more detailed, specify test conditions more precisely, define the terms used with greater precision, and report the statistical precision and bias to be expected of the test results.

Taken together, these changes in both instrumentation and documentation reveal the influence of scientific principles on the AATCC's activities. Over time, AATCC test methods have become more rigorous and exacting as the expectations of AATCC members have become more rigorous and exacting. Although the results of AATCC test methods have a supremely practical purpose—evaluating how suitable a fabric is for a particular commercial use—the thinking behind the test methods and the way they are developed is entirely scientific. The AATCC has been very good at using the consensus process to develop test methods that meet the needs of its members. In a sense, test method development and promulgation represent the AATCC at its best, combining both integrity and objectivity with the scientific and the practical in a highly useful way.

[121] *1994 AATCC Technical Manual,* p. 406.
[122] *1995 AATCC Technical Manual,* p. 406.

Summary

Since the founding of the American Association of Textile Chemists and Colorists in 1921, there has been an ongoing debate within the organization about its purpose. Despite the many changes the Association has undergone, the debate always centers around a consistent theme: should the AATCC focus on research and scientific matters, or should it concentrate on practical topics and member education? Although resolved in different ways at different times, this debate is still an ongoing source of tension.

Three factors account for this tension. First, the membership of the AATCC consistently has been both educationally and occupationally diverse. In contrast to many professional societies, many AATCC members are not college educated. Moreover, they work in a variety of industries, including textile, dye, and chemical manufacturing, jobbing, commission houses, retail sales, and academia. As a result, the interests of members are diverse and lead to conflicting ideas about what the AATCC should be doing for them and what they should be doing for the AATCC.

Second, a variance exists between members involved on the national level and those more active at the local section level. Although there are exceptions, as a general rule members involved in national activities such as test method development and the presentation of research papers have been more interested in the scientific goals of the Association. Those involved at the local level have been more focused on its practical, business, educational, and social aspects.

Finally, there are a number of strong-willed individuals who had a disproportionate impact on the direction of the AATCC. Louis Atwell Olney, the Association's founder and father figure, had a strong interest in science and scientific research. Under his leadership the AATCC concentrated on those aspects of textile wet processing. George Paine, the AATCC's first executive director, played a central role in moving the AATCC away from the path Olney had set and toward an organization concerned with business and consumer issues. That Paine did not achieve all his goals is due to the strong personalities of men like Ernest R. Kaswell and A. Henry

Gaede who opposed him, rather than to his own failings. More recently, the AATCC's second executive director, William R. Martin Jr., had a subtle but profound role in centralizing AATCC administrative functions. On the surface an amiable man with real southern charm, he was in fact a rigorous taskmaster who demanded and received a great deal of work from the Association's staff. It is clear that the AATCC would be a very different sort of organization if these men had never been associated with it.

It is important to understand, however, that the history of the AATCC is not exclusively one of conflict. There have been a number of marked continuities in its activities, such as the dissemination of technical information and the convivial social life of sectional members. Most important, the AATCC always had the development and publication of test methods very close to its heart. If there is any one thing of which all AATCC members can be proud it is the *AATCC Technical Manual* and the test methods published there. With that in mind, let us consider what the AATCC has been and is becoming as an organization.

AATCC's Membership Profile

The nature of the AATCC's membership stemmed from the way the Association had been founded.[1] The Association's initial purpose was to deal with the difficulties American textile firms experienced during World War I with obtaining dyes. Cut off from their German dye suppliers, the American firms were forced to turn to domestic manufacturers. In contrast to German firms, American dye makers were largely inexperienced and had difficulty making consistent products. As a result, textile firms had to rely on their own testing to determine the quality of dyed fabrics.

Although a variety of test methods for dyed fabric existed at the time, there was no[2] generally recognized set of standard test methods. As described in Chapter 2, the AATCC was founded to deal with this problem. Among the first actions of the Association was the publication of a series of preliminary test methods for wash fastness of dyes on cotton, silk, and wool. In 1923, the AATCC published its first *Yearbook* (ancestor of the current *AATCC Technical Manual*) that included a series of test methods for color fastness to washing, scouring, fulling, and exposure to chlorine. Over the next ten years, the AATCC continued to add new test methods to its list and to refine existing methods. By the early 1930s the AATCC's methods were widely recognized by industry and were being duplicated in other countries, most notably Great Britain.

Types of Employment

It was this focus on test methods that determined the early structure of the AATCC's membership. The founders of the Association originally intended that it be open only

[1] For a description of the events surrounding the founding of the AATCC, see Chapters 2 and 3.
[2] *ADR*, v. 10, n. 10, May 8, 1922, pp. 332, 334; n. 11, May 22, 1922, pp. 374–375; n. 13, June 19, 1922, pp. 443–450.

to those actively involved in textile chemistry. In their eyes, only those trained chemists involved in actual laboratory work on a regular basis were qualified. This reflects the academic backgrounds of many of the Association's founders, including Louis Olney. Olney, trained as a chemist and head of the textile chemistry program at Lowell Textile School, wanted to create an organization modeled on other scientific societies. He had been chairman of the northeastern section of the American Chemical Society in 1906, and was one of forty charter members of the American Institute of Chemical Engineers in 1908. The ideas he put forward for limiting the AATCC's membership to active chemists reflected the way those organizations were structured.

However, the kinds of individuals actually admitted to AATCC did not fit into Olney's plan. The founders soon learned there were not enough academically qualified textile chemists to allow the creation of a large organization. Moreover, Olney, in particular, saw the AATCC as a way to sponsor research into the technical problems associated with textile chemistry, dyeing, finishing, and testing. To do this successfully, Olney knew that the Association would need members who had access to higher management and funds for research. As a result, when the AATCC sought out charter members, it solicited managers and dyers as well as chemists. Of those charter members for whom we have job descriptions, roughly one third were chemists. Another third were managers of some sort, and the rest were dyers, bleachers, finishers, teachers, and students.[3]

This distribution of AATCC membership has remained relatively constant from the 1920s to the present, with chemists, including researchers, comprising roughly one-third of the total (see Appendix 13). Managers and other executives also have made up a roughly constant share, usually slightly more than one-third. The number of dyers and bleachers has declined (the only category to do so) from slightly less than 33 percent in the 1920s to around 5 percent after 1980. In contrast, the number of salesmen and student members has increased. Broadly speaking, however, the job descriptions of the majority of AATCC members has not changed greatly over time.

Formal Education

This mixture of technically and nontechnically oriented members is also reflected in the educational qualifications. Unlike many professional societies, the AATCC has never had minimum educational requirements for full membership. Although a degree in textile chemistry or a related field has been formally counted toward qualification since the mid-1920s, it has not been required.[4] Thus, a large percentage of AATCC members still do not hold degrees (see Appendix 14).

[3] All statistics on AATCC membership are from research carried out as part of the AATCC History Project and are based on the published membership records of the Association. See Essay on Sources for derivation of the data.
[4] Minutes, 37th meeting of the AATCC Council, March 5, 1926 AATCC Archives, Research Triangle Park, N.C.

Among AATCC charter members, only 23 percent held a degree of any kind.[5] By the late 1930s this figure had increased to 34 percent, and continued to rise until the mid-1970s, when it peaked at slightly over 60 percent. Since that time, the percentage of degree holders has decreased slightly, running at roughly 55 percent through 1990.[6]

The increase in the percentage of degree-holders is largely due to the considerable increase in the percentage of members with bachelor of science (BS) as the final degree, in contrast to the more specialized bachelor of textile chemistry (BTC) and bachelor of textile engineering (BTE) degrees. In the 1920s, only 10 percent of members held that degree. By the early 1970s, over 30 percent of members had a BS, making this the largest single category. At least part of this dramatic-looking increase may be due to the decline in holders of more specialized degrees like BTCs and BTEs. Changes in accrediting procedures meant that most colleges and universities changed the names of their specialized degree programs to the more general BS label during the 1920s and 1930s. But even if the specialized degrees, which 5 percent of members held in the 1930s, are combined with the BS category, the increase in BS degrees only slightly more than doubled between the 1920s and 1970s.

The second largest category, master of science, also increased. Although this became a statistically significant category only in mid-1930s (the first time more than 1 percent of members held this degree), by 1990 slightly more than 10 percent of AATCC members held it. In contrast, the percentage of AATCC members who have a doctorate has changed little since the founding of the organization. In any given year, between 5 and 10 percent of AATCC members held the doctorate. The percentage of PhDs has actually declined somewhat since the 1960s, accounting in large part for the overall decrease in degree-holders as a percentage of total membership.

Regional Affiliation

One of the most significant changes during the seventy-five year history of the AATCC has been the geographical shift in membership from the northeastern United States to the South (see Appendix 15). When the AATCC was founded, more than 50 percent of the charter members came from the New England area, 25 percent from Massachusetts alone. This percentage rapidly declined, however, as the textile industry moved South. By the mid-1950s the New England area provided only 10 percent of AATCC membership. In the Middle Atlantic states such as New York and Pennsylvania, membership continued at the levels it had been during the 1920s (roughly 40 percent) until the mid-1950s, declining slowly after that to a about 20 percent in the 1990s.

[5] These degrees include doctor of philosophy, master of science, master of arts, bachelor of science, bachelor of arts, bachelor of textile chemistry, bachelor of textile design, and bachelor of textile engineering, as well as other specialized degrees.

[6] These figures are based on AATCC History Project statistics. They should be considered a minimum, since it is possible that the AATCC membership directories under report degrees held, but there is no direct evidence of this.

In contrast, the portion of membership from the South has increased considerably. This area now constitutes the center of the American textile industry, and it is no accident that since the mid-1960s, the South has provided over 50 percent of all membership. The most notable effect of this move was the relocation of the AATCC's headquarters from Lowell, Massachusetts, to Research Triangle Park, North Carolina, in the early 1960s, as described in Chapter 8. Also, in 1995, 799 members, 10.4 percent of the membership, were drawn from 69 foreign countries.

Activities

Considerable anecdotal evidence indicates there has always been a division in culture between AATCC members who are more active at the national level and those who focus on sectional activities. By and large, sectional activities within the AATCC have had a significant social component, and members who were active at this level tended to concentrate on the business and social aspects of the Association. For example, prior to the 1960s pictures of the various social gatherings of local sections appeared regularly in the pages of *American Dyestuff Reporter*, and sectional news items emphasized social activities. On the other hand, those members who were more active on the national level, such as technical and research committee members, tended to focus on the scientific and technical aspects of the Association.

Because of changes in business attitudes toward drinking and travel expenses that began in the late 1960s, pictures of social gatherings have been largely eliminated from AATCC publications, and the Association has tried to change the image of the General Meeting to a more professional one. As a result, the focus on entertainment at the sectional level has declined since the early 1970s, and entertainment by companies at General Meetings, while still an important aspect of customer relations, is much less lavish than in earlier years.

Membership and AATCC Policy

Given the nature of AATCC membership and its historical development, it becomes much easier to understand how the Association has set policy. From an early focus on technology and research, the Association has increasingly expanded its mission to include publication and education. These changes are the direct result of changes in the makeup of the AATCC membership. The following outlines the most significant concerns the Association has dealt with.

Politics

There are a number of things the AATCC does not do. Most notably, the AATCC rejects political activity. This is curious given that the membership structure of the Association has been, since its beginning, closer to that of a trade association than to that of a technical society. As early as the second AATCC Council meeting on December 9, 1921, the AATCC's leaders decided not to involve the Association in lobbying

Congress. The reason they gave was that the AATCC was "purely a scientific body" and that while individual members were free to do as they wished, the Association would not take a stand on political matters.[7] This is not to say that the AATCC has had no government involvement. The AATCC consistently cooperated with federal authorities when consulted on issues relating to textile chemistry and technology. At the same meeting that the Council rejected lobbying, it agreed to appoint a representative to the U.S. Department of State's Advisory Committee on Dye Import Policy. The AATCC has continued to work with government agencies on technical matters over the years but has not actively participated in political matters such as lobbying.

Education

The other most notable activity in which the AATCC does not engage is setting formal educational or professional qualifications. Although the AATCC has offered short courses and other educational programs since the 1960s, it is not directly involved in degree-granting higher education.[8] This is in marked contrast to many scientific and engineering societies that are active in curriculum accreditation and professional licensing. It is also in contrast to the activities of the European equivalents of the AATCC, such as the Society of Dyers and Colourists in England, that have devoted considerable time and effort to such activities.[9] Again, this appears to be a result of the diversity of the AATCC's membership. Since many Association members do not have college degrees, and there have never been any educational requirements for AATCC membership, educational requirements have not been seen as an important part of the professional identity of members.

Research

What then was the impact of the AATCC's membership structure? The first, and perhaps most obvious, impact has been that the AATCC is not like most engineering and scientific societies. The AATCC has a higher percentage of members who are employed in management or sales than the typical society. The AATCC also has had a much lower percentage of members with college degrees. If one compares the AATCC with such organizations as the American Chemical Society, for example, one can see that the AATCC's membership is far more diverse in both occupation and education.

The AATCC has been closely identified with technical work throughout its existence, despite the fact the educational level and employment profile of its membership is more characteristic of a business-oriented trade association rather than of a scientific society. Why? Because the AATCC's early leadership focused on textile research to the exclusion of other issues. In particular, Louis Olney, who chaired the Committee on Research from 1921 to 1946, was far more interested in research than in the politics or business development of the Association.

[7] Minutes, second meeting of the AATCC Council, December 9, 1921, AATCC Archives.
[8] The AATCC's Education Committee has published recommendations for what a BS degree should cover, but this is not a formal requirement.
[9] Maurice Tordoff, *The Servant of Colour*. Bradford, West Yorkshire: Society of Dyers and Colourists, 1984, chapters 5, 16, and 29.

Olney and a small group of his associates dominated the leadership of the AATCC for three decades from its founding in 1921 until the early 1950s, and their interests shaped the Association's direction. They believed that the development and publication of test methods should be the central purpose of the AATCC. To support that goal, they sought to sponsor research that would establish a scientific basis for those methods. Most notably, they set up a systematic investigation of the colorfastness of dyes beginning in the early 1920s. Much of this research was performed at the Lowell Textile School under Olney's direction. As described in Chapter 3, during the 1930s the AATCC funded a series of research fellowships in textile chemistry. World War II led to research contracts with the American military, oriented toward developing standard test methods for military fabrics and clothing. After the war, the AATCC continued to participate in government technical work, including research related to the effect of atomic bomb explosions on textile properties.

George Paine, the AATCC's first executive secretary, sought to reduce the emphasis on applied technology during the late 1950s and early 1960s. The move from Lowell, Massachusetts, where the offices of the AATCC had been located from its founding, to Research Triangle Park, North Carolina, in 1964 came close to being a move to New York City. The Council actually approved relocating to New York City, which was favored by Paine, only to reverse that decision at its next meeting and approve North Carolina instead. The move to New York City would have meant a headquarters with a very small laboratory and a considerable reduction in technical activity, because office space would have been very expensive. Concern about the rejection of the research mission was one of the factors that led to the decision to move to North Carolina instead.

However, the nature of the AATCC's mission did change. Unlike Lowell, where Association staff members engaged in both test method development and more fundamental problems in textile chemistry, the laboratory at Research Triangle Park was designed primarily to support the development of test methods. Although it has been used as a teaching tool, the laboratory has never been used for fundamental studies.

Although research was strongly supported by the early leadership of the AATCC, this reflected the wishes of Louis Olney and others at the top rather than the membership as a whole. There were persistent, although always unsuccessful, calls from some members for political activity and lobbying. This faction grew stronger as the early leaders of the Association died in the 1950s. That the faction was almost successful in moving the headquarters to New York City in the early 1960s shows that interest in research was declining. This polarization between research and other activities is a direct result of the diversity of AATCC membership. Arguably, an Association with a higher percentage of graduate degrees and fewer management representatives would have a greater interest in research.

Publications

The diversity of the AATCC's membership also led to controversies over the Association's publications. Initially, the proceedings of the AATCC were published in the trade magazine *American Dyestuff Reporter (ADR)*. Beginning in 1921, *ADR* set

aside enough pages in each issue to report on the activities of the Association and to publish papers given at AATCC meetings and conferences. The AATCC paid $2 per member per year for the coverage, and in return Howes Publishing Company, owners of *ADR*, produced the magazine and sent copies to all AATCC members. The relationship between AATCC and Howes Publishing was cozy—Louis Olney was the editor of *ADR* and a member of the Howes Board of Directors.

After Louis Olney's retirement in the late 1940s, however, the relationship began to break down. As outlined in Chapter 6, in the mid-1950s members of the AATCC Council demanded that the contract with Howes be renegotiated. The new contract, signed in 1957, gave the AATCC a share in *ADR*'s increasing advertising revenue, which had been booming with the rise of the synthetic fibers industry. In the mid-1960s, the AATCC broke with Howes Publishing completely and set up its own publication, *Textile Chemist and Colorist* (*TCC),* that began publication in 1969.

Although the public justification for the split was increased control over content that an in-house magazine would offer, in private some of the AATCC's leaders hoped to capture the profits that were flowing to Howes Publishing Company. As it turned out, they entered the publishing market just before the American textile industry entered a prolonged decline. Both membership dues and advertising revenues declined, falling by almost half in the ten year period 1971–1981.

This decline led to considerable internal controversy about *TCC*'s contents, as Chapter 11 describes. In contrast to *ADR,* a trade magazine, *TCC* was a peer-reviewed technical journal, and its papers were seen as being more specialized than those in *ADR*. Some AATCC Council members blamed the decline in membership and advertising revenue on this editorial policy. This criticism was most often phrased as a complaint, that articles in *TCC* were not "practical" enough and did not appeal to the average member.

This complaint was nothing new; as early as the 1940s Howes Publishing had proposed paying authors to write papers on "practical" subjects in response to a perceived shortage of such articles.[10] This criticism continued in internal correspondence and committee reports in the years leading up to the establishment of *TCC* and has been a topic of discussion as recently as Publications Committee and Editorial Board meetings in 1995.[11]

Since this criticism predates the establishment of *TCC,* it seems logical that the explanation must lie outside any specific editorial policy. After a review of representative articles from back issues of both *ADR* and *TCC,* it is clear that the explanation lies with the makeup of the AATCC's membership and changes in the textile industry. The percentage of members with technical degrees, especially graduate degrees, increased markedly between the 1920s and 1970s. As a result, the audience for the AATCC's Proceedings became more diverse in the background knowledge they brought to articles they read.

[10] Miles A. Dahlen to Carl Z. Draves, July 7, 1947, AATCC Archives.
[11] For a history of such complaints and efforts to deal with them, see Herbert T. Pratt to Charles Wolhar, June 29, 1995, AATCC Archives.

During the same period, the number of types of fabrics that could be dyed and the types of dyes used increased markedly. Prior to World War II, cotton, wool, silk and rayon dominated production, and the number of dye types and methods of dye application were small. After the war, new synthetic fibers, particularly nylon, acrylic, and polyester, were introduced, and by 1970 these new fibers constituted 75 percent of production. New fibers, new dyes, and new dyeing and finishing procedures demanded new test methods. Moreover, a wide variety of new chemical finishes and adjuncts were introduced, further complicating the picture.[12] As a result, the range of possible topics for articles expanded considerably. Due to this increased diversity, an individual member in recent years, has become increasingly less likely to encounter an article relevant to his or her particular interests and job responsibilities. Given the diversity of the AATCC's membership, it would be difficult to make any change in editorial policy that would satisfactorily answer the call for more "practical" papers, since the audience for any particular type of information has become increasingly narrow.

As pointed out in Chapter 14, the AATCC's response to the demand for more "practical" information has been addressed since the mid-1960s through seminars, workshops, and specialty publications. By concentrating on one narrow topic, these activities provide timely practical information to the AATCC's members who are most interested in that particular topic.

Test Methods

If there is any one subject on which the entire AATCC membership can agree, it is the importance of test methods. In all the various debates over the Association's mission during its seventy-five year history, the one thing never questioned is the central place of test method development and dissemination. It would not be an exaggeration to say that the *Technical Manual* and the test methods it contains are the glue that binds the various groups within the AATCC together. In spite of some competing interests, they all agree that it is a proud legacy.

Why have test methods come to have such a respected place in the AATCC? One obvious explanation is that test methods were responsible for the Association's birth. The dyes crisis of World War I meant that American dye consumers were confronted for the first time with the need to evaluate dye performance. When Louis Olney called the AATCC into being in 1921, test method development was his first priority for the new organization, and from his position as president and as chairman of the Research Committee, he steered the Association firmly in that direction.

Over the years, external forces have continued to reinforce that initial inclination toward test method development. The American military used the AATCC as a technical arm during World War II and adopted AATCC test methods to guide procurement of textiles. After the war, the federal government continued to use AATCC's services, most notably in developing a flammability test method. With the widespread intro-

[12] Annette C. Wright, "Strategy and Structure in the Textile Industry: Spencer Love and Burlington Mills, 1923–1962." *Business History Revie*w, v. 69, n. 1, Spring 1995, pp. 42–79.

duction of synthetic fibers in the 1950s and 1960s, manufacturers and consumers demanded and received test methods that addressed the properties of these new textiles. More recently, the AATCC's involvement in international standard setting has made the Association's work increasingly relevant to both an American and an international audience. By focusing on test method development, the AATCC assured itself a place in the world and a steady membership core.

In addition to these external factors, there were internal factors at work as well. Test method development appealed to those AATCC members oriented toward research and scientific activities in their employment, since working with the methods demanded exactness and dedication in their design and diplomacy in having them accepted. At the same time, test method development appealed to those members involved in commercial and industrial pursuits, since precise and accurate test methods allowed resolution of contract disputes and could aid in developing products more appealing to consumers. From the combination of these external and internal factors, test method development has been and continues to be an important part of the AATCC's mission.

Outlook

The ongoing debate about the purpose of the AATCC has at its heart the makeup of the membership of the Association. Neither solely a scientific/technical society nor a trade association, the AATCC has sought to define itself through its work and forging agreement among a variety of competing interests. The result is an organization constantly in tension. Given that this tension comes from deep-rooted causes, the debate over the "scientific" versus the "practical" will continue for the foreseeable future. Even so, test method development will remain at the heart of the Association's activities, and this core competence, combined with its other activities, will be enough to ensure the AATCC's survival.

Epilogue

Bringing this book to completion has been a challenge, for the story that is the history of AATCC will never really have an ending point as long as the Association continues. The text to this point has dealt with the first 75 years of the AATCC. Since that time, the U.S. textile industry, and consequently AATCC, has faced many challenges. In 1997–1998, the currencies of many of the textile exporting countries in Asia collapsed, causing an influx of low-priced textile and apparel products to the United States. Imports from Asia increased 80% over the next four years as these currencies decreased in value. At the same time the United States approved the North American Free Trade Agreement, which encouraged increased textile production in Mexico and Central and South America. Also, the World Trade Organization (WTO) is preparing to give China member status.

These three events have had a major impact on the global textile industry causing the global manufacturing base to shift. The global textile industry overall has continued to grow slowly during this tumultuous time and is predicted to continue to grow long term. AATCC is challenged to capitalize strategically on these changes in the industry and emerge even stronger than before. To accomplish this, AATCC has implemented some significant changes in the past five years. Changes in staff, administration processes, the International Conference & Exhibition, education programs, international image building, and publications have all occurred.

Staff

In 1996 William R. Martin Jr. retired after 34 successful years as executive director. Elizabeth Fisher, his secretary, also retired. John Y. Daniels (Jack) was hired as the new executive director and Barbara Aylesworth was hired as executive assistant to Mr. Daniels.

Early on in his administration, Mr. Daniels and the Executive Committee established specific goals and objectives for the first time for all the individual staff

members. Pay scales for all staff members were studied for both internal and external parity, a 401(k) supplementary retirement fund was established for the staff, and vacation policies and other staffing policies were updated significantly during his first few years in the position.

In 1998, Donald W. Robinson retired as Treasurer after 25 years of service. Hugh Patrick Jr., former president, was elected as treasurer in 1999 for a term of five years.

Administration

In late 1996, after months of development, the Association adopted a computerized membership program with advanced search and sort capabilities that allowed any staff member to access membership information on individuals, companies, rosters of committees, and circulation of the magazine. This program continues to be updated and is being developed into an on-line tool for access by AATCC members and officers. Visitors to the AATCC website will be able to purchase goods on line, update their membership information, register for workshops and committee meetings, and interact with other members. The program will be also interface with the accounting functions to enable the staff to determine which individuals and companies are purchasing the Association's myriad of products. Computers and software have been upgraded to keep abreast of industry demands.

At the Fall Council meeting on November 12, 1998, a proposal was made by AATCC President, Nelson Houser, and the AATCC Council to amend the Bylaws to reflect that beginning in 2000, technical committees and Technical Committee on Research would meet at least twice per year. As a result of the ballot, the technical committee meetings are now held in May and November. As Council was required to meet three times a year, it was decided to hold the Council meeting on the day following the March budget meetings of the Executive Committee of the Council and Appropriations Committee.

The renovation of the Technical Center is also under study as we have outgrown the present layout.

IC&E

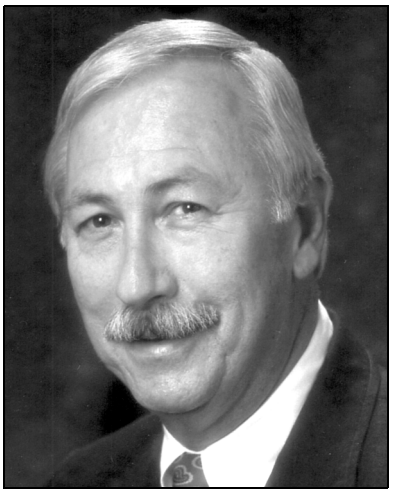
Under President Jones' leadership (1995–1996) the AATCC engaged in a major study of the International Conference & Exhibition (IC&E). A Blue Ribbon Task Group was formed to try to find ways to balance the needs of exhibitors and the needs of the technical portions of this conference. As a result, Council subsequently approved approximately half of the Blue Ribbon Task Group's recommendations. The recommendations that were approved included several relating to location. The group suggested relocating the event from several of the number of major cities that had been planned for future IC&E events, including Orlando, Montreal, and Nashville. They recommended repositioning the conference in second tier cities up and down the I-85 and I-40 corridor, such as Winston-Salem, N.C., Greenville, S.C., and Charlotte, N.C.

An Exhibition Internship Program was initiated during the 1997 IC&E to increase student involvement and also give them exposure to the different companies exhibiting. There were 56 students who were assigned to work with 27 exhibitors. This popular program has been continued to this day. Since the internship was such a popular program, a college Quiz Bowl soon followed and has become a highlight of the conference.

During the 2000 IC&E, exhibitors were allowed to make 15-minute commercial presentations in a designated area of the exhibit hall. The Awards Luncheon and Dinner Party were combined into an Awards Banquet. The Quiz Bowl continues to be a popular event. And the Book of Papers has gone to CD ROM format.

The IC&E continues to be a primary debate of the Association largely due to consolidation of so many textile manufacturing facilities, fiber and chemical producers, and machinery manufacturers. At the time of this writing, the major dye producers globally have merged into four primary players and more consolidation is expected.

Education



Nelson Houser

Under Nelson Houser's term as president (1997–1998), the AATCC surveyed corporate members to determine if there were interest in the Association's certifying laboratory technicians in the proper understanding and utilization of specific AATCC test methods. Although a full-scale program would require a total remodeling of AATCC's laboratories, the executive director and technical staff developed a pilot-scale program that has been conducted numerous times at the Technical Center, whereby five individuals at a time are trained and tested for their knowledge and correct use of gray scales for color evaluations and certain colorfastness tests such as colorfastness to washing and crocking. The Test Method Certification Program entails written examination, demonstrations, and take-home assignments by those individuals seeking to become certified. The staff has licensed this program to the College of Textiles at North Carolina State University and is considering expanding the program to other universities and textile institutions for the purpose of certifying more individuals in the textile industry around the United States.

By 1999, with the increased adoption of electronic communications through websites and e-mail, many associations in all industries were seeing that their total revenues were changing to have less contribution from dues and more contributions from programs and other offerings. This is certainly true for AATCC. We have

experienced decline in dues with consolidation in the industry, and increases in income from the sale of quality control materials, publications, and educational programs. From the strategic plan completed in November 1999, it was determined that one of the heightened activities of the AATCC should be education. To further increase offerings, a new position, education coordinator, was created and filled to allow the education director to spend more time developing new programs for the Association, to explore means for distant learning, and to have the Association participate in other textile events. Peggy Pickett, who had worked for the AATCC for a number of years as education coordinator, was promoted to education director.

The education and technical departments have worked to develop a textile testing training program in conjunction with College of Textiles at North Carolina State University (NCSU COT) and the Instituto Textil y Technologico de Puebla in Puebla, Mexico. In December 1999, the Association conducted its first technical program in Puebla entitled "Technical Assistance Workshop on Improving Testing." This program was made possible from external funding provided by BANCOMEXT in Mexico in conjunction with the NCSU COT. Fifty-six individuals in Puebla and surrounding areas registered to participate in this initial program.

To further enhance the educational image of the Association, a Quiz Bowl was developed for college students to participate at the IC&E. The first year of the event, 1999, eight teams involving 32 students from numerous universities participated. Ann Laidlaw of SheLyn was moderator and the event was widely acclaimed by the participants and audience as well.

During Association meetings on May 8, 1997, the AATCC Council initiated steps to establish the AATCC Foundation, Inc. The Foundation, with its own Board of Directors (controlled by the Association), operates independently and in furtherance of the charitable mission of the Association. The Foundation operates from the AATCC Technical Center. Because the influence and activities of the AATCC extend far beyond the borders of North America, the Foundation will solicit funds worldwide. The Foundation is organized and operated exclusively for charitable purposes, qualifying it for exemption from taxation under Section 501(c)(3) of the U.S. Internal Revenue Code. The mission of the Foundation is three-fold, and financial support is directed to:

Education–Creation and dissemination of educational programs, workshops and materials, to develop skills of individuals and provide benefits to the general public, such as:

- An expanded number of programs aimed at helping professionals stay abreast of technological changes impacting their chosen fields of work
- Textile science training for individuals who may not have formal college education or who may be new to the textile field
- Awareness programs on the importance of textiles to the general public, positioning textiles as a career opportunity to young students and promoting the high-tech nature of this field

Research—Original research in textile science, the findings of which will be made available to the public and used in the education of college and university students, such as:

- An expanded program of textile research of general interest to the consuming public, at the university level, for undergraduates and graduates, making a higher level of financial assistance available
- Sponsorship of research projects through universities or other textile-related organizations, to promote better understanding of textile science

Scholarships—College and university level scholarships and award programs, such as:

- A prestigious four-year scholarship awarded annually, based on high school scholastic and extracurricular achievement, for use at specific colleges or universities meeting rigorous academic programs of study, originally for undergraduate study and eventually for graduate study
- Scholarships in honor of individuals or families making substantial contributions according to the provisions that are established for such contributions

In June 2000 the AATCC Foundation held its first program. "From Design to Retailer: Bridging the Gap," which was well received.

International—Technical Focus

In July 1998, the AATCC hosted the ISO/TC38 SC1 and SC2 meetings in Charleston, S.C. Approximately 12 countries participated. Roland Connelly led the U.S. delegation for SC1 and Norma Keyes was the U.S. delegate leader for SC2. Richard Harold chaired the SC1 meetings and Beth Andrews chaired the SC2 meetings.

Later that same year, AATCC received a request from American Textile Manufacturers Institute (ATMI) asking that they be allowed to take over administration of the U.S. Technical Advisory Group (TAG) for ISO/TC38-Textiles. AATCC had managed the TAG since the early 1950s, part of that time in cooperation with American Society for Testing and Materials (ASTM). With the elimination of tariffs and quotas agreed upon by the World Trade Organization (WTO) that will be effective by 2005, it seemed that ATMI needed to reposition themselves and offer their members services in addition to their prior mission of being the lobbying voice for textile manufacturing. ATMI saw standards development as a means to further their significance to the textile industry and believed they would be in a better position to bring all parties involved with the TAG together for more cohesive voice. The executive director, president, and several others, including Richard Harold (chair, AATCC International Test Methods Committee) and V. Thomas Novak (chair, ECR), met with representatives from ATMI about this proposal. The meeting led to the eventual drafting of a Memorandum of Agreement for ATMI to take over the administration of the U.S. TAG for ISO/TC38. The Association continues to work very closely with ATMI to ensure the success of this transfer. This action allowed the Association to devote more time to

the administration of the SC1 and SC2 secretariats, which AATCC has managed since the 1950s.

International—Image

During Fred Jones' presidency (1995–1996), AATCC initiated a Global Interaction Committee to help the Association focus on potential activities outside of the United States. As a result of this committee, the technical center staff has exhibited at a number of international trade shows. These include ITMA 1999 in Paris; the International Hosiery Exhibition in Charlotte, N.C., April 1998 and April 2000; Exintex 2000 in Puebla, Mexico; ATME-I in Greenville, S.C., April 2000 and October 2001; and TechTextil in Atlanta, April 2000 and March 2001. The Association has also advertised in Latin American trade publications. At the time of this writing, we have a general agreement for *Textile World Latina* to translate and provide technical articles from the Association to the Latin American community.

In 1997, Nelson E. Houser was elected president and immediately set out to identify organizations for possible strategic alliance with the Association. A joint training program was conducted with American Textile Manufacturers Institute (ATMI) regarding international standards. Key contacts were also established with various state, textile manufacturing associations, and other textile-related associations for their dissemination of AATCC program events and vice versa.

In addition, with the emerging mass utilization of the internet, AATCC staff developed the AATCC website, www.aatcc.org, in an effort to promote the Association's activities globally. The site allowed individuals anywhere in the world to learn about the programs, products, and mission of the Association. At the same time, the staff implemented an electronic e-mail system. At the time of this writing, e-mail has become the primary means of communication with members and customers worldwide. This has greatly facilitated the ISO work of the Association in dealing with approximately 25 countries around the world in test method development. It has also facilitated our communications with our members in making arrangements for exhibiting, technical programs, and acquiring advertising in a global market.

The Association developed a multi-lingual brochure describing all the many aspects of AATCC in five languages including English, French, German, Spanish, and Portuguese, to further enhance the Association's global status and as an educational device to distribute at the ITMA 1999 exhibition in Paris.

In 1999 the Association embarked on a major outsourced membership survey in preparation for launching a Strategic Planning Committee. The membership survey was faxed to 3,000 members, which was a representative sample of all the sections, and asked questions pertaining to all segments of AATCC including local section activities, membership benefits, technical programs, publications, test method development, governance, and general participation by the membership. The survey results found that we need to get and keep members involved in Association activity at all levels (national, local, etc.) by keeping companies aware of the Association.

Effective communication is important to achieving this as is offering technical information, support, and services and maintaining technologically advanced information services. The survey also indicated that members were interested in the Association branching out to help set performance specifications, approach diverse market segments, embrace global commerce, and become more involved in environmental issues.

The Strategic Planning Committee, led by Fred Miller Jr., utilized the information gleaned form survey as a starting point and worked to develop a strategic plan that would lead the Association into the new Millennium. A key aspect found from practically all of the 11 teams that worked on various aspects of the strategic plan was the need for AATCC to become more international in nature. An outcome of this study was the decision to investigate changing the name of the Association and simply refer to it as "AATCC." The AATCC logo is recognized internationally, but the name including the word "American" restricted the perception of the global image of the Association. By referring to itself as AATCC, the Association would capitalize on its logo, a significant intangible asset, and at the same time remove the restrictive word "American" from its name. At the time of this writing, studies of the Constitution and Bylaws that would result in this name change, as well as many other governing changes are being considered.

The strategic plan of the Association developed in 2000 also called for more global activities. In an effort to increase its presence in Mexico and Latin America, AATCC and the College of Textiles at North Carolina State University (NCSU-COT) contracted with Manuel Gonzalez Tapia, a chemical engineer living in Puebla, to represent both organizations. Tapia's objective is gaining members and developing and conducting technical programs for the Association and the NCSU-COT in Mexico.

Publications

In 1998, Nelson Houser, then-AATCC president, began the initial discussions with regard to the Association's purchase of *American Dyestuff Reporter* magazine. Past-president Jones and George Anderson were asked to make the first contact to Herbert Stauderman, who was the president of SAF International, which published *ADR* at this time. This is coincidental because Fred Jones' father was so involved with the decision and discussions years earlier to withdraw the proceedings of the Association from *ADR* and to establish AATCC's own magazine in 1969, *Textile Chemist and Colorist*. The purchase was finalized in August 1999 and the first issue of *Textile Chemist and Colorist & American Dyestuff Reporter* was distributed in September 1999.

The new millennium has seen many new changes in AATCC publications. A website has been created to keep members current on all aspects of the organization. Links have been established to other organizations to help our members and others keep abreast of the industry and section news and events. A listserve has been added for members to participate in technical discussions electronically. In January 2001 the monthly journal premiered its new name, *AATCC Review*, with a new format,

more color, and increased articles. Many favorable comments have been received. This activity was lead by the new editorial director, Sherri Satterwhite, and her staff.

Conclusion

Charles E. Gavin III

Charles E. Gavin III, president and owner of MFG Chemical Inc. in Dalton, Ga., became president in 1999. During his two-year term, the textile and chemical industries continued to see significant consolidations and it was a challenging time for most people in the textile industry. President Gavin led the Association through this turbulent time with great leadership that resulted in a number of key events for the Association. The strategic plan was approved and the executive director and staff were given the assignment of implementing this plan in concert with a number of committees. Also during this period, President Gavin and the staff laid the groundwork for the possible formation of a section in Mexico. They visited the Textile Chambers in Mexico City and in Puebla to explore the local interest in AATCC.

John Darsey

John Darsey became AATCC president in 2001. Under President Darsey's leadership, the Association has formed a retail committee and is aggressively pursuing activities of interest to this business segment.

The future holds many challenges for AATCC with the continued downturn in the textile industry and, consequently, a declining membership. Due to the continued stresses on the industry, it is difficult for members to take time from their work schedules to attend meetings and to volunteer for committees or officer positions. The Association is endeavoring to reach out internationally to expand its membership, to develop distance learning opportunities for members to keep abreast of education training advancements, and to expand test method development to meet current industry needs.

Appendices

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Appendix 1

Administrative Offices and Committees (1996)

National Officers

President
Vice Presidents (5)
Treasurer
Executive Director
Chair of the Executive Committee on Research

The Council

(Representatives elected by Sections based on proportionate senior membership)

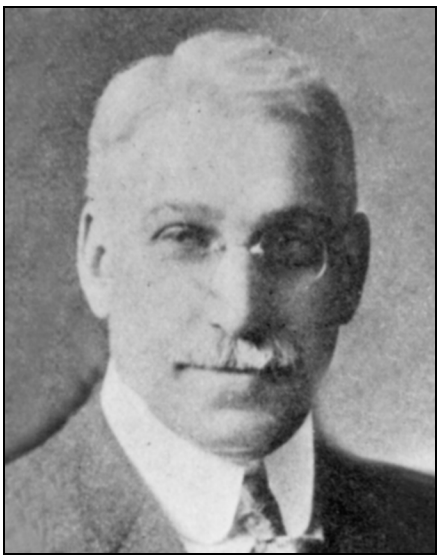
Standing Committees of the Council
- Executive Committee
  - Buildings and Grounds
  - Employee Benefits
  - Awards
  - Global Interaction
- Executive Committee on Research
  - International Test Methods
  - Technical Subjects
- Technical Committee on Research
  - Research Committees (Test Method Development)
  - Technology Committees (Information Dissemination)
- Appropriations
- Individual Membership
- Corporate Membership

- Publications
  - *Colour Index* Editorial
  - Editorial Board
  - Advertising Board
  - Products Listings
  - Electronic Media
- Constitution and Bylaws
- Conferences
  - Exhibitions
- History and Archives
- Textile Education
- Subject and Speakers Bureau

Special Committees of the Council
- Intrasectional Technical Paper Competition
- Olney Medal
- Harold C. Chapin Award
- Henry E. Millson Award for Invention
- Retirement Plan Administration

Appendix 2

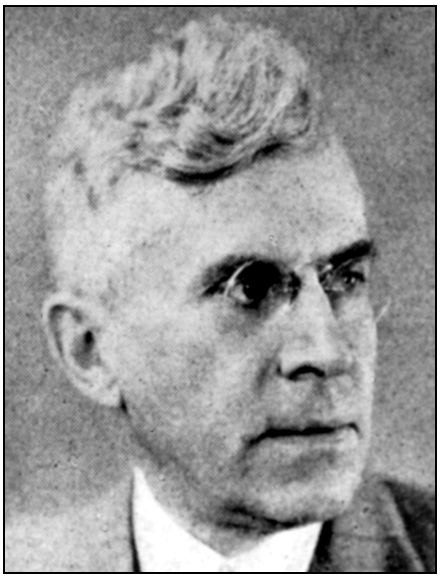
The Presidents (1921–1996)



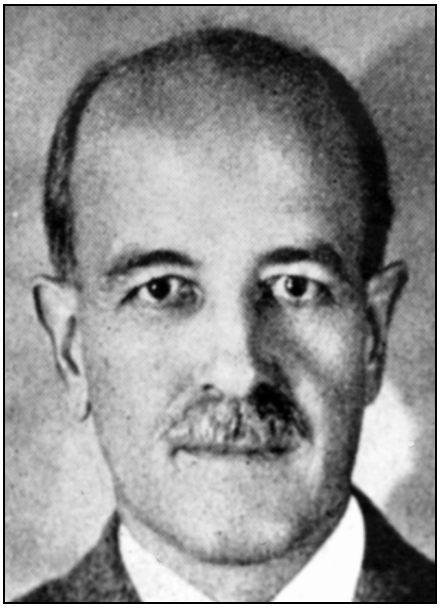
Louis Atwell Olney (Founder)
1921–1928

Elvin H. Killheffer
1928–1930

Percival J. Wood
1931–1932

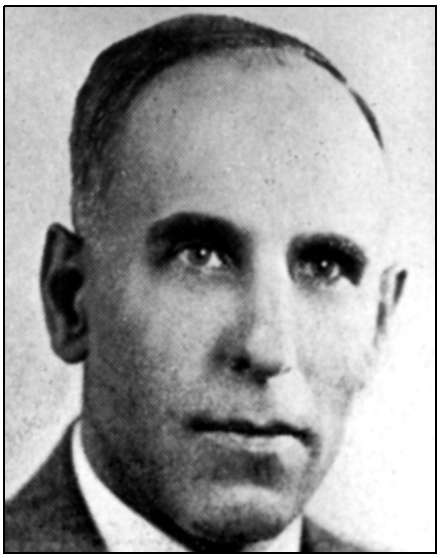


Robert E. Rose
1933–1935

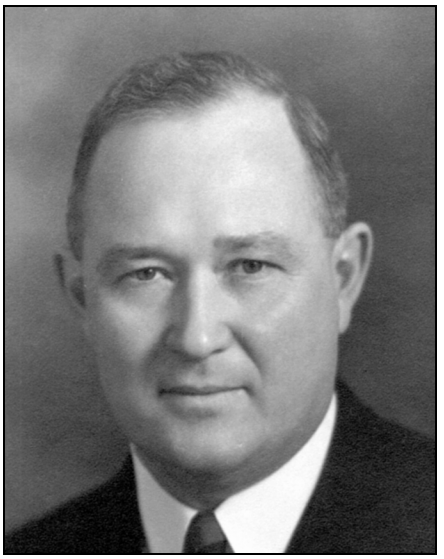


William H. Cady
1936–1937

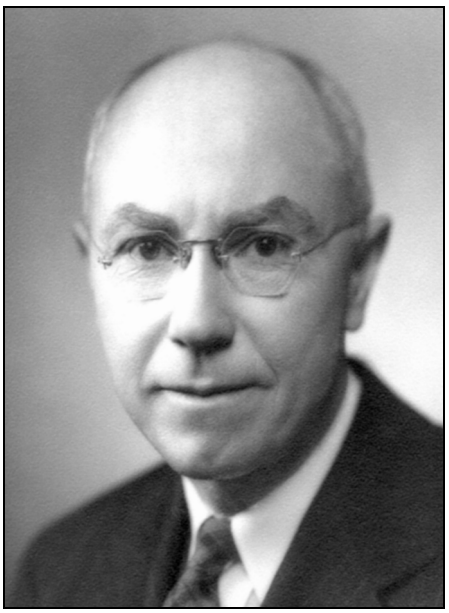
Alban Eavenson
1938–1939



Carl Z. Draves Sr.
1940–1941



Thomas R. Smith
1942–1943



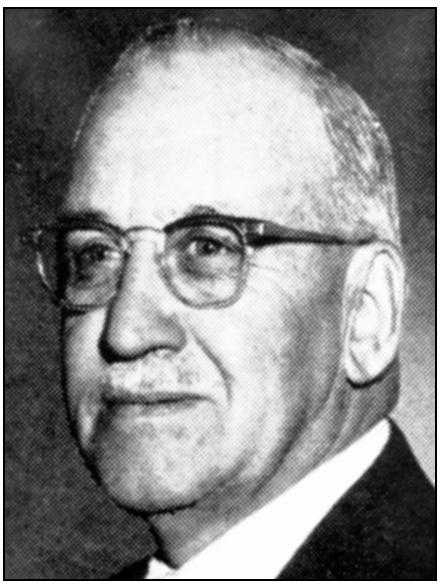
William D. Appel
1944–1946

Henry F. Herrmann
1947–1949

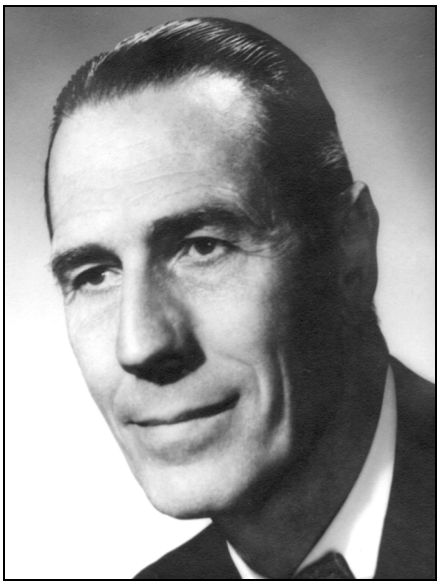
C. Norris Rabold
1950–1952

J. Robert Bonnar
1953–1954

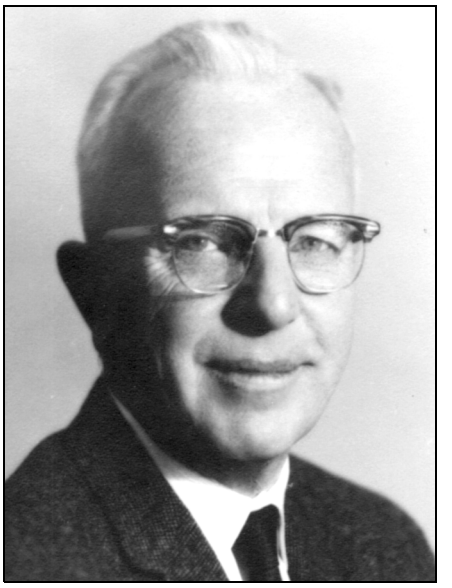
Raymond W. Jacoby
1955–1956



George O. Linberg
1957–1958

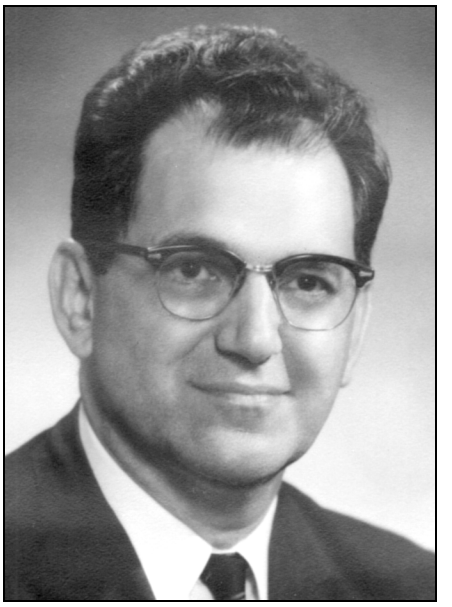


Weldon G. Helmus
1959–1960

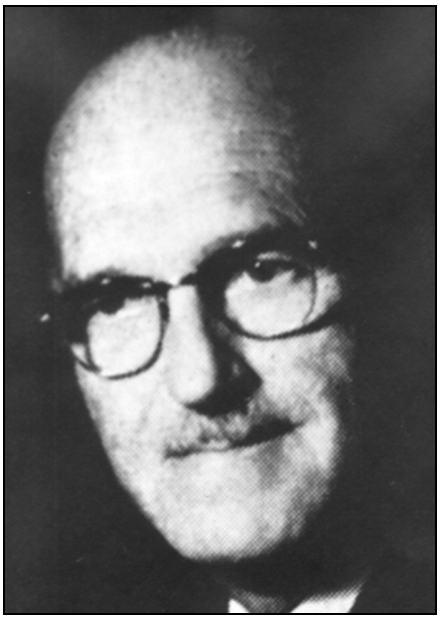


Elliott Morrill
1961–1962

Ernest R. Kaswell
1963–1964



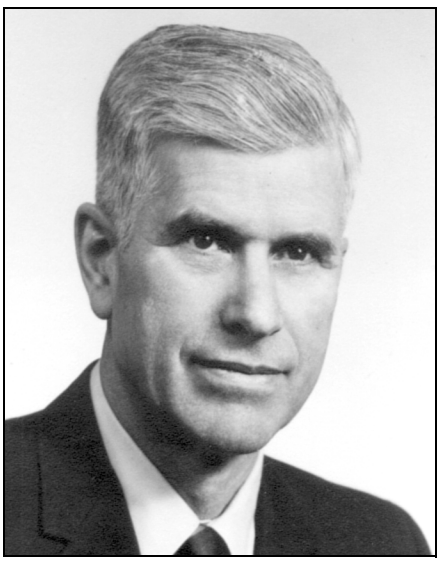
Fred Fortess
1965–1966



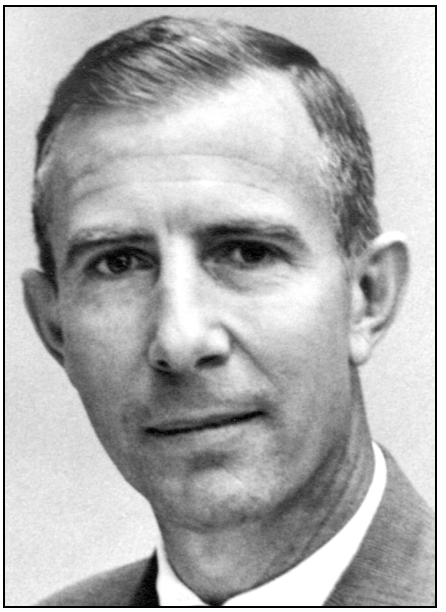
W. George Parks
1967–1968

Donald W. Robinson
1968

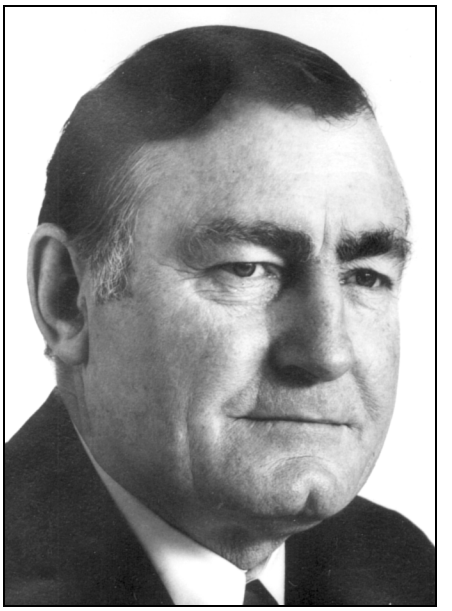
Joseph H. Jones
1969–1970



Edwin I. Stearns
1971–1972

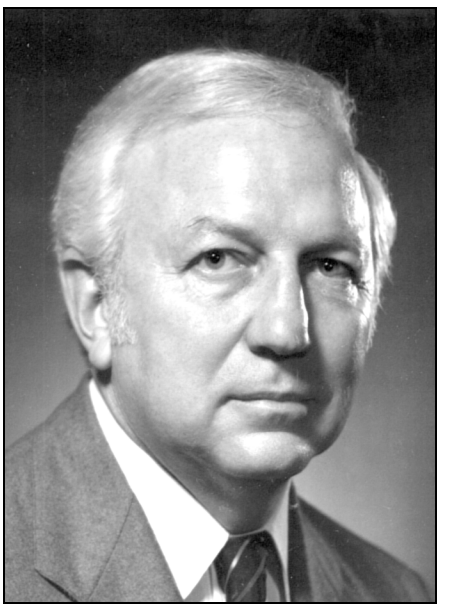


Richard M. Jones
1973–1974

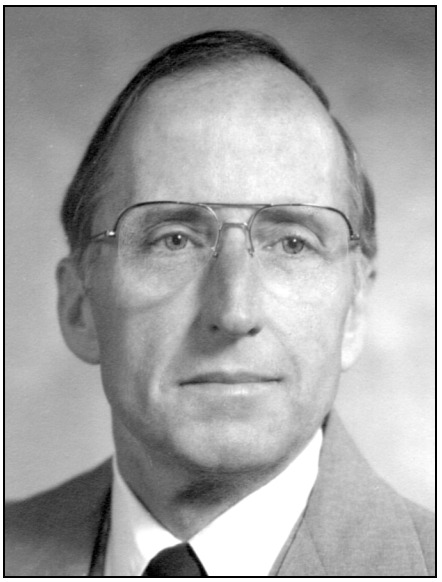


George S. Wham
1975–1976

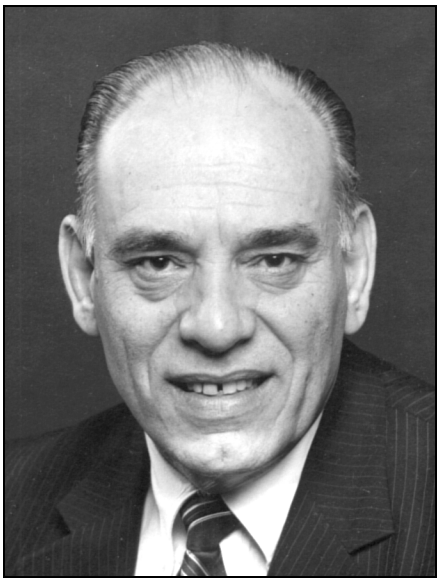
Ralph E. Elwell
1977–1978



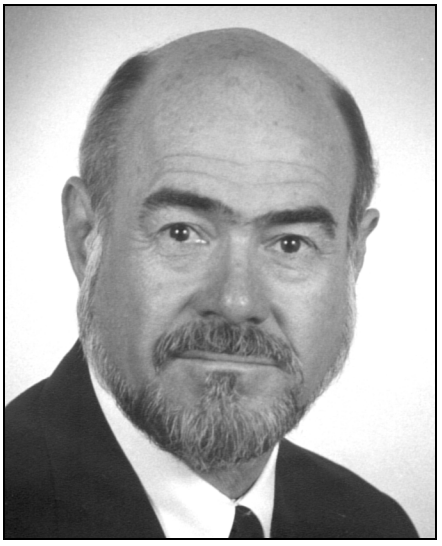
Paul O. Anderson
1979–1980



Wayne H. Lawson
1981–1982

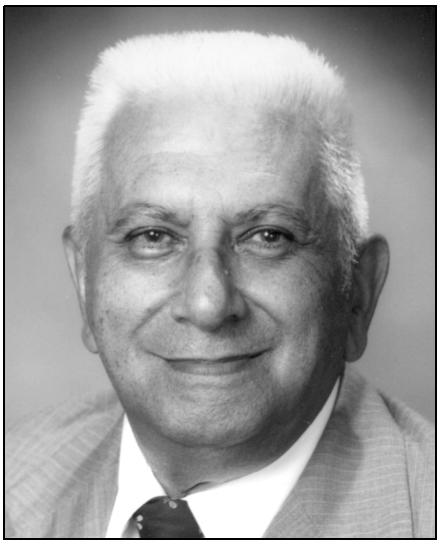


E. James Stavrakas
1983–1984



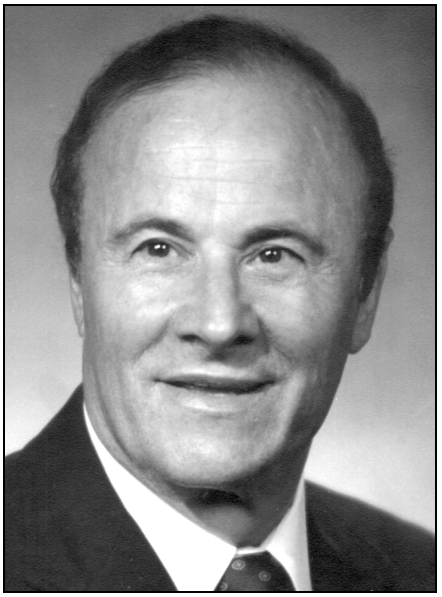
C. Hugh Patrick Jr.
1985–1986

Marguerita C. Hindle
1987–1988



George J. Mandikos
1989–1990

Warren S. Perkins
1991–1992



Nick J. Christie
1993–1994

Frederick K. Jones
1995–1996

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Appendix 3

Other Officers (1921–1996)

1921

Vice Presidents:	William H. Cady	William D. Livermore
Secretary:	Walter E. Hadley	
Treasurer:	Winthrop C. Durfee	

1922

Vice Presidents:	William H. Cady	William D. Livermore
Secretary:	Walter E. Hadley	
Treasurer:	Winthrop C. Durfee	

1923

Vice Presidents:	William H. Cady	William D. Livermore
Secretary:	Walter E. Hadley	
Treasurer:	Winthrop C. Durfee	

1924

Vice Presidents:	William H. Cady	William D. Livermore
Secretary:	Walter E. Hadley	
Treasurer:	Winthrop C. Durfee	

1925

Vice Presidents:	Elvin H. Killheffer	William D. Livermore
Secretary:	Walter E. Hadley	
Treasurer:	Winthrop C. Durfee	

1926

Vice Presidents:	Elvin H. Killheffer	William D. Livermore
Secretary:	Walter E. Hadley	
Treasurer:	Winthrop C. Durfee	

1927

Vice Presidents:	Elvin H. Killheffer	Walter S. Williams
Secretary:	Walter E. Hadley	
Treasurer:	Winthrop C. Durfee	

1928

Vice Presidents:	Joseph F. X. Harold	Walter S. Williams
Secretary:	Walter E. Hadley	
Treasurer:	Winthrop C. Durfee	

1929

Vice Presidents:	Walter S. Williams	Percival J. Wood
Secretary:	Alex Morrison	
Treasurer:	Winthrop C. Durfee	

1930

Vice Presidents:	Walter S. Williams	Percival J. Wood
Secretary:	Alex Morrison	
Treasurer:	Harry R. Davies	

1931

Vice Presidents:	H. A. Barnes	William H. Cady
	Alex Morrison	
Secretary:	Alex Morrison	
Treasurer:	Harry R. Davies	

1932

Vice Presidents:	William H. Cady	Alex Morrison
Secretary:	A. Newton Graves	
Treasurer:	William R. Moorhouse	

1933

Vice Presidents:	Alex Morrison	Arthur R. Thompson Jr.
Secretary:	Harold C. Chapin	
Treasurer:	William R. Moorhouse	

1934

Vice Presidents:	William H. Cady	Arthur R. Thompson Jr.
Secretary:	Harold C. Chapin	
Treasurer:	William R. Moorhouse	

1935/1936

Vice Presidents:	Elmer C. Bertolet	Arthur R. Thompson Jr.
Secretary:	Harold C. Chapin	
Treasurer:	William R. Moorhous	

1937

Vice Presidents:	Elmer C. Bertolet	Alban Eavenson
Secretary:	Harold C. Chapin	
Treasurer:	William R. Moorhouse	

1938

Vice Presidents:	Duncan Ferguson	Arthur R. Thompson Jr.
Secretary:	Harold C. Chapin	
Treasurer:	William R. Moorhouse	

1939

Vice Presidents:	Duncan Ferguson	Arthur R. Thompson Jr.
Secretary:	Harold C. Chapin	
Treasurer:	William R. Moorhouse	

1940

Vice Presidents:	Duncan Ferguson	Arthur R. Thompson Jr.
Secretary:	Harold C. Chapin	
Treasurer:	William R. Moorhouse	

1941

Vice Presidents:	Roland E. Derby	Thomas R. Smith
Secretary:	Harold C. Chapin	
Treasurer:	William R. Moorhouse	

1942

Vice Presidents:	Roland E. Derby	Charles A. Seibert
Secretary:	Harold C. Chapin	
Treasurer:	William R. Moorhouse	

1943

Vice Presidents:	Roland E. Derby	Charles A. Seibert
Secretary:	Harold C. Chapin	
Treasurer:	William R. Moorhouse	

1944

Vice Presidents:	Hugh Christison	Charles A. Seibert
Secretary:	Harold C. Chapin	
Treasurer:	William R. Moorhouse	

1945

Vice Presidents:	Hugh Christison	Henry F. Herrmann
Secretary:	Harold C. Chapin	
Treasurer:	William R. Moorhouse	

1946

Vice Presidents:	Hugh Christison	Henry F. Herrmann
Secretary:	Harold C. Chapin	
Treasurer:	William R. Moorhouse	
Director of Research:	Harold W. Steigler	

1947/1948

Vice Presidents:	John N. Dalton	C. Norris Rabold
Secretary:	Harold C. Chapin	
Treasurer:	William R. Moorhouse	
Director of Research:	Harold W. Steigler	
Chairman, Executive Committee on Research:		J. Robert Bonnar

1949

Vice Presidents:	John N. Dalton	C. Norris Rabold
Secretary:	Harold C. Chapin	
Treasurer:	William R. Moorhouse	
Director of Research:	Harold W. Steigler	
Chairman, Executive Committee on Research:		J. Robert Bonnar

1950

Vice Presidents:	Arthur W. Ethchells	George O. Linberg
Secretary:	Harold C. Chapin	
Treasurer:	William R. Moorhouse	
Assistant Treasurer:	Albert E. Sampson	
Director of Research:	Harold W. Steigler	
Chairman, Executive Committee on Research:		J. Robert Bonnar

1951

Vice Presidents:	J. Robert Bonnar	George O. Linberg
Secretary:	Harold C. Chapin	
Treasurer:	William R. Moorhouse	
Assistant Treasurer:	Albert E. Sampson	
Director of Research:	Harold W. Steigler	
Chairman, Executive Committee on Research:		Leonard S. Little

1952

Vice Presidents:	Arthur T. Brainerd	Arthur W. Etchells
	Samuel L. Hayes	Raymond W. Jacoby
Secretary:	Harold C. Chapin	
Treasurer:	William R. Moorhouse	
Assistant Treasurer:	Albert E. Sampson	
Director of Research:	Harold W. Steigler	
Chairman, Executive Committee on Research:		Leonard S. Little

1953

Vice Presidents:	Arthur T. Brainerd	Arthur W. Etchells
	Samuel Hayes	George O. Linberg
Secretary:	Harold C. Chapin	
Treasurer:	William R. Moorhouse	
Assistant Treasurer:	Albert E. Sampson	
Director of Research:	Harold W. Steigler	
Chairman, Executive Committee on Research:		Leonard S. Little

1954

Vice Presidents:	George L. Baxter	Samuel L. Hayes
	Joseph H. Jones	George O. Linberg
Secretary:	Harold C. Chapin	
Assistant Secretary:	Richard B. Frey	
Treasurer:	Albert E. Sampson	
Treasurer Emeritus:	William R. Moorhouse	
Director of Research:	Harold W. Steigler	
Chairman, Executive Committee on Research:		Leonard S. Little

1955

Vice Presidents:	George L. Baxter	Joseph H. Jones
	George O. Linberg	Walter M. Scott
Secretary:	Harold C. Chapin	
Assistant Secretary:	Richard B. Frey	
Treasurer:	Albert E. Sampson	
Treasurer Emeritus:	William R. Moorhouse	
Director of Research:	Harold W. Steigler	
Chairman, Executive Committee on Research:		Leonard S. Little

1956

Vice Presidents:	Joseph H. Jones	Ernest R. Kaswell
	Walter M. Scott	Frederick V. Traut
Treasurer:	Albert E. Sampson	
Treasurer Emeritus:	William R. Moorhouse	
Executive Secretary and Assistant Treasurer:		George P. Paine
Secretary:	Harold C. Chapin	
Assistant Secretary:	Richard B. Frey	
Director of Research:	Harold W. Steigler	
Chairman, Executive Committee on Research:		Charles W. Dorn

1957

Vice Presidents:	Weldon G. Harris	Ernest R. Kaswell
	Elliot Morrill	H. Gillespie Smith
Treasurer:	Roland E. Derby	
Treasurer Emeritus:	William R. Moorhouse	
Executive Secretary and Assistant Treasurer:		George P. Paine
Secretary:	Harold C. Chapin	
Assistant Secretary:	Richard B. Frey	
Director of Research:	Harold W. Steigler	
Chairman, Executive Committee on Research:		Charles W. Dorn

1958

Vice Presidents:	Weldon G. Harris	Ernest R. Kaswell
	Elliot Morrill	H. Gillespie Smith
Treasurer:	Roland E. Derby	
Treasurer Emeritus:	William R. Moorhouse	
Executive Secretary:	George P. Paine	
Chairman, Executive Committee on Research:		Charles W. Dorn

1959

Vice Presidents:	C. T. Anderson	Elliot Morrill
	W. G. Parks	H. Gillespie Smith
Treasurer:	Roland E. Derby	
Treasurer Emeritus:	William R. Moorhouse	
Executive Secretary:	George P. Paine	
Chairman, Executive Committee on Research:		Charles W. Dorn

1960

Vice Presidents:	A. Henry Gaede	Joseph H. Jones
	W. G. Parks	W. S. Sollenberger
Treasurer:	Arthur R. Thompson	
Executive Secretary:	George P. Paine	
Chairman, Executive Committee on Research:		Charles A. Sylvester

1961

Vice Presidents:	A. Henry Gaede	Joseph H. Jones
	W. G. Parks	W. S. Sollenberger
Treasurer:	Arthur R. Thompson	
Executive Secretary:	George P. Paine	
Chairman, Executive Committee on Research:		Charles A. Sylvester

1962

Vice Presidents:	Joseph H. Jones	J. Edward Lynn
	Joe D. Mosheim	W. S. Sollenberger
Treasurer:	Ernest J. Chornyei	
Treasurer Emeritus:	William R. Moorhouse	
Executive Secretary:	George P. Paine	
Chairman, Executive Committee on Research:		Charles A. Sylvester

1963

Vice Presidents:	Percy J. Fynn	Jack G. Kelly
	J. Edward Lynn	Joe D. Mosheim
Treasurer Emeritus:	William R. Moorhouse	
Treasurer:	Ernest J. Chornyei	
Executive Secretary:	George P. Paine	
Chairman, Executive Committee on Research:		George S. Wham

1964

Vice Presidents:	Fred Fortess	Percy J. Fynn
	Jack G. Kelly	J. Edward Lynn
Treasurer:	Ernest J. Chornyei	
Executive Secretary:	George P. Paine	
Chairman, Executive Committee on Research:		George S. Wham

1965

Vice Presidents:	Jack G. Kelly	Richard P. Monsaert Jr.
	Richard E. Rettew	Frank J. Rizzo
Treasurer:	Ernest J. Chornyei	
Executive Secretary:	George P. Paine	
Chairman, Executive Committee on Research:		George S. Wham

1966

Vice Presidents:	James L. McGowan	Richard P. Monsaert Jr.
	Richard E. Rettew	Frank J. Rizzo
Treasurer:	Ernest J. Chornyei	
Executive Secretary:	George P. Paine	
Chairman, Executive Committee on Research:		George S. Wham

1967

Vice Presidents:	Robert J. Pierent	Richard E. Rettew
	Donald W. Robinson	Frank S. Stover
Treasurer:	Ernest J. Chornyei	
Executive Secretary:	George P. Paine	
Chairman, Executive Committee on Research:		George S. Wham

1968

Vice Presidents:	Richard M. Jones	Albert H. Rant
	Frank S. Stover	Charles A. Sylvester
Treasurer:	Ernest J. Chornyei	
Executive Secretary:	George P. Paine	
Chairman, Executive Committee on Research:		Edwin I. Stearns

1969

Vice Presidents:	Richard M. Jones	Albert H. Rant
Frank S. Stover	Charles A. Sylvester	Frank S. Stover
Treasurer:	Ernest J. Chornyei	
Executive Secretary:	George P. Paine	
Chairman, Executive Committee on Research:		Edwin I. Stearns

1970

Vice Presidents:	Arthur J. Andrews	Richard M. Jones
	Robert H. Phillips	George S. Wham
Treasurer:	Ernest J. Chornyei	
Executive Secretary:	George P. Paine	
Chairman, Executive Committee on Research:		Edwin I. Stearns

1971

Vice Presidents:	Arthur J. Andrews	Ralph E. Ewell
	Robert H. Phillips	George S. Wham
Treasurer:	Ernest J. Chornyei	
Executive Secretary:	George P. Paine	
Chairman, Executive Committee on Research:		Burt F. Faris

1972

Vice Presidents:	Arthur J. Andrews	Ralph E. Ewell
	Joseph S. Panto	George S. Wham
Treasurer:	Ernest J. Chornyei	
Executive Secretary:	George P. Paine	
Chairman, Executive Committee on Research:		Burt F. Faris

1973

Vice Presidents:	Walter W. Gleadall	Ralph E. Elwell
	Joseph S. Panto	Walter H. Sites
Treasurer:	Donald W. Robinson	
Executive Secretary:	George P. Paine	
Chairman, Executive Committee on Research:		Burt F. Faris

1974

Vice Presidents:	Paul O. Anderson	Walter W. Gleadall
	Wayne H. Lawson	John J. O'Neill Jr.
	Walter H. Sites	
Treasurer:	Donald W. Robinson	
Executive Director:	William R. Martin Jr.	
Chairman, Executive Committee on Research:		R. Lee Wayland Jr.

1975

Vice Presidents:	Paul O. Anderson	Wayne H. Lawson
	John J. O'Neill Jr.	Walter H. Sites
	Charles L. Zimmerman	
Treasurer:	Donald W. Robinson	
Executive Director:	William R. Martin Jr.	
Chairman, Executive Committee on Research:		R. Lee Wayland Jr.

1976

Vice Presidents:	Paul O. Anderson	Roland E. Derby Jr.
	Wayne H. Lawson	James E. Miller
	Charles L. Zimmerman	
Treasurer:	Donald W. Robinson	
Executive Director:	William R. Martin Jr.	
Chairman, Executive Committee on Research:		R. Lee Wayland Jr.

1977

Vice Presidents:	William H. Bertolet III	Roland E. Derby Jr.
	James C. Farrow	W. Bickett Hawkins
	James E. Miller	
Treasurer:	Donald W. Robinson	
Executive Director:	William R. Martin Jr.	
Chairman, Executive Committee on Research:		E. James Stavrakas

1978

Vice Presidents:	William H. Bertolet III	Roland E. Derby Jr.
	James C. Farrow	W. Bickett Hawkins
	Marguerita C. Hindle	James E. Miller
Treasurer:	Donald W. Robinson	
Executive Director:	William R. Martin Jr.	
Chairman, Executive Committee on Research:		E. James Stavrakas

1979

Vice Presidents:	William H. Bertolet III	Clyde T. Canter
	Marguerita C. Hindle	C. Hugh Patrick Jr.
	Ralph A. Supper	
Treasurer:	Donald W. Robinson	
Executive Director:	William R. Martin Jr.	
Chairman, Executive Committee on Research:		E. James Stavrakas

1980

Vice Presidents:	Clyde T. Canter	Marguerita C. Hindle
	C. Hugh Patrick Jr.	Irwin J. Smith
	Ralph A. Supper	
Treasurer:	Donald W. Robinson	
Executive Director:	William R. Martin Jr.	
Chairman, Executive Committee on Research:		Vernon C. Smith

1981

Vice Presidents:	John C. Boesch	Therese R. Commerford
	Frank A. Hirsch	Irwin J. Smith
	Ralph A. Supper	
Treasurer:	Donald W. Robinson	
Executive Director:	William R. Martin Jr.	
Chairman, Executive Committee on Research:		Vernon C. Smith

1982

Vice Presidents:	John C. Boesch	Therese R. Commerford
	Frank A. Hirsch	Frederick K. Jones
	Irwin J. Smith	
Treasurer:	Donald W. Robinson	
Executive Director:	William R. Martin Jr.	
Chairman, Executive Committee on Research:		Vernon C. Smith

1983

Vice Presidents:	James M. Buckner Jr.	Therese R. Commerford
	Nick J. Christie	Frank A. Hirsch
	Frederick K. Jones	
Treasurer:	Donald W. Robinson	
Executive Director:	William R. Martin Jr.	
Chairman, Executive Committee on Research:		J. Lee Rush

1984

Vice Presidents:	James M. Buckner Jr.	Nick J. Christie
	Fredercik K. Jones	Andrew J. McNulty Jr.
	Warren S. Perkins	
Treasurer:	Donald W. Robinson	
Executive Director:	William R. Martin Jr.	
Chairman, Executive Committee on Research:		J. Lee Rush

1985

Vice Presidents:	Arthur J. Andrews	James M. Buckner Jr.
	Nick J. Christie	Andrew J. McNulty Jr.
	Warren S. Perkins	
Treasurer:	Donald W. Robinson	
Executive Director:	William R. Martin Jr.	
Chairman, Executive Committee on Research:		J. Lee Rush

1986

Vice Presidents:	Arthur J. Andrews	Samuel J. Guertin
	Andrew J. McNulty Jr.	Warren S. Perkins
	Charles J. Wolhar	
Treasurer:	Donald W. Robinson	
Executive Director:	William R. Martin Jr.	
Chairman, Executive Committee on Research:		Marguerita C. Hindle

1987

Vice Presidents:	Bill M. Childers	Ronald J. Fryer
	Samuel J. Guertin	Philip S. Patrick
	Charles J. Wolhar	
Treasurer:	Donald W. Robinson	
Executive Director:	William R. Martin Jr.	
Chairman, Executive Committee on Research:		Rob L. Stone

1988

Vice Presidents:	Bill M. Childers	Ronald J. Fryer
	Samuel J. Guertin	Philip S. Patrick
	Charles J. Wolhar	
Treasurer:	Donald W. Robinson	
Executive Director:	William R. Martin Jr.	
Chairman, Executive Committee on Research:		Rob L. Stone

1989

Vice Presidents:	Raymond E. Horbert	Donald F. Johnson
	Leander B. Ricard	Harry L. Rowden
	Philip S. Patrick	
Treasurer:	Donald W. Robinson	
Executive Director:	William R. Martin Jr.	
Chairman, Executive Committee on Research:		Rob L. Stone

1990

Vice Presidents:	Bethlehem K. Andrews	John A. Andrews
	Raymond E. Horbert	Leander B. Ricard
	Harry L. Rowden	
Treasurer:	Donald W. Robinson	
Executive Director:	William R. Martin Jr.	
Chairman, Executive Committee on Research:		John Y. Daniels

1991

Vice Presidents:	Bethlehem K. Andrews	John A. Andrews
	Edward W. Boland	Raymond E. Horbert
	Leander B. Ricard	
Treasurer:	Donald W. Robinson	
Executive Director:	William R. Martin Jr.	
Chairman, Executive Committee on Research:		John Y. Daniels

1992

Vice Presidents	George C. Anderson	Bethlehem K. Andrews
	John A. Andrews	Edward W. Boland
	Armand R. Lemire	
Treasurer	Donald W. Robinson	
Executive Director	William R. Martin Jr.	
Chairman, Executive Committee on Research		John Y. Daniels

1993

Vice Presidents:	George C. Anderson	Edward W. Boland
	Lawrence O. Goldstein	Armand R. Lemire
	Richard D. Parrish	
Treasurer:	Donald W. Robinson	
Executive Director:	William R. Martin Jr.	
Chairman, Executive Committee on Research:		Charles M. Player Jr.

1994

Vice Presidents:	George C. Anderson	Lawrence O. Goldstein
	Tom W. Hollingsworth	Armand R. Lemire
	Richard D. Parrish	
Treasurer:	Donald W. Robinson	
Executive Director:	William R. Martin Jr.	
Chairman, Executive Committee on Research:		Charles M. Player Jr.

1995

Vice Presidents:	George C. Anderson	Bethlehem K. Andrews
	John A. Andrews	Edward W. Boland
	Armand R. Lemire	
Treasurer:	Donald W. Robinson	
Executive Director:	William R. Martin Jr.	
Chairman, Executive Committee on Research:		Roland L. Connelly Jr.

1996

Vice Presidents:	Lawrence O. Goldstein	Phillip C. Hilton
	Tom W. Hollingsworth	Robert K. Lattie
	Francis X. Shuletsky	
Treasurer:	Donald W. Robinson	
Executive Director:	William R. Martin Jr.	
Chairman, Executive Committee on Research:		Roland L. Connelly Sr.

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Appendix 4

Councilors-at-Large (1921–1940)*

1921
James L. Amsden, Elmer C. Bertollet, Arthur E. Hirst, George A. Moran, William K. Robbins, Walter M. Scott

1922
Elmer C. Bertollet, Arthur E. Hirst, George A. Moran, William K. Robbins, Walter M. Scott

1923
William K. Robbins, George A. Moran

1924
Arthur E. Hirst, Elmer C. Bertolet

1925
Walter M. Scott, William R. Moorhouse

1926
William K. Robbins, George A. Moran

1927
Arthur E. Hirst, Ralph F. Culver

1928
Walter M. Scott, William R. Moorhouse

*Position eliminated after 1940.

1929
George A. Moran, Hugh Christison

1930
B. S. Phetteplace, Ralph F. Culver

1931
George A. Moran, Hugh Christison

1932
Hugh M. Chase, Ralph F. Culver

1933
Walter M. Scott, William R. Moorhouse

1934
Hugh Christison, William D. Appel

1935
Joseph F. X. Harold, Donald H. Powers

1936
Carl Z. Draves, Henry F. Herrmann

1937
Harold M. Chase, Arthur E. Hirst

1938
Harold M. Chase, Arthur E. Hirst

1939
Berkeley L. Hathorne, G. R. Kremers

1940
Walter M. Scott, Harold DeWitt Smith

Appendix 5

Councilors (1940–1996)

Delaware Valley Section

Named Philadelphia Section (1940–1956)

1940
C. A. Seibert
W. A. Stringfellow
H. S. Travis

1941
W. Ebersold
C. A. Seibert
W. A. Stringfellow

1942
W. Ebersold
J. F. McCoy
W. A. Stringfellow

1943
W. E. Ebersold
A. E. Jones
John F. McCoy

1944
J. P. Conway
A. E. Jones
J. F. McCoy

1945
B. C. Bond
J. P. Conway
G. S. Hiers

1946
B. C. Bond
J. P. Conway
A. W. Etchells
P. Theel

1947
C. R. Baeringer
B. C. Bond
A. W. Etchells
Lloyd O. Koons
P. Theel

1948
C. R. Baeringer
A. W. Etchells
W. F. Fancourt
L. O. Koons
A. E. Raimo

1949
W. F. Fancourt III
O. B. Hager
M. H. Klein
L. O. Koons
F. V. Traut

1950
O. B. Hager
J. Dixon
M. H. Klein
W. F. Fancourt III
F. V. Traut
J. A. Woodruff

1951
J. Dixon
M. H. Klein
R. B. Stehle
F. V. Traut
S. G. Turnbull Jr.
J. A. Woodruff

1952
J. Dixon
A. E. Raimo
E. E. Rettberg Jr.
R. B. Stehle
S. G. Turnbull Jr.
J. A. Woodruff

1953
E. C. Diehl
A. E. Raimo
E. E. Rettberg Jr.
R. B. Stehle
S. G. Turnbull Jr.

1954
C. T. Anderson
E. C. Diehl
H. L. Morgan
A. E. Raimo
E. E. Rettberg Jr.
J. A. Woodruff

1955
C. T. Anderson
E. C. Diehl
A. W. Etchells
H. L. Morgan
R. A. Shimp
J. A. Woodruff

1956
A. W. Etchells
H. L. Morgan
C. A. Seibert
R. A. Shimp
J. A. Woodruff

1957
C. T. Anderson
W. H. Bertolet III
A. H. Etchells
C. A. Seibert
R. A. Shimp

1958
C. T. Anderson
W. H. Bertolet III
T. H. Hart
D. W. Robinson
C. A. Seibert
E. W. Empling

1959
W. H. Bertolet III
T. H. Hart
M. J. Reider
D. W. Robinson
W. S. Sollenberger

1960
T. H. Hart
J. E. Conway
D. W. Robinson
L. K. McChesney
M. J. Reider

1961
L. K. McChesney
J. E. Conway
W. H. Bertolet III
J. H. Davids
V. D. Lyon

1962
W. H. Bertolet III
J. E. Conway
V. D. Lyon
L. K. McChesney
C. A. Seibert

1963
W. H. Bertolet III
W. W. Gleadall
V. D. Lyon
D. W. Robinson
C. A Seibert

1964
W. W. Gleadall
E. G. Haack
N. P. Jensen
D. W. Robinson
C. A. Seibert

1965
W. W. Gleadall
E. G. Haack
N. P. Jensen
V. D. Lyon
D. W. Robinson

1966
W. H. Bertolet III
E. G. Haack
N. P. Jensen
C. N. Kuzma Jr.
V. D. Lyon

1967
W. H. Bertolet III
C. N. Kuzma Jr.
V. D. Lyon
L. K. McChesney
E. E. Porter

1968
J. M. Allan
W. H. Bertolet III
C. N. Kuzma Jr.
L. K. McChesney
J. J. Murphy

1969
Not available

1970
J. M. Allan
E. C. Diehl
W. W. Gleadall
J. J. Murphy
F. V. Traut

1971
E. C. Diehl
W. W. Gleadall
L. K. McChesney
J. U. Smith
F. V. Traut

1972
J. A. Clark Jr.
R. A. DiPasqua
W. W. Gleadall
F. A. Mather
L. K. McChesney

1973
J. A. Clark Jr.
E. T. Diamond
E. A. DiPasqua
F. A. Mather
L. K. McChesney

1974
W. H. Bertolet III
S. J. Guertin
F. A. Mather
C. H. Schuettler
G. M. Smith

1975
W. H. Bertolet III
V. J. Brock
S. J. Guertin
C. H. Schuettler
G. M. Smith

1976
W. H. Bertolet III
V. J. Brock
S. J. Guertin
C. H. Schuettler
G. M. Smith

1977
V. J. Brock
R. G. Curtis
E. C. Diehl
V. D. Lyon
F. V. Traut

1978
E. C. Diehl
W. W. Gleadall
V. D. Lyon
F. V. Traut

1979
W. W. Gleadall
V. D. Lyon
R. J. Magee
W. W. Mays

1980
E. T. Diamond
W. W. Gleadall
R. J. Magee
W. H. Mays

1981–1982
E. T. Diamond
R. J. Magee
W. H. Mays
F. X. Shuletsky

1983
E. T. Diamond
G. J. Gradel
S. J. Guertin
F. X Shuletsky

1984
G. J. Gradel
S. J. Guertin
J. M. McChesney III

1985
J. W. Happel
J. M. McChesney III
J. E. Nelson

1986
R. J. Bamford
J. W. Happel
J. E. Nelson

1987
R. J. Bamford
J. W. Happel
J. E. Nelson

1988
R. J. Bamford
R. D. Marason
J. M. McChesney III

1989
G. Celikiz
J. M. McChesney Jr.
J. J. Zeall

1990
G. Celikiz
J. E. Nelson
J. J. Zeall

1991
G. Celikiz
J. E. Nelson
J. J. Zeall

1992
J. C. Dempsey III
D. R. Fenstermaker
J. E. Nelson

1993
G. Celikiz
D. R. Fenstermaker
N. P. Hulton

1994
G. Celikiz
D. R. Fenstermaker
N. P. Hulton

1995
G. Celikiz
N. P. Hulton
J. E. Nelson

1996
A. M. Follweiler
J. P. Langan
J. E. Nelson

Gulf Coast Section

1961
R. K. Worner

1962
R. K. Worner

1963
A. S. Cooper Jr.

1964
A. S. Cooper Jr.

1965
A. S. Cooper Jr.

1966
A. R. Markezich

1967
A. R. Markezich

1968
A. R. Markezich

1969
Not available

1970
W. A. Reeves

1971
G. L. Drake Jr.

1972
G. L. Drake, Jr.

1973
G. L. Drake Jr.

1974
R. R. Beneuto

1975
G. L. Drake, Jr.
N. B. Knoepfler

1976
G. L. Drake Jr.

1977
G. L. Drake Jr.

1978
A. R. Markezich

1979
A. R. Markezich

1980
B. K. Andrews

1981
B. K. Andrews

1982
B. K. Andrews

1983
B. K. Andrews

1984
B. K. Andrews

1985
B. K. Andrews

1986
B. K. Andrews

1987
B. K. Andrews

1988
N. R. Bertoniere

1989
N. R. Bertoniere

1990
N. R. Bertoniere

1991
M. Machacek

1992
B. J. Collier

1993
B. J. Collier

1994
B. J. Trask-Morrell

1995
B. J. Trask-Morrell.

1996
B. J. Trask-Morrell

Hudson-Mohawk Section

1949
A. E. Herrmann Jr.

1950
A. E. Herrmann Jr.

1951
A. E. Herrmann Jr.

1952
J. Epelberg

1953
J. J. Hanlon
A. E. Herrmann Jr.

1954
A. E. Herrmann Jr.

1955
A. E. Herrmann Jr.
I. J. Smith III

1956
I. J. Smith III

1957
I. J. Smith III

1958
J. J. Hanlon

1959
J. J. Hanlon

1960
J. J. Hanlon

1961
H. G. Gendreau
F. J. Szurek

1962
I. J. Smith III
Floyd J. Szurek

1963
I. J. Smith III
F. J. Szurek

1964
F. J. Szurek
I. J. Smith III

1965
A. Mafilios
I. J. Smith III

1966
A. Mafilios
J. J. Hanlon

1967
A. DiMeo

1968
A. Cassetta
A. DiMeo

1969
Not available

1970
A. Cassetta
H. J. Ehrenberg

1971
H. J. Ehrenberg

1972
F. Sievenpiper
I. J. Smith III

1973
F. Sievenpiper
I. J. Smith III

1974
F. Sievenpiper
I. J. Smith III

1975
I. J. Smith III
B. Sukornick

1976
J. J. Hanlon
J. S. Sweet

1977
J. J. Hanlon
J. S. Sweet

1978
J. J. Hanlon
J. S. Sweet

1979
A. S. Mafileos
W. J. Vullo

1980
A. S. Mafileos
W. J. Vullo

1981
W. J. Vullo
A. E. Wilcock

1982–1983
L. B. Ricard
A. E. Wilcock

1984
L. B. Ricard

1985
R. G. MacIntyre

1986
L. B. Ricard

1987
L. B. Ricard

1988
L. B. Ricard

1989
R. J. Ensminger Jr.

1990
R. J. Ensminger Jr.

1991
K. A. Jasani

1992
K. A. Jasani

1993
K. A. Jasani

1994
J. R. Frederick

1995
J. R. Frederick

1996
J. R. Frederick

Metropolitan Section

Named New York Section 1940–1958

1940
G. L. Baxter
H. F. Herrmann
H. W. Stiegler

1941
J. R. Bonnar
J. Ernest Meili
G. A. Moran
H. W. Stiegler

1942
K. H. Barnard
J. R. Bonnar
J. E. Meili
G. A. Moran

1943
K. H. Barnard
J. R. Bonnar
J. E. Meili
G. A. Moran

1944
K. H. Barnard
R. G. Buck
P. J. Kennedy
L. S. Little
T. F. O'Brien

1945
K. H. Barnard
R. G. Buck
P. J. Kennedy
L. S. Little
T. F. O'Brien

1946
A. G. Ashcroft
G. L. Baxter
R. G. Buck
P. J. Kennedy
L. S. Little
T. F. O'Brien

1947
P. J. Kennedy
L. S. Little
T. F. O'Brien
G. L. Baxter
W. W. Chase
E. J. Driscoll
H. H. Taylor

1948
P. J. Kennedy
G. L. Baxter
W. W. Chase
C. W. Dorn
E. J. Driscoll
W. A. Holst Jr.
F. S. Richardson

1949
C. W. Dorn
W. W. Chase
H. E. Hager
W. A. Holst Jr.
F. S. Richardson
H. E. Wilde

1950
C. W. Dorn
P. J. Luck
H. E. Hager
F. S. Richardson
W. A. Holst Jr.
H. E. Wilde

1951
P. J. Luck
C. H. Brubaker
R. M. Fischer
H. E. Hager
H. E. Wilde
H. L. Young

1952
P. J. Luck
C. H. Brubaker
C. W. Dorn
R. M. Fletcher
W. G. Helmus
H. L. Young

1953
W. G. Helmus
C. H. Brubaker
C. W. Dorn
R. M. Fischer
P. J. Kennedy
J. J. Marshall
H. L. Young

1954
W. G. Helmus
R. C. Allison
M. J. Babey
C. W. Dorn
P. J. Kennedy
P. J. Luck
J. J. Marshall

1955
J. H. Hennessey
R. C. Allison
M. J. Babey
W. F. Brommelsiek
P. J. Kennedy
P. J. Luck
J. J. Marshall
B. F. Quigley

1956
J. H. Hennessey
R. C. Allison
M. J. Babey
W. F. Brommelsiek
P. J. Fynn
P. J. Luck
H. Moore

1957
W. F. Brommelsiek
P. J. Fynn
J. H. Hennessey
A. J. Kellner
H. Moore
R. L. Stutz
M. W. Winkler

1958
P. J. Fynn
A. J. Kellner
P. J. Luck
B. F. Quigley
M. W. Winkler
I. P. Peters

1959
A. J. Kellner
P. J. Luck
D. E. Marnon
R. P. Monsaert
B. F. Quigley
G. S. Wham
M.W. Winkler

1960
W. A. Holst
P. J. Luck
R. E. Miller
R. P. Monsaert
B. F. Quigley
E. I. Stearns
G. S. Wham

1961
W. A. Holst
R. E. Miller
G. S. Wham
A. R. Wachter
E. C. Hansen
C. R. Trommer
J. A. Komninos

1962
P. J. Fynn
E. C. Hansen
W. A. Holst
A. E. Johnson
J. A. Komninos
C. R. Trommer

1963
E. G. Boblin
W. F. Ferrazano
A. E. Johnson
J. H. Komninos
H. Moore
C. R. Trommer
M. W. Winkler

1964
E. G. Boblin
T. F. Cooke
W. F. Ferrazano
C. G. Germanetti
H. Moore
J. Stavrakas
M. W. Winkler

1965
E. G. Boblin
T. F. Cooke
W. F. Ferrazano
C. G. Germanetti
H. Moore
R. J. Hamilton

1966
T. F. Cooke
C. G. Germanetti
G. Heine
J. P. Redston
E. J. Stavrakas
C. L. Zimmerman

1967
P. J. Fynn
R. J. Hamilton
G. Heine
P. J. Kennedy
J. A. Komninos
J. R. Redston
C. L. Zimmerman

1968
P. J. Fynn
G. Heine
P. J. Kennedy
J. A. Komninos
J. P. Redston
G. C. Tesoro
C. L. Zimmerman

1969
Not available

1970
E. M. Eddington
G. Heine
N. P. Jensen
M. F. Stapleton
G. C. Tesoro
C. E. Zortman

1971
E. W. Boland
G. Heine
N. P. Jensen
I. P. Peters
B. F. Quigley
P. B. Roth
M. F. Stapleton

1972
E. W. Boland
E. H. Hartgrove Jr.
I. P. Peters
P. X. Riccobono
P. B. Roth
M. F. Stapleton
E. J. Stavrakos

1973
E. W. Boland
G. T. Caires
P. X. Riccobono
L. E. Rossiter
P. B. Roth
G. S. Wham

1974
G. T. Caires
L. L. Light
P. X. Riccobono
L. E. Rossiter
G. S. Wham
C. L. Zimmerman

1975
G. T. Caires
R. E. Hill
A. A. Latour
L. L. Light
P. J. Luck
L. E. Rossiter

1976
R. E. Hill
R. E. Kimble
L. L. Light
G. D. Maynard
R. P. Monsaert Jr.

1977
A. DeMaria
G. R. Ferrante
R. E. Hill
R. E. Kimble
P. J. Luck
G. D. Maynard

1978
G. C. Anderson
G. R. Ferrante
N. M. Hamilton
R. E. Kimble
G. D. Maynard
J. C. Vendette

1979
G. C. Anderson
T. S. Cannito
K. A. Closs
G. R. Ferrante
S. Maiolo
I. P. Peters

1980
G. C. Anderson
N. J. Christie
K. A. Closs
D. M. Freedman
I. P. Peters

1981
N. J. Christie
D. M. Freedman
I. P. Peters
R. J. Robinson Jr.
H. A. Stauderman

1982–1983
N. J. Christie
D. M. Freedman
E. L. Kelley
G. D. Maynard Jr.
H. A. Stauderman

1984
G. C. Anderson
E. L. Kelley
G. D. Maynard Jr.
C. L. Tighe

1985
G. C. Anderson
R. E. Kimble
I. P. Mintz
C. L. Tighe

1986
R. E. Kimble
P. J. Luck
I. P. Mintz
F. Raudelunas

1987
R. E. Kimble
P. J. Luck
I. P. Mintz
F. Raudelunas

1988
G. C. Anderson
J. J. Anderson
P. J. Luck
F. Raudelunas

1989
R. E. Kimble
C. L. Tighe
D. P. Young

1990
R. E. Kimble
C. L. Tighe
D. P. Young

1991
R. E. Kimble
A. Patterson
D. P. Young

1992
P. J. Luck
A. Patterson
I. P. Peters

1993
R. E. Kimble
A. S. Y. Lee
I. P. Peters

1994
R. E. Kimble
A. S. Y. Lee
I. P. Peters

1995
G. J. Ganiaris
S. Kaplan
R. E. Kimble

1996
G. J. Ganiaris
S. Kaplan
F. Raudelunas

Midwest Section

1940
V. T. Hartquist

1941
V. T. Hartquist

1942
E. F. Smith

1943
H. W. Tetzlaff

1944
A. T. Brainerd
H. W. Tetzlaff

1945
A. T. Brainerd
H. W. Tetzlaff

1946
A. T. Brainerd
H. W. Tetzlaff

1947
E. W. Camp
S. Klein

1948
E. W. Camp
S. Klein

1949
G. M. Markle
E. F. Smith

1950
F. E. Hilger
J. H. Jones

1951
F. E. Hilger
J. H. Jones

1952
J. H. Jones
E. Morrill

1953
A. I. Hultberg
S. Klein
E. Morrill

1954
A. T. Brainerd
S. Klein
E. Morrill

1955
E. W. Camp
S. Klein
L. B. MacFarland

1956
E. W. Camp
L. B. MacFarland
J. G. Stott

1957
E. W. Camp
J. H. Jones
J. G. Statt

1958
A. I. Hultberg
J. H. Jones
J. G. Statt

1959
A. I. Hultberg
J. Jones
E. M. Eddington

1960
A. I. Hultberg
A. J. Olson
J. G. Kelley

1961
A. J. Olson
J. G. Kelley
W. O. Fischer

1962
W. O. Fischer
J. G. Kelley
J. L. McGowan

1963
W. O. Fischer
J. L. McGowan
A. L. Perrin

1964
J. T. McGowan
A. L. Perrin
F. L. Stover

1965
A. L. Perrin
F. L. Stover

1966
G. B. Chabot Jr.
J. E. Miller
F. S. Stover

1967
G. B. Chabot Jr.
F. J. Connolly
J. E. Miller

1968
G. B. Chabot Jr.
F. J. Connolly
J. E. Miller

1969
Not available

1970
H. Anaszewicz
D. A. Anderson
W. H. Sites

1971
H. Anaszewicz
V. S. Ryan
W. H. Sites

1972
H. Anaszewicz
A. A. Gorski
J. E. Miller

1973
A. A. Gorski
J. E. Miller
J. G. Templeton

1974
A. A. Gorski
J. E. Miller
J. G. Templeton

1975
A. J. Andrews
R. A. Supper
J. G. Templeton

1976
A. J. Andrews
F. K. Jones
R. A. Supper

1977
A. J. Andrews
F. K. Jones
R. A. Supper

1978
B. P. Byrt
F. K. Jones
R. L. Thistlethwaite

1979
B. P. Byrt
J. B. Egee
D. F. Johnson

1980
J. B. Egee
D. F. Johnson

1981
J. B. Egee
D. F. Johnson

1982–1983
H. Anaszewicz
A. J. Andrews

1984
H. Anaszewicz
A. J. Andrews

1985
L. B. Stasney
M. Wentz

1986
C. M. Ladisch
L. B. Stasney

1987
J. A. Andrews
F. K. Jones

1988
F. K. Jones
J. A. Andrews

1989
J. A. Andrews
F. K. Jones

1990
R. K. Lattie

1991
F. K. Jones
R. K. Lattie

1992
F. K. Jones
R. K. Lattie

1993
F. K. Jones

1994
B. M. Gatewood
R. K. Lattie

1995
B. M. Gatewood
A. Sarmadi

1996
B. M. Gatewood
A. Sarmadi

New York Section

(See Metropolitan Section)

Niagara Frontier Section

1956
B. K. Easton

1957
B. K. Easton

1958
B. K. Easton

1959
T. R. Foltz Jr.

1960
J. E. Loughlin

1961
J. E. Loughlin

1962
J. E. Loughlin

1963
A. M. Viditz-Ward

1964
J. F. Best

1965
J. F. Best
W. H. Leyking

1966
W. H. Leyking

1967
W. H. Leyking

1968
W. H. Leyking

Northern New England Section

1940
K. H. Barnard
W. M. Scott

1941
D. R. Kneeland
C. L. Nutting

1942
D. R. Kneeland
C. L. Nutting

1943
J. N. Dalton
H. M. Hartnett
D. R. Kneeland

1944
J. N. Dalton
H. M. Hartnett
C. H. A. Schmitt

1945
E. S. Chapin
H. M. Hartnett
C. H. A. Schmitt

1946
E. S. Chapin
W. J. Hamburger
C. H. A. Schmitt

1947
E. S. Chapin
D. E. Ray
W. J. Hamburger

1948
W. J. Hamburger
D. X. Klein
C. W. Lever

1949
K. R. Fox
C. W. Lever
G. O. Linberg

1950
K. R. Fox
C. W. Lever
J. M. Gould

1951
E. B. Bell
J. M. Gould
F. J. O'Neil
H. G. Glassman

1952
E. B. Bell
J. M. Gould
F. J. O'Neil

1953
E. B. Bell
E. E. Pickett
F. J. O'Neil
S. F. Sylvester

1954
E. E. Pickett
J. P. Ploubides
R. D. Robinson
S. F. Sylvester

1955
E. R. Kaswell
J. P. Ploubides
R. D. Robinson

1956
J. P. Ploubides
F. J. Rizzo
R. D. Robinson

1957
P. S. Durfee
J. J. Healy
F. J. Rizzo

1958
P. S. Durfee
J. J. Healy
F. J. Rizzo

1959
E. B. Bell
R. J. Peirent
G. F. Quigley

1960
R. J. Peirent
G. F. Quigley
J. J. O'Neil

1961
J. J. O'Neil
R. D. Robinson
D. H. Thomas

1962
D. Frishman
J. H. Skinkle
D. H. Thomas

1963
A. J. Carbone
D. P. Collins
H. Stenlund

1964
H. Stenlund
D. P. Collins
L. E. Rossiter

1965
D. P. Collins
L. E. Rossiter
H. Stenlund

1966
A. J. Carbone
V. W. Colby
L. E. Rossiter

1967
A. J. Carbone
V. W. Colby
W. J. Flanagan

1968
V. W. Colby
W. J. Flanagan
J. S. Panto

1969
Not available

1970
A. M. Campbell
R. E. Derby Jr.
J. S. Panto

1971
A. M. Campbell
R. E. Derby Jr.
F. A. Hoffman

1972
R. E. Derby Jr.
F. A. Hoffman
P. Weise

1973
F. A. Hoffman
J. Shain
P. Weise

1974
J. B. Baker
D. P. Collins

1975
J. B. Baker
T. R. Commerford
R. E. Derby Jr.

1976
T. R. Commerford
W. J. Flanagan

1977
T. R. Commerford
W. J. Flanagan

1978
A. M. Campbell
W. J. Flanagan

1979
A. M. Campbell
A. B. Woodman

1980
J. B. Baker
R. A. McGurren

1981
J. B. Baker
R. A. McGurren

1982–1983
A. R. Lemire
R. A. McGurren

1984
D. J. Ardito
W. J. Flanagan

1985
W. J. Flanagan
L. P. Gaidis

1986
W. J. Flanagan
R. J. Fryer

1987
W. Brothers
M. T. Nour

1988
D. J. Ardito
A. R. Lemire

1989
D. A. Ardito
A. R. Lemire

1990
R. J. Cowan
E. R. Florand

1991
R. J. Cowan
E. R. Florand

1992
M. T. Nour
M. H. Silvia

1993
J. F. Lundell
M. T. Nour

1994
J. F. Lundell
M. L. Quinlan

1995
J. F. Lundell
M. L. Quinlan

1996
J. D. Oneail
M. L. Quinlan

Northern Piedmont Section

1961
S. M. Cone Jr.
C. Hooper
H. Y. Jennings

1962
S. M. Cone Jr.
C. Hooper
H. Y. Jennings

1963
S. M. Cone Jr.
C. Hoooper
C. L. Zimmerman

1964
J. E. Greer
L. Wayland Jr.
H. A. Rutherford

1965
R. L. Coleman Jr.
J. E. Greer
W. L. Triplett Jr.
R. L. Wayland Jr.

1966
R. L. Coleman Jr.
J. E. Greer
D. A. Torrence Jr.
W. A. Triplett Jr.

1967
E. B. Armstrong Jr.
R. L. Coleman Jr.
D. A. Torrence Jr.
W. L. Triplett Jr.

1968
E. B. Armstrong Jr.
A. L. McArthur III
D. A. Torrence Jr.
R. L. Wayland Jr.

1969
Not available

1970
W. L. Acree
A. L. McArthur III
W. F. Okey
H. L. Rowden
R. L. Wayland Jr.

1971
W. L. Acree
P. B. Bodenhorst
E. J. Jardis
H. H. Latham
W. F. Okey

1972
P. B. Bodenhorst
E. J. Jardis
H. H. Latham
J. D. Long Jr.
W. F. Okey

1973
P. B. Bodenhorst
J. B. Irvine
E. J. Jardis
W. H. Lawson
J. D. Long Jr.

1974
J. M. Buckner Jr.
J. B. Irvine
J. G. Kehoe
J. D. Long Jr.
J. A. Primiano

1975
J. M. Buckner Jr.
J. N. Etters
J. B. Irvine
J. G. Kehoe
J. A. Primiano

1976
J. M. Buckner Jr.
J. N. Etters
J. G. Kehoe
H. D. Penn
J. A. Primiano

1977
C. T. Canter
J. N. Etters
J. D. Long Jr.
H. D. Penn
H. L. Rowden

1978
C. T. Canter
J. D. Long Jr.
R. W. Miller
H. D. Penn
H. L. Rowden

1979
W. C. Finch
J. D. Long Jr.
R. W. Miller
V. T. Novak
H. L. Rowden

1980
W. E. Finch
T. W. Hollingsworth
J. G. Kehoe
W. H. Lawson
R. W. Miller

1981
W. C. Finch
W. D. Graham
T. W. Hollingsworth
E. C. Wagner
W. C. Ward

1982–1983
J. M. Buckner Jr.
W. D. Graham
J. A. Primiano
R. E. Silva
W. C. Ward

1984
J. N. Etters
B. L. McConnell
W. K. Mileski
J. A. Primiano
H. L. Rowden

1985
J. N. Etters
A. E. Gore
B. L. McConnell
W. K. Mileski
H. L. Rowden

1986
J. M. Buckner Jr.
B. L. McConnell
V. T. Novak
H. L. Rowden
J. A. Wolhar

1987
P. U. Beck
J. M. Buckner
J. M. Grimes
V. T. Novak
J. A. Wolhar

1988
P. U. Beck
J. M. Grimes
T. W. Hollingsworth
V. T. Novak
J. A. Wolhar

1989
P. U. Beck
J. M. Grimes
T. W. Hollingsworth
G. N. Mock
J. A. Primiano

1990
T. W. Hollingsworth
J. G. Kehoe
V. L. Misenheimer
G. N. Mock
J. A. Primiano

1991
J. G. Kehoe
B. L. McConnell
V. L. Misenheimer
G. N. Mock
J. A. Priniano

1992
J. M. Grimes
J. G. Kehoe
P. M. Bryde
B. L. McConnell
V. L. Misenheimer

1993
J. M. Grimes
T. W. Hollingsworth
P. McBryde
B. L. McConnell
S. P. Stone Jr.

1994
D. R. Barbee Jr.
J. M. Grimes
P. McBryde
S. P. Stone Jr.
J. B. Ward

1995
D. R. Barbee Jr.
W. D. Miller
V. T. Novak
S. P. Stone Jr.
J. B. Ward

1996
B. L. Bruner
B. L. Gardner
W. D. Miller
V. T. Novak
R. M. Tyndall

Pacific Section

1970
J. G. Ramsey III
R. J. K. Thomson

1971
F. J. Lichtenberger
L. F. Vossel

1972
W. E. James Jr.
L. F. Vossel

1973
N. A. Koshak
L. F. Vossel

1974
H. R. Olson
J. R. Sisson

1975
M. S. Birmingham Jr.
H. R. Olson

1976
A. Meilnik
M. H. Sarver

1977
G. G. Dreyer
M. H. Sarver

1978
J. H. McKinley Jr.
M. H. Sarver

1979
S. V. Hutchins
H. R. Ruttan

1980
D. A. Hansbrough
H. R. Ruttan

1981
S. V. Hutchins
H. R. Ruttan

1982–1983
D. B. Hansbrough

1984
B. T. Reve
H. R. Ruttan

1985
H. R. Ruttan

1986
A. Meilink
L. M. Vavala

1987
A. Meilink
L. M. Vavala

1988
A. Meilink

1987
S. V. Hutchins
D. D. Sanders

1990
W. E. Buffington
J. R. Sisson

1991
W. F. Schulz
J. K. Springer

1992
A. J. Dominici
W. F. Schulz

1993
A. Meilink
J. K. Springer

1994
R. A. McDaniel
J. K. Springer

1995
J. C. Lynch
R. A. McDaniel

1996
P. Hoetzel
D. A. Kistler
J. R. Sisson

Pacific Northeast Section

1950
C. K. Bishop

1951
C. K. Bishop

1952
C. K. Bishop

1953
G. S. Barker

1954
G. S. Barker

1955
H. A. Des Marais

1956
H. A. Des Marais

1957
H. A. Des Marais

1958
J. L. Ayres

1959
J. L. Ayres

1960
J. L. Ayres

1961
R. E. Newnam

1962
R. E. Newman

1963
R. E. Newman

1964
R. E. Newman

1965
R. Welsh Jr.

1966
F. R. Gagnier

1967
F. R. Gagnier

1968
F. R. Gagnier

Pacific Southwest Section

1950
F. P. Brennan

1951
F. P. Brennan

1952
F. P. Brennan

1953
R. Mishell

1954
A. H. Roberts

1955
S. Springer

1956
J. Smith

1957
R. A. Fliegel

1958
M. H. Behrendt

1959
H. W. Ellsworth

1960
P. F. Noonan

1961
W. E. Kramer

1962
A. H. Roberts

1963
D. D. Sanders

1964
E. B. O. Lindquist Jr.

1965
V. Boutin

1966
N. W. Garrett Jr.

1967
B. M. Childers

1968
C. E. Cooper

Palmetto Section

Palmetto Section

1961
L T. Kelly
J. C. King
L. C. Reynolds

1962
J. C. King
R. E. Rettew
L. C. Reynolds

1963
R. E. Rettew
L. C. Reynolds
N. A. Truslow

1964
R. E. Rettew
L. C. Reynolds
N. A. Truslow

1965
E. T. McIlwain
R. E. Rettew
N. A. Truslow

1966
W. E. Baldwin
J. Lindsay Jr.
E. T. McIlwain
R. W. Pinault

1967
W. E. Baldwin
R. J. Breazeale
J. Lindsay Jr.
R. W. Pinault

1968
R. J. Breazeale
J. Lindsay Jr.
E. S. Olson
R. W. Pinault

1969
Not available

1970
J. Balloch
G. H. Mameier Jr.
E. S. Olson
W. V. Walukewicz
H. S. Weisz

1971
A. F. Copeland Jr.
A. Fisher
G. H. Momeier Jr.
C. H. Patrick Jr.
H. S. Weisz

1972
J. Balloch
A. F. Copeland Jr.
A. Fisher
C. H. Patrick Jr.
E. E. St. Louis

1973
J. Balloch
A. F. Copeland Jr.
C. A. Davis
A. Fisher
E. E. St. Louis

1974
J. Balloch
C. A. Davis
J. H. Martin
W. E. Mathews
E. E. St. Louis

1975
J. Balloch
T. E. Colcolough
C. A. Davis
W. E. Mathews
L. R. Smith

1976
T. E. Colcolough
O. J. Goldstein
W. E. Mathews
C. H. Patrick Jr.
L. R. Smith

1977
T. E. Colcolough
O. J. Goldstein
C. H. Patrick Jr.
E. R. Poole
L. R. Smith

1978
O. J. Goldstein
W. M. Martin
W. E. Mathews
C. H. Patrick Jr.
E. R. Poole

1979
J. C. King
W. H. Martin
W. E. Mathews
P. S. Patrick
E. R. Poole

1980
J. M. Fox
J. C. King
W. H. Martin
P. S. Patrick
R. S. Powell

1981
P. S. Patrick
R. S. Powell
B. L. Rutledge
T. A. Tantillo
F. G. Whitener

1982–1983
R. S. Powell
B. L. Rutledge
T. A. Tantillo
M. White Jr.
F. G. Whitener

1984
M. J. Drews
L. O. Goldstein
P. S. Patrick
M. White Jr.
C. E. Wood

1985
P. W. Davis
M. J. Drews
L. O. Goldstein
P. S. Patrick
C. E. Wood

1986
P. W. Davis
M. J. Drews
W. G. Newsome Jr.
P. S. Patrick
M. D. Timmons Jr.

1987
P. W. Davis
C. W. Jarvis
W. G. Newsome Jr.
M. D. Timmons Jr.

1988
C. A. Bailey
C. W. Jarvis
W. G. Newsome Jr.
J. F. Owens
M. D. Timmons Jr.

1989
C. A. Bailey
J. Y. Daniels
L. O. Goldstein
E. Jacumin Jr.
C. W. Jarvis

1990
M. E. Atkinson
W. L. Bogan
H. O. DeLoach
L. O. Goldstein
E. Jacumin Jr.

1991
M. E. Atkinson
W. L. Bogan
H. O. DeLoach
L. O. Goldstein
E. Jacumin Jr.

1992
M. E. Atkinson
W. L. Bogan
H. O. DeLoach
J. R. Dorsett
J. H. Lee

1993
C. B. Bellamy
J. R. Dorsett
J. H. Lee
M. R. McCullen Jr.
F. E. Putnam

1994
C. B. Bellamy
J. H. Lee
M. R. McCullen Jr.
F. E. Putnam
C. E. Wood

1995
J. R. Jarrett
P. K. Martin
J. H. Polevy
F. E. Putnam
C. E. Wood

1996
J. R. Jarrett
P. K. Martin
P. S. Patrick
J. H. Polevy
C. E. Wood

Philadelphia Section

(See Delaware Valley Section)

Piedmont Section

1940
A. H. Gaede
R. E. Rupp

1941
A. H. Gaede
H. E. Kiefer Jr.

1942
L. M. Boyd
A. H. Grimshaw

1943
R. W. Church Jr.
A. H. Gaede

1944
C. N. Rabold
R. E. Rupp

1945
H. B. Dixon
S. L. Hayes

1946
S. M. Cone
S. L. Hayes
R. E. Rupp

1947
R. E. Rupp
L. G. Atkins
S. M. Cone

1948
L. G. Atkins
W. L. Barker
S. M. Cone

1949
L. G. Atkins
W. L. Baker
J. R. Neely

1950
P. E. Smith
W. L. Barbar
S. H. Williams
J. B. Neely

1951
J. B. Neely
S. H. Williams
L. C. Reynolds
H. A. Rutherford

1952
J. Lindsay Jr.
L. C. Reynolds
H. A. Rutherford
S. H. Williams

1953
J. Lindsay Jr.
L. C. Reynolds
R. E. Rupp
R. H. Souther

1954
H. Y. Jennings
J. Lindsay Jr.
M. M. McCann
R. E. Rupp
R. H. Souther

1955
H. Y. Jennings
M. M. McCann
R. E. Rupp
H. A. Rutherford
R. H. Souther

1956
A. H. Gaede
H. Y. Jennings
H. J. Jordan Jr.
M. M. McCann
H. A. Rutherford

1957
A. H. Gaede
C. Hooper
J. V. Killheffer
H. A. Rutherford
A. H. Souther
P. B. Stam

1958
A. H. Gaede
C. Hooper
J. V. Killheffer
E. A. Murray
P. B. Stam
N. A. Truslow
J. U. Walker
R. L. Ward

1959
C. Hooper
E. A. Murray
W. E. Rixon
R. E. Rupp
P. B. Stam
N. A. Truslow

1960
N. A. Truslow
E. A. Murray
R. E. Rupp
W. E. Rixon
J. C. King
C. L. Zimmerman

1961
F. Fortess
W. E. Rixon
R. E. Rupp
L. L. Wyss

1962
J. C. Boesch Jr.
F. Fortess
V. B. Wright Jr.
L. L. Wyss

1963
J. C. Boesch Jr.
V. B. Holland
V. B. Wright Jr.
L. L. Wyss

1964
J. C. Boesch Jr.
V. B. Holland
V. B. Wright Jr.
E. P. Lavoie

1965
W. A. Colby Jr.
V. B. Holland
E. P. Lavoie
J. F. Whalen Jr.
E. W. Boland

1966
E. P. Lavoie
E. J. Feeley
W. A. Colby Jr.
J. F. Whalen Jr.

1967
W. A. Colby Jr.
R. E. Elwell
E. J. Feeley II
J. F. Whalen Jr.
L. L. Wyss

1968
R. E. Elwell
A. H. Gaede
R. Hanks
E. P. Lavoie
L. L. Wyss

1969
Not available

1970
J. C. Boesch Jr.
W. A. Colby Jr.
E. P. Lavoie
R. K. Smith
J. F. Whalen Jr.

1971
J. C. Boesch Jr.
W. A. Colby Jr.
A. H. Gaede
F. B. Gardner
R. R. Smith

1972
J. C. Boesch Jr.
W. A. Colby Jr.
A. H. Gaede
F. B. Gardner
W. B. Moss Jr.
J. U. Walker

1973
R. P. Barber
A. H. Gaede
F. B. Gardner
W. D. Moss Jr.
J. U. Walker

1974
R. P. Barber
A. H. Gaede
W. B. Hawkins
W. D. Moss Jr.

1975
R. P. Barber
R. E. Elwell
F. P. Fields
W. B. Hawkins
S. M. Littlejohn
R. L. Ward

1976
J. C. Boesch Jr.
R. E. Elwell
F. P. Fields
W. B. Hawkins
S. M. Littlejohn
R. L. Ward

1977
J. C. Boesch Jr.
C. E. Crocker
F. P. Fields
J. K. Herdklotz
W. L. O'Connor Jr.

1978
J. C. Boesch Jr.
C. E. Crocker
J. K. Herdklotz
R. F. Miller
W. L. O'Connor Jr.

1979
J. C. Boesch Jr.
E. W. Boland
R. G. Ellis
R. F. Miller
C. J. Wolhar

1980
E. W. Boland
R. L. Bridgman
R. G. Ellis
F. B. Gardner
C. H. Wohlar

1981
R. J. Bridgman
R. G. Ellis
F. B. Gardner
C. J. Wolhar

1982–1983
E. W. Boland
R. J. Farrell
G. I. Koshak
R. L. Ward
C. J. Wolhar

1984
J. C. Boesch Jr.
W. B. Hawkins
G. I. Koshak
V. S. Ryan
R. L. Ward

1985
J. C. Boesch Jr.
W. B. Hawkins
J. B. Neely Jr.
V. S. Ryan
C. J. Wolhar

1986
W. L. Cowan
R. J. Farrell
J. B. Neely Jr.
J. Turbyfill
R. L. Ward

1987
J. C. Boesch Jr.
W. L. Cowan
C. A. Critz-Lee
J. B. Neely Jr.
V. S. Ryan

1988
J. C. Boesch Jr.
W. L. Cowan
C. A. Critz-Lee
W. B. Hawkins
V. S. Ryan

1989
J. C. Boesch Jr.
E. W. Boland
W. B. Hawkins
R. G. Nicholson
V. S. Ryan

1990
E. W. Boland
J. G. Camp Jr.
J. B. Neely Jr.
R. G. Nicholson
R. L. Ward Jr.

1991
J. G. Camp Jr.
J. A. Darsey Jr.
J. B. Neely Jr.
R. G. Nicholson
R. L. Ward Jr.

1992
J. G. Camp Jr.
R. H. Coley
J. A. Darsey Jr.
J. B. Neely Jr.
P. L. Weinle

1993
R. H. Coley
J. A. Darsey Jr.
R. F. Miller Jr.
R. G. Nicholson
P. L. Weinle

1994
E. W. Boland
R. F. Miller Jr.
R. D. Nicholson
R. M. Tremain
P. L. Weinle

1995
J. A. Darsey Jr.
R. F. Miller
M. P. Moore
R. M. Tremain
R. L. Ward Jr.

1996
J. A. Darsey Jr.
K. W. Holshouser
M. P. Moore
R. M. Tremain
R. L. Ward Jr.
P. L. Weinle

Rhode Island Section

1940
P. J. Ariente
F. A. Prisley

1941
A. R. Fletcher
F. A. Prisley

1942
A. R. Fletcher
Ben Verity

1943
A. R. Fletcher
B. Verity

1944
H. V. King
B. Verity

1945
H. V. King
B. Verity

1946
A. R. Fletcher
H. V. King
H. B. Sturtevant

1947
H. V. King
R. F. Culver
H. B. Sturtevant

1948
G. H. Wood Jr.
R. F. Culver
H. B. Sturtevant

1949
R. F. Culver
R. W. Jacoby
G. H. Wood Jr.

1950
E. J. Allard
R. W. Joerger
G. H. Wood Jr.
R. W. Jacoby

1951
E. J. Allard
R. W. Jacoby
R. W. Joerger
A. D. Nute

1952
E. J. Allard
E. Broadbent
R. W. Joerger
A. D. Nute

1953
R. W. Jacoby
T. Larson
E. W. Lawrence
A. D. Nute

1954
E. J. Chornyei
R. W. Jacoby
T. Larson
E. W. Lawrence
S. C. Fleming

1955
E. J. Chornyei
E. H. Gamble
T. Larson
E. W. Lawrence

1956
F. H. Casey
E. J. Chornyei
E. H. Ganble
R. B. Taylorson

1957
F. H. Casey
E. H. Gamble
R. B. Taylorson
J. W. Timperley

1958
R. F. Caroselli
F. H. Casey
R. B. Taylorson
J. W. Timperley

1959
R. F. Caroselli
T. Larson
E. W. Lawrence
J. W. Timperley

1960
R. B. Taylorson
A. F. McLean
R. F. Caroselli
E. W. Lawrence
R. J. McNally

1961
K. J. Broden
E. W. Lawrence
F. H. Casey
R. B. Taylorson
C. A. Rupprecht

1962
K. J. Broden
F. H. Casey
W. G. Parks
R. H. Phillips
B. S. Shepard

1963
K. J. Broden
W. G. Parks
R. H. Phillips
J. J. Roarke

1964
W. J. Jutras
R. H. Phillips
J. J. Roarke
W. G. Parks

1965
W. E. Aldrich
W. J. Jutras
J. J. Roarke

1966
W. E. Aldrich
W. J. Jutras
J. Price Jr.

1967
W. E. Aldrich
J. A. Davies
J. R. Sharp

1968
J. A. Davies
J. G. Falcon
H. F. Kilguss
J. R. Sharp

1969
Not available

1970
J. G. Falcon
M. C. Hindle
H. F. Kilguss
J. J. O'Neil Jr.
M. J. Bide

1971
M. C. Hindle
J. J. O'Neil Jr.
E. M. Perry
C. R. Trommer
C. A. Fortin

1972
R. R. Blue
J. J. O'Neil Jr.
E. M. Perry
C. R. Trommer

1973
R. R. Blue
M. C. Hindle
E. M. Perry
C. R. Trommer

1974
R. R. Blue
R. P. Farren
D. F. Gibbons
A. J. McNulty

1975
R. P. Farren
D. F. Gibbons
A. J. McNulty

1976
G. R. Escolas
A. J. McNulty
T. H. Trimmer

1977
G. R. Escolas
D. E. Graham
T. H. Trimmer

1978
G. R. Escolas
D. E. Graham
T. H. Trimmer

1979
J. W. Busald
D. E. Graham
A. J. McNulty

1980
G. R. Escolas
R. E. Horbert
A. J. McNulty

1981
G. R. Escolas
R. E. Horbert
A. J. McNulty

1982–1983
P. Amin
R. E. Horbert
T. G. Tomasi

1984
B. S. Shepard
T. G. Tomasi

1985
R. J. McNally
B. S. Shepard

1986
R. J. McNally
C. A. Rupprecht

1987
K. E. Kyllo
R. A. Malachowski
C. A. Rupprecht

1988
K. E. Kyllo
R. A. Malachowski
S. C. Fleming

1989
K. E. Kyllo
R. A. Malachowski

1990
S. C. Fleming
D. F. Kent
A. J. McNulty Jr.

1991
D. K. Gross
A. J. McNulty Jr.
J. G. Nathanson

1992
P. C. Hilton
A. J. McNulty Jr.
J. G. Nathanson

1993
R. A. Boyer
P. C. Hilton
J. G. Nathanson

1994
M. J. Bide
R. A. Boyer
P. C. Hilton

1995
R. A. Boyer
D. H. Wyatt

1996
M. J. Bide
D. H. Wyatt

South Central Section

1940
H. Welchel

1941
J. D. Mosheim

1942
J. D. Mosheim

1943
W. J. Kelley Jr.

1944
J. Anderson

1945
E. H. Robbins

1946
M. Y. Parker

1947
A. J. Kelly

1948
J. Anderson

1949
J. Anderson

1950
J. Anderson

1951
G. R. Bellamy

1952
G. R. Bellamy

1953
G. R. Bellamy

1954
J. D. Mosheim

1955
J. D. Mosheim

1956
J. D. Mosheim

1957
J. Anderson

1958
J. Anderson

1959
J. Anderson
J. D. Mosheim

1960
R. N. Ingram
J. D. Mosheim

1961
J. Sweitzer
J. D. Mosheim

1962
C. W. Braswell
E. V. Helms

1963
C. W. Braswell
E. V. Helms

1964
J. D. Mosheim
F. A. Hirsch
J. R. Ellis

1965
F. A. Hirsch
J. D. Mosheim

1966
E. E. Burgner
J. D. Mosheim

1967
C. W. Braswell
F. A. Hirsch

1968
C. W. Braswell
F. A. Hirsch

1969
Not available

1970
P. O. Anderson
J. E. Turner
H. E. Underwood

1971
P. O. Anderson
L. A. Shive
J. E. Turner

1972
L. A. Shive
J. E. Turner

1973
P. O. Anderson
L. D. Blevins
F. A. Hirsch

1974
L. D. Blevins
F. A. Hirsch
J. E. Price

1975
H. W. Barrow
F. A. Hirsch
J. E. Price

1976
H. W. Barrow
J. E. Price
R. J. Robinson Jr.

1977
H. W. Barrow
R. J. Robinson Jr.
J. E. Turner

1978
A. E. Culp Jr.
F. A. Hirsch
J. E. Turner

1979
A. E. Culp Jr.
F. A. Hirsch
J. E. Turner

1980
A. E. Culp Jr.
B. N. Freshwater
F. A. Hirsch

1981
E. E. Burgner Jr.
B. N. Freshwater
H. W. Somers Jr.

1982–1983
E. B. Burgner Jr.
B. N. Freshwater
H. W. Somers Jr.

1984
T. M. Leonard
M. R. Nipe

1985
T. M. Leonard
M. R. Nipe

1986
T. M. Leonard
J. E. Price

1987
C. R. Mitchell
L. C. Wadsworth

1988
C. R. Mitchell
L. C. Wadsworth

1989
C. R. Mitchell
L. C. Wadsworth

1990
J. R. Ellis Jr.
R. J. Manay
J. Price

1991
J. R. Ellis Jr.
R. J. Manay
J. Price

1992
G. D. George
R. J. Manay

1993
G. D. George
R. R. Hixson
C. R. Mitchell

1994
G. D. George
R. R. Hixson
L. C. Kelley

1995
R. R. Hixson
L. C. Kelley
J. Price

1996
J. R. Ellis Jr.
J. Price
R. C. Turner

Southeastern Section

1940
R. W. Phillip

1941
R. W. Phillip

1942
P. N. Collier

1943
R. W. Phillip

1944
R. W. Phillip

1945
R. W. Phillip

1946
W. B. Griffin

1947
W. B. Griffin

1948
W. B. Griffin
A. K. Haynes

1949
A. K. Haynes
W. M. Scott

1950
A. K. Haynes
W. M. Scott

1951
C. R. Gill
H. G. Smith

1952
C. R. Gill
H. G. Smith

1953
C. R. Gill
H. G. Smith

1954
S. J. Davis
H. G. Smith

1955
S. J. Davis
W. B. Griffin

1956
S. J. Davis
R. B. Hallowell

1957
R. B. Hallowell

1958
D. E. Wright
T. H. McCamy
W. E. Fayssoux

1959
W. E. Fayssoux
T. H. McCamy
J. W. Richardson

1960
J. C. Cook
W. E. Fayssoux
J. W. Richardson
E. L. Patton

1961
J. C. Cook
R. B. Hallowell
J. W. Richardson

1962
J. C. Cook
N. S. Dunten
K. E. Miller

1963
W. B. Amos
N. S. Dunten
K. E. Miller

1964
W. B. Amos
N. S. Dunten
K. E. Miller

1965
W. B. Amos
C. R. Blumenstein
J. L. Taylor

1966
C. R. Blumenstein
R. D. Seed
G. L. Dozier

1967
G. L. Dozier
J. C. Farrow
R. D. Seed

1968
R. D. Seed
G. L. Dozier
J. C. Farrow

1969
Not available

1970
W. B. Amos Jr.
C. E. Brown Jr.
C. M. Horne

1971
W. B. Amos Jr.
W. O. Bozeman Jr.
C. E. Brown Jr.
C. M. Horne

1972
W. B. Amos Jr.
W. O. Bozeman Jr.
C. M. Horne
J. E. Lattimore

1973
M. P. Binns
W. H. Carlson
J. C. Farrow
J. W. Romine

1974
M. P. Binns
G. H. Dockray
J. C. Farrow
J. W. Romine

1975
M. P. Binns
G. H. Dockray
J. C. Farrow
J. F. Foy

1976
G. H. Dockray
J. F. Foy
R. E. Taylor
T. W. Woolsey

1977
A. W. Davis Jr.
R. E. Taylor
T. W. Woolsey

1978
A. W. Davis Jr.
C. E. Gavin
R. E. Taylor

1979
A. W. Davis
G. H. Dockray
C. E. Gavin
J. T. Riggan

1980
G. H. Dockray
J. W. Romine

1981
G. H. Dockray
W. S. Perkins
J. W. Romine

1982–1983
W. S. Perkins
J. W. Richardson
J. W. Romine

1984
R. A. Fogarty
J. T. Riggan

1985
R. A. Fogarty
E. L. Patton
J. T. Riggan

1986
M. W. Cleaver
A. W. Davis
R. A. Fogarty

1987
M. W. Cleaver
A. W. Davis
T. J. Jenkins

1988
M. W. Cleaver
A. W. Davis
T. J. Jenkins

1989
F. L. Cook
R. A. Fogarty
T. H. Randall

1990
B. M. Callaway Jr.
F. L. Cook
R. A. Fogarty
T. G. Randall

1991
B. M. Callaway Jr.
F. L. Cook
R. A. Fogarty
T. H. Randall

1992
B. M. Callaway Jr.
C. E. Gavin III
C. D. Stewart

1993
C. A. Gavin III
T. H. Randall
C. D. Stewart
D. E. Wright

1994
A. W. Davis
C. E. Gavin III
C. D. Stewart
D. E. Wright

1995
A. W. Davis
J. N. Etters
M. J. Knight
E. L. Patton

1996
A. W. Davis
M. J. Knight
I. E. Reed

Washington Section

1953
W. M. Scott

1954
W. M. Scott

1955
L. L. Heffner

1956
L. L. Heffner

1957
L. L. Heffner

1958
L. Smith

1959
L. Smith

1960
L. Smith

1961
N. F. Getchell

1962
N. F. Getchell

1963
L. R. Mizell

1964
L. R. Mizell

1965
L. R. Mizell

1966
A. R. Martin Jr.

1967
A. R. Martin Jr.

1968
A. R. Martin Jr.

1969
Not available

1970
N. F. Getchell

1971
N. F. Getchell

1972
C. A. Rader

1973
C. A. Rader

1974
J. L. Rush

1975
J. L. Rush

Western New England Section

1948
H. H. Taylor

1949
H. H. Taylor

1950
H. H. Taylor

1951
J. E. Lynn

1952
J. E. Lynn

1953
R. J. Carey

1954
R. J. Carey

1955
R. C. Geering

1956
R. J. Carey
R. C. Geering

1957
R. J. Carey
J. E. Lynn

1958
J. E. Hirn Sr.
J. E. Lynn

1959
J. E. Hirn Sr.

1960
A. W. Goodwin

1961
A W. Goodwin
T. J. Gillick Jr.

1962
T. J. Gillick Jr.
A. H. Rant

1963
T. J. Gillick Jr.
A. H. Rant

1964
J. E. Hirn Jr.
A. H. Rant

1965
J. E. Hirn Jr.
P. G. Morin

1966
A. Bibeau Jr.

1967
W. E. Espelin
J. E. Lynn

1968
J. E. Lynn

1969
Not available

1970
A. Bibeau Jr.

1971
J. E. Lynn

1972
J. E. Lynn

1973
J. E. Lynn

1974
M. Pettit

1975
J. E. Lynn

1976
J. E. Lynn

1977
J. E. Lynn

1978
T. J. Horan

1979
J. E. Lynn

1980
J. E. Lynn

1981
J. E. Lynn

1982–1983
T. J. Horan

1984
J. E. Lynn

1985
J. E. Lynn

1986
Not available

1987
B. C. Winkler

1988
B. C. Winkler

1989
J. E. Lynn

1990
F. P. Vagnini

1991
T. J. Horan

1992
T. J. Horan

1993
T. J. Horan

Appendix 6

Research Committees (1923–1996)[1]

Title (Original Title)[2]	Number/ Status[3]		Year Started[4]	Year Discontinued[5]
Colorfastness to Sea Water		D	1925	1929
Colorfastness to Degumming of Dyed Silk		D	1928	1936
Determining Sizing and Finishing Materials in Textile Fabrics		D	1929	1953
Survey of Research in Textile Chemistry		D	1929	1932
Bibliography[6]		D	1929	1969
Rayon		D	1931	1936
Determining the Degree of Mercerization of Cotton		D	1933	1936
Factors Affecting Textile Printing Pastes		D	1933	1942
Chemistry of Wool		D	1934	1956
Determination of Oil, Soap, and Other Extraneous Matter in Textile Materials		D	1936	1939

[1] Called Subcommittees before 1937. Committees and subcommittees which started before 1963 might be for either test method development or technology transfer. Since 1963, any Research Committee that does not develop test methods has been classed as a Technology Committee. The work of all Research Committees in 1996 is related to test method development.

[2] Some titles have changed throughout the life of the committee. Material in brackets explains the title.

[3] A = Active, R = Reference, D = Discontinued. Committees were first numbered in 1962. All unnumbered committees had been discontinued by 1962.

[4] Year first listed in the *AATCC Yearbook* or *Technical Manual*.

[5] The year after the last year listed in the *AATCC Technical Manual*. Fifty committees exist in 1996: 35 Active, 15 Reference.

[6] Bibliography became a Committee of Council in 1948.

Title (Original Title)[2]	Number/ Status[3]		Year Started[4]	Year Discontinued[5]
Deterioration of Textile Fibers Exposed to Light		D	1939	1944
Nuclear Radiation [Radioactive Tracer Techniques]		D	1958	1961
Colorfastness to Acids and Alkalies	1	R	1924	
Testing Fabrics for Rubberizing	2	D	1929	1969
Materials of Construction for Dyeing and Finishing Machinery	3	D	1931	1959
Colorfastness to Carbonizing *(Carbonizing of Wool)*	4	R	1924	
AATCC and Throwsters Research Institute Cooperating Committee	5	D	1937	1960
Wrinkle Recovery *(Crease Resistance of Fabrics)*	6	R	1936	
Tabulation of Fundamental Properties of Textile Fibers	7	D	1940	1966
Wettability *(Evaluation of Wetting Agents)*	8	A	1931	
Ageing of Sulfur-Dyed Textiles	9	R	1942	
Cooperation with Federal Government on Uniform Fabrics	10	D	1943	1969
Colorfastness to Chlorine	11	D	1923	1968
Evaluation of Detergents for Cotton and Rayon	12	D	1947	1971
Standard Depths of Shades for Colorfastness of Dyestuffs	13	D	1953	1969
Physiological Effects of Textile Finishes	14	D	1939	1960
Methods of Analysis and Standardization of Sulfonated Oils	15	D	1932	1966
Nomenclature and Classification [of Dyes]	16	D	1949	1987
Transference of Color	17	D	1937	1961
Detection of Phototropism [Photochromism]	18	D	1949	1969
Colorfastness to Stoving	19	A	1929	
Pilot Plant Equipment	20	D	1948	1966
Snag Resistance [of Hosiery]	21	D	1949	1989

Title (Original Title)[2]	Number/ Status[3]		Year Started[4]	Year Discontinued[5]
Colorfastness to Fulling	22	R	1923	
Colorfastness to Water	23	A	1951	
Fiber Analysis	24	A	1932	
Evaluation of Detergents for Wool	25	D	1952	1971
Analytical Methods for a Textile Laboratory *(Monograph 1)*	26	D	1931	1959
Mildew Resistance *(Mildew Proofing)*	27	D	1942	1967
Standard Soils	28	D	1948	1972
Abrasion Resistance	29	R	1953	
Analytical Methods *(Analysis of Fiber Mixtures)*	30	D	1932	1966
Antimicrobial Activity	31	A	1953	
Static Electricity	32	A	1959	
Colorfastness to Atmospheric Contaminants *(Atmospheric Fading of Dyed Acetate Rayon)*	33	A	1940	
Preparation *(Bleaching)*	34	A	1952	
Damage by Retained Chlorine	35	R	1948	
Color Measurement	36	A	1973	
Rapid Control Tests	37	D	1950	1967
Colorfastness to Crocking	38	A	1928	
Definitions	39	D	1942	1972
Dermatitis	40	D	1941	1972
Enzyme Activity *(Desizing)*	41	A	1950	
Dimensional Change *(Shrinkage)*	42	A	1929	
Colorfastness to Drycleaning	43	R	1941	
Continuous Wool Scouring Processes	44	D	1950	1961
Finish Analysis	45	A	1936	
Evaluation of Fire Resistant Textiles *(Fire Proofing)*	46	D	1940	1970
Flammability of Clothing Textiles *(Flammability of Consumer Textiles)*	47	D	1945	1970

Title (Original Title)[2]	Number/ Status[3]		Year Started[4]	Year Discontinued[5]
Fulling Agents	48	D	1957	1976
Insect Resistance *(Mothproofing; Resistance to Insect Pests)*	49	D	1940	1976
Colorfastness to Light	50	A	1924	
Nonwoven Fabrics Test Methods[7]	51	D	1972	1993
Colorfastness to Perspiration	52	A	1924	
Colorfastness to Pleating	53	R	1956	
Colorfastness to Heat (Colorfastness to Wet and Dry Pressing)	54	R	1954	
International Test Methods [A Special Committee of ECR]	55	D	1958	1965
Stain Resistance	56	A	1956	
Floor Covering *(Soiling of Carpets)*	57	A	1958	
Fibrous Test Materials	59	R	1936	
Colorfastness to Washing	60	A	1923	
Appearance Retention *(Wash and Wear)*	61	A	1959	
Water Absorbency	62	D	1932	1972
Water Resistance of Fabrics	63	A	1929	
Weather Resistance	64	A	1956	
Wool Scouring Test Methods	65	R	1950	
Mercerization Test Methods	66	R	1932	
Statistical Advisory Methods	67	D	1959	1982
Odor Determination	68	A	1959	
QM-Air Force Dye Survey Committee	69	D	1954	1964
Identification of Dye Classes on Fibers	72	D	1964	1976
Correlation of Laboratory Tests With End Use Performance	75	A	1966	
Bonded and Laminated Fabrics	79	A	1969	

[7] Started in 1963 as Nonwoven Fabric Technology, it became Research Committee 51 in 1972.

Title (Original Title)[2]	Number/ Status[3]		Year Started[4]	Year Discontinued[5]
Flock Testing	81	R	1968	
Flammability and Fire Resistance	82	D	1970	1987
Soiling of Household Textiles Other Than Floor Coverings	83	A	1970	1980
Characterization of Dyes	87	A	1972	
Hand Evaluation	89	A	1973	
Chelating Agents	90	A	1974	
Interaction of Dyes and Finishes	92	R	1976	
Terminology	93	A	1977	
Assessment of Barré	97	A	1980	
Assessment of Dye Shade and Strength	98	A	1986	
Technical Manual Editorial Review	99	A	1986	
Statistics Advisory	102	A	1988	
Supercritical Fluids	105	A	1994	

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Appendix 7

Technology Committees (1963–1996)

Title	Number/ Status[1]		Year Started	Year Discontinued
Wool Carbonizing Technology[2]	4	D	1963	1966
Color Technology[3]	36	D	1963	1973
Dermatitis Technology	40	D	1963	1972
Nonwoven Fabrics Technology[4]	51	D	1963	1971
Environmental Sciences Technology[5]	58	D	1963	1985
Yarn Dyeing Technology	70	A		1963
Hosiery Technology	71	D	1964	1987
Warp Size Technology	73	A		1966
Durable Press Technololgy	74	D	1966	1976
Flock Technology	76	A	1966	
Bonded and Laminated Fabrics Technology[6]	77	D	1967	1994
Tufted Technology	78	D	1968	1987
Printing Technology	80	A	1969	

[1] A = Active, D = Discontinued.
[2] Formerly, Colorfastness to Carbonizing.
[3] Color Technology became test method committee RA36, Color Measurement, in 1973.
[4] Nonwoven Fabrics Technology was designated RAS51, namely, a special committee until 1992, when it became test method committee RA51, Nonwoven Fabrics.
[5] Originally named Stream Sanitation Technology in 1963, RA58 was renamed Environmental Sciences Technology in 1970 and was combined with RA100 in 1985.
[6] RA77 was named Bonded Fabrics Technology 1967–1974. It was combined with RA86 in 1994.

Title	Number/ Status[1]		Year Started	Year Discontinued
Knit Fabrics Technology	84	D	1970	1986
Solvent Processing Technology	85	D	1970	1987
Coated Fabrics Technology[7]	86	A	1971	
Home Laundering Technology	88	A	1973	
Applied Dyeing Theory	91	A	1976	
Toxic Substances Related to Textiles	94	D	1978	1985
Energy Conservation in the Textile Industry[8]	95	D	1978	1985
Wet Processing Machinery	96	A	1979	
Safety, Health, and Environmental Technology	100	A	1985	
Computer Technology in Wet Processing	101	A	1985	
Near Infrared Technology	103	A	1990	
Garment Wet Processing Technology	104	A	1992	

[7] Originally named Coated Apparel Fabrics Technology, RA86 was renamed Coated Fabrics Technology in 1981. RA77 was combined with RA86 in 1994.
[8] RA94 and RA95 were combined with RA58 to form RA100 in 1985.

Appendix 8

Laboratory Managers of the AATCC Technical Center

Jerry G. Tew	1964–1969
Rob L. Stone	1969–1974
John Y. Daniels	1974–1979
Jerry G. Tew	1979–1985
Harry L. Mercer	1986–1989
Karen E. Kylo	1989–

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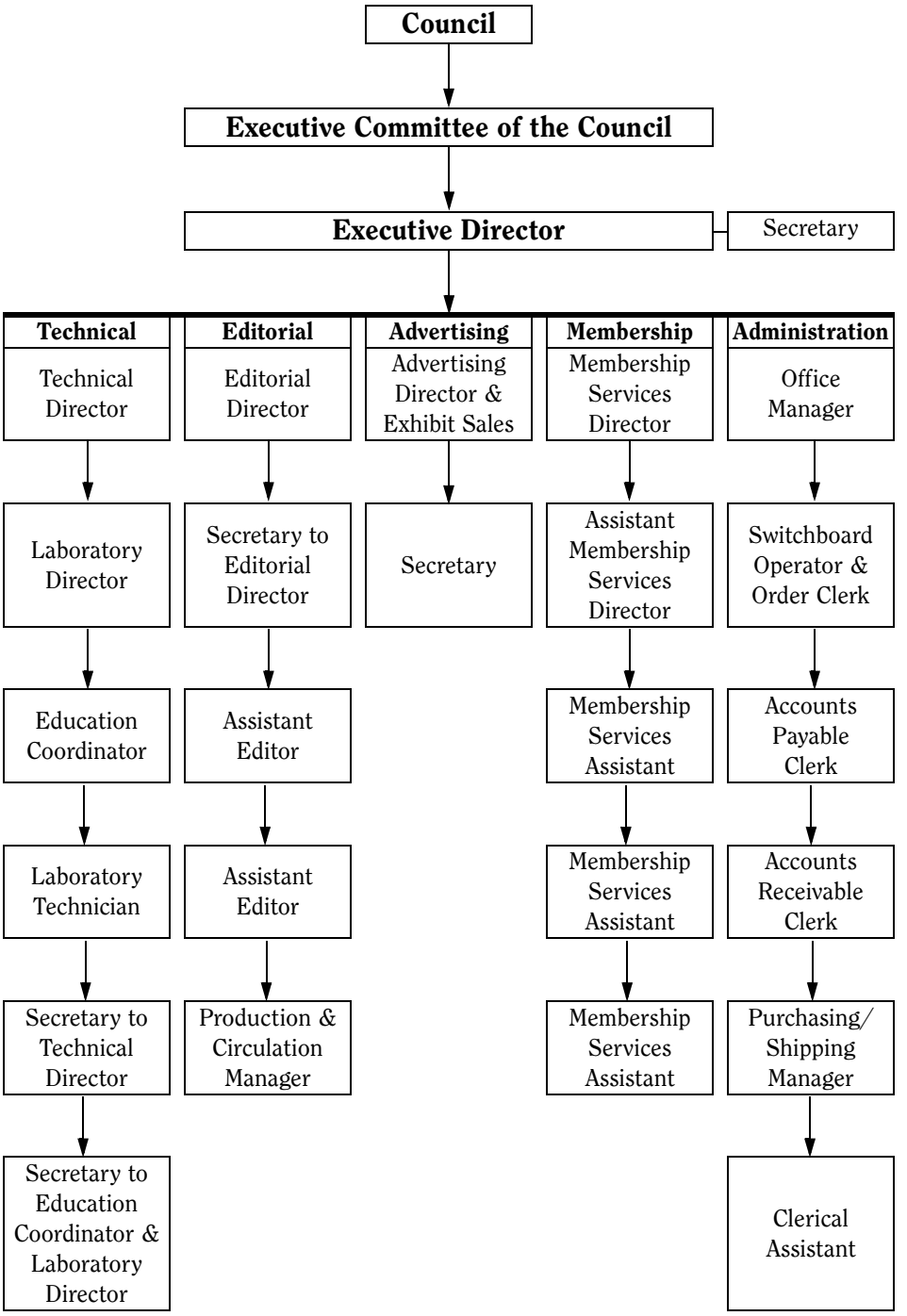
Appendix 9

AATCC Staff Organization (1996)

Refer to the Organizational chart on the following page.



Appendix 10

Section Dates

Section	Code	Date Founded	Date Dissolved
Northern New England	NNE	1921	1900
Rhode Island	RI	1921	
Metropolitan *(formerly New York)*	MET/NY	1922	
Delaware Valley *(formerly Philadelphia)*	DV/PHIL	1922	
Piedmont	PIED	1924	
South Central	SCEN	1926	
Midwest	MW	1929	
Southeast	SE	1931	
Western New England	WNE	1948	1993
Hudson–Mohawk	HM	1948	
Pacific Southwest	PSW	1948	1970
Pacific Northwest	PNW	1949	1970
Washington	W	1952	1976
Niagara Frontier	NF	1954	1970
Northern Piedmont	NPI	1959	
Palmetto	PAL	1960	
Gulf Coast	GC	1961	
Pacific Coast	PAC	1970	

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Appendix 11

Local Section Boundaries (1996)

Refer to the map on the following page.

Sections

New England Region
NNE—Northern New England
RI—Rhode Island

Central Atlantic Region
MET—Metropolitan
HM—Hudson-Mohawk
DV—Delaware Valley

Midsouth Region
NPI—Northern Piedmont
PI—Piedmont

Southern Region
PAL—Palmetto
SE—Southeastern
SCL—South Central
GC—Gulf Coast

Western Region
MW—Midwest
PAC—Pacific

* Alaska and Hawaii are also part of the Pacific Section
† Puerto Rico and the Virgin Islands are also part of the Southeastern Section

★ **AATCC TECHNICAL CENTER**
Research Triangle Park, N. C.

Appendix 12

Section Chairmen (1923–1996)

1923
NNE: Hugh Christison
RI: Ralph F. Culver
NY: Percival J. Wood
PHI: Robert E. Rose

1924
NNE: Hugh Christison
RI: Ralph F. Culver
NY: Elvin H. Killheffer
PHI: Charles S. Hollander

1925
NNE: John F. Bannan
RI: Walter S. Williams
NY: Herbert Grandage
PHI: Elmer C. Bertolet
SO: Harold M. Chase

1926
NNE: John F. Bannan
RI: Walter S. Williams
NY: Herbert Grandage
PHI: Carl E. Medde
SO: Leonard S. Little

1927
NNE: Harold W. Leitch
RI: John Hutton
NY: Herbert Grandage
PHI: William R. McIntyre
PIED: Charles S. Dogget
SCEN: Peter F. O'Neill

1928
NNE: William H. Cady
RI: John Hutton
NY: Samuel L. Hayes
PHI: Elmer C. Bertolet
PIED: H. A. Barnes
SCEN: Peter F. O'Neill

1929
NNE: William H. Cady
RI: Richard B. Earle
NY: P. F. Kingsbury
PHI: A. Moody Burt
PIED: Charles E. Mullin
SCEN: Leslie L. Bamberger
MW: Carl E. Bick

1930
NNE: Henry D. Grimes
RI: Richard B. Earle
NY: Robert H. Gaede
PHI: A. Moody Burt
PIED: R. M. Mitchell
SCEN: R. S. Wheeler
MW: Carl E. Bick

1931
NNE: Henry D. Grimes
RI: Heyward F. Lawton
NY: Robert A. Gaede
PHI: Charles A. Seibert
PIED: John J. Christ
SCEN: Noel D. White
MW: Edward Morgan
SE: E. A. Feimster Jr.

1932
NNE: Leverett N. Putnam
RI: Heyward Lawton
NY: Henry F. Herrmann
PHI: William A. Stringfellow
PIED: A. R. Thompson Jr.
SCEN: Carl E. Bick
MW: E. A. Feimster Jr.
SE: Joseph J. Pizzuto

1933
NNE: Lev N. Putnam
RI: Heyward F. Lawton
NY: Henry F. Herrmann
PHI: William A. Stringfellow
PIED: George P. Feindel
SCEN: Harold Schroeder
MW: Eric F. Hempel
SE: Charles B. Ordway

1934
NNE: Roland E. Derby
RI: John G. Masson
NY: Ephraim Freedman
PHI: Robert A. Bruce
PIED: Paul F. Haddock
SCEN: Harold Schroeder
MW: Arthur T. Brainerd
SE: C. A. Jones

1935/1936
NNE: Roland E. Derby
RI: John G. Masson
NY: Ephraim Freedman
PHI: Robert E. Sullivan
PIED: Chester L. Eddy
SCEN: Walter E. Hadley
MW: Arthur T. Brainerd
SE: C. A. Jones

1937
NNE: Carl Z. Draves
RI: John G. Masson
NY: George L. Baxter
PHI: Herbert S. Travis
PIED: Thomas R. Smith
SCEN: Walter E. Hadley
MW: Edward J. Siegrist
SE: E. A. Feimster Jr.

1938
NNE: Carl Z. Draves
RI: Richard Haworth
NY: George L. Baxter
PHI: Herbert S. Travis
PIED: Raphael E. Rupp
SCEN: Nestor Grotelueschen
MW: Edward J. Siegrist
SE: Robert W. Philip

1939
NNE: Clarence L. Nutting
RI: Allison R. Fletcher
NY: Louis S. Zisman
PHI: William Ebersold
PIED: A. Henry Gaede
SCEN: Nestor Grotelueschen
MW: Herman Boxser
SE: Robert W. Philip

1940
NNE: Clarence L. Nutting
RI: Allison R. Fletcher
NY: Louis B. Zisman
PHI: Harold B. Dohner
PIED: H. E. Kiefer Jr.
SCEN: Fletcher L. Kibler
MW: Herman Boxser
SE: Perrin N. Collier

1941
NNE: John N. Dalton
RI: Allison R. Fletcher
NY: J. Ernest Meili
PHI: John F. McCoy
PIED: L. M. Boyd
SCEN: Fletcher L. Kibler
MW: Archie G. Alexander
SE: Perrin N. Collier

1942
NNE: John N. Dalton
RI: Ben Varity
NY: Harry R. Tisdale
PHI: Arthur E. Jones
PIED: Thomas W. Church Jr.
SCEN: Robert J. McCamy
MW: Archie G. Alexander
SE: Jack Anderson

1943
NNE: Edward S. Chapin
RI: Howard V. King
NY: Patrick J. Kennedy
PHI: James P. Conway
PIED: C. Norris Rabold
SCEN: John P. Harrison
MW: Jack Anderson
SE: Virgil T. Hartquist

1944
NNE: Edward S. Chapin
RI: Howard V. King
NY: Patrick J. Kennedy
PHI: Boyce C. Bond
PIED: Henry B. Dixon
SCEN: Homer Whelchel
MW: Virgil T. Hartquist
SE: Oliver G. Edwards

1945
NNE: Delbert E. Ray
RI: Harold B. Sturtevant
NY: Emmett J. Driscoll
PHI: Arthur W. Etchells
PIED: Sydney M. Cone
SCEN: Frank F. Myers
MW: Al J. Feit
SE: Oliver G. Edwards

1946
NNE: Delbert E. Ray
RI: George H. Wood Jr.
NY: Emmett J. Driscoll
PHI: Curt R. Baeringer
PIED: Leland G. Atkins
SCEN: Clyde J. Horne
MW: Al J. Feit
SE: A. Kempton Haynes

1947/1948
NNE: George O. L.inberg
RI: Raymond W Jacoby
WNE: J. Edward Lynn
NY: Herman E. Hager
PHI: Walter F. Fancourt III
Arthur M. Gordon
PIED: Wyss L. Barker
John B. Neely
SCEN: Jack Andersen
Raymond B. Seymour
SE: A. Kempton Haynes
C. Russell Gill
MW: Al J. Feit
Joseph H. Jones
PAC: Frank P. Brennan

1949
NNE: Frank J. O'Neil
RI: Robert W. Joerger
WNE: J. Edward Lynn
HM: Jack Epelberg
NY: Charles W. Dorn
PHI: James Dixon
PIED: Pelham E. Smith
SCEN: Wilbur K. Newman
SE: C. Russell Gill
MW: Joseph H. Jones
PAC: Frank P. Brennan

1950

NNE: Frank J. O'Neil
RI: Elliot Broadbent
WNE: J. Edward Lynn
HM: David O. Hamer
NY: Charles W. Dorn
PHI: Richard B. Stehle
PIED: Robert H. Smith
SE: H. Gillespsie Smith
SCEN: Joseph H. O'Neill
MW: Elliot Morill
PNW: Earl B. Brearley
PSW: Frank B. Brennan

1951

NNE: C. Wendall Lever
RI: Peter G. Kolupaev
WNE: Raymond J. Carey
HM: John J. Hanlon
NY: Paul J. Luck
PHI: A. E. Raimo
PIED: Edwin A. Briggs
SE: H. Gillepsie Smith
SCEN: Wiilam G. Agnew
MW: Elliot Morill
PNW: Otto E. Schmidt
PSW: Russell B. Coleman

1952

NNE: C. Wendall Lever
RI: Ernest J. Chornyei
WNE: Rudolph C. Geering
HM: Harold S. Dahlberg
NY: Paul J. Luck
PHI: Edward C. Diehl
PIED: R. Hobart Souther
SE: S. Jack Davis
SCEN: Howard P. Loveless Jr.
MW: Alfred J. Olson
PNW: Otto E. Schmidt
PSW: Robert Mishell

1953

NNE: Ernest R. Kaswell
RI: Ernest J. Chornyei
WNE: Rudolph G. Geering
HM: Harold S. Dahlberg
NY: Weldon G Helmus
PHI: Harold L. Morgan
W: Milton Harris
PIED: M. M. McCann
SE: S. Jack Davis
SCEN: Everett E. Burgner
MW: Alfred J. Olson
PNW: Edward J. Stephen
PSW: Robert G. Butler

1954

NNE: Ernest R. Kaswell
RI: Arthur F. McLean
WNE: Arthur S. Nyquist
HM: Irwin J. Smith
NY: Weldon G. Helmus
PHI: Frederick V. Traut
W: Milton Harris
PIED: Henry A. Rutherford
SE: T. Howard McCamy
SCEN: Paul O. Anderson
MW: J. Gordon Scott
PNW: Don E. Adams
PSW: Sidney Springer

1955

NNE: John M. Gould
RI: Arthur F. McLean
WNE: Socrates V. Vaniotis
HM: Irwin J. Smith
NF: Jean G. Kern
NY: John H. Hennessey
PHI: Fredrick V. Traut
W: George S. Buck, Jr.
PIED: Herman J. Jordan Jr.
SE: T. Howard McCamy
SCEN: Joe T. Bohannon Jr.
MW: Arthur I. Hutberg
PNW: Robert E. Newman
PSW: John Smith

1956

NNE: John M. Gould
RI: Remus F. Caroselli
WNE: Thomas J. Grillick Jr.
HM: Wiiliam A. Nelson
NF: John Wallace
NY: John H. Hennessey
PHI: Thomas H. Hart
W: George S. Buck Jr.
PIED: Clarence Hooper
SE: James W. Swiney
SCEN: William F. Luther
MW: Arthur I. Hultberg
PNW: Robert E. Newman
PSW: Robert A. Fleigel

1957

NNE: Edward B. Bell
RI: Remus F. Caroselli
WNE: Thomas J. Gillick Jr.
HM: Albert E. Herrmann Jr.
NF: William H. Leyking
NY: Donald E. Marnon
DV: Donald W. Robinson
W: George P. Fulton
PIED: Clement D. Stevenson
SE: William B. Griffin
SCEN: J. C. Witt
MW: Jack G. Kelly
PNW: Thomas B. Kay Jr.
PSW: Melville H. Behrendt

1958

NNE: Edward B. Bell
RI: Throwald Larson
WNE: John J. Cervini
HM: Edward A. Chevrette
NF: William H. Leyking
MET: Donald E. Marnon
DV: William S. Sollenberger
W: George P. Fulton
PIED: Warren E. Rixon
SE: William B. Griffith
SCEN: Ernest V. Helms
MW: Jack G. Kelly
PNW: Bernard R. Koenig
PSW: Harold W. Ellsworth

1959

NNE: Robert D. Robinson
RI: Robert H. Phillips
WNE: Andrew W. Goodwin
HM: Maurice Fishman
NF: Kenneth A. Lister
MET: John A. Komninos
DV: L. Kevin McChesney
W: Arnold M. Sookne
PIED: Joseph C. King
SE: Robert B. Hallowell
SCEN: Ernest V. Helms
MW: Jack G. Kelly
PNW: Jack D. Gilberg
PSW: Paul F. Noonan

1960

NNE: Robert D. Robinson
RI: Robert H. Phillips
WNE: Albert H. Rant
HM: Floyd J. Szurek
NF: Kenneth A. Lister
MET: John A. Komninos
DV: Clarence A. Seibert
W: Nelson F. Getchell
PIED: Linton C. Reynolds
SE: Robert B. Hallowell
SCEN: Edwin F. Jurczak
MW: James L. McGowan
PNW: Robert C. Pickeng
PSW: Walter E. Kramer

1961

NNE: Edward J. McNamara Jr.
RI: John J. Roarke
WNE: Albert H. Rant
HM: Floyd J. Szurek
NF: Anton Viditz Ward
MET: Percy J. Fynn
DV: Clarence A. Seibert

W: Louis R. Mizelli
NPI: James E. Greer.
PIED: Vincent B. Wright, Jr.
PAL: Richard E. Rettew
SE: William B. Amos
SCEN: Richard J. Tyrell
MW: James L. McGowan
PNW: Hubert N. Shea
PSW: Angus H. Roberts

1962
NNE: Frank J. Rizzo
RI: John J. Roarke
WNE: Timothy J. Horan
HM: Achilles Mafilios
NF: Anton Viditiz Ward
MET: Percy J. Fynn
DV: Edward J. Haack
W: Louis R. Mizell
NPI: Charles L. Zimmerman
PIED: Vernon B. Holland
PAL: Neal A. Truslow
SE: William B. Amos
SCEN: Lowell A. Shivee
GC: Robert M. Reinhardt
MW: Frank S. Stover
PNW: Robert Welsh Jr.
PSW: David D. Sanders

1963
NNE: Frank J. Rizzo
RI: William E. Aldrich
WNE: William H. Espelin
HM: Achilles S. Mafilios
NF: Thomas R. Foltz
MET: Richard P. Monsaert Jr.
DV: Edward G. Haack
W: Florence H. Forziati
NPI: James E. Greer
PIED: E. P. Lavoie
PAL: E. Thomas McIlwain
SE: Elmer S. MacNeill
SCEN: Arthur R. Williams
GC: Robert M. Reinhardt
MW: Frank S. Stover
PNW: Richard J. K. Thompson
PSW: Edwin B. O. Lindquist

1964
NNE: Robert J. Pierent
RI: William E. Aldrich
WNE: Arthur Bibeau Jr.
HM: Armand DiMeo
NF: Zane S. Messenger
MET: Richard P. Monsaert Jr.
DV: Charles N. Kuzma Jr.
W: Florence H. Forziati
NPI: Rodney L. Coleman Jr.
PIED: Willard A. Colby Jr.
PAL: E. Thomas McIlwain
SE: Elmer S. McNeil
SCEN: Charles W. Braswell
GC: Robert M. Reinhardt
MW: James E. Miller
PNW: Richard J. K. Thompson
PSW: Victor Boutin

1965
NNE: Robert J. Pierent
RI: William S. Barnes
WNE: Arthur Bibeau Jr.
HM: Armand DiMeo
NF: Zane S. Messinger
MET: Edwin I. Stearns
DV: Charles N. Kuzma Jr.
W: Edmund Buras Jr.
NPI: Daniel A. Torrence Jr.
PIED: Edward J. Feely, II
PAL: Willam E. Baldwin
SE: Richard D. Seed
SCEN: James E. Turner
GC: Terrence W. Fenner
MW: James E. Miller
PNW: Jack D. Gilberg
PSW: Norman W. Garrett Jr.

1966
NNE: Joseph S. Panto
RI: Herbert F Kilguss

WNE: Joseph J. Black
HM: Anthony Cassetta
NF: Daniel E. Boland
MET: Edwin I. Stearns
DV: Joseph J. Murray.
W: Edmund M. Buras Jr.
NPI: Edwin B. Armstrong Jr.
PIED: Ralph E. Ewell
PAL: Roscoe J. Breazeale
SE: Richard M. Jones
SCEN: Robert N. Ingram
GC: Terrence W. Fenner
MW: Walter H. Sites
PNW: George McGee
PSW: Bill M. Childers

1967

NNE: Joseph S. Panto
RI: Herbert F. Kilguss
WNE: Joseph J. Black
HM: Anthony Cassetta
NF: Frederic Sievenpiper
MET: Harry Moore
DV: Joseph J. Murray
W: Josephine M. Blandford
NPI: A. Lee McArthur
PIED: W. Raymond Hanks
PAL: Edward S. Olson
SE: Richard M. Jones
SCEN: Thomas W. Woolsey
GC: Ralph J. Brysson
MW: Walter H. Sites
PNW: Thomas P. Stapleton
PSW: Charles E. Cooper

1968

NNE: Roland E. Derby Jr.
RI: John J. O'Neill Jr.
WNE: John W. DiProfo
HM: Irwin J. Smith
NF: Frederic Sievenpiper
MET: Harry Moore
DV: Walter W. Gleadall
W: Josephine M. Blandford
NPI: William L. Acree
PIED: Rufus K. Smith
PAL: George H. Momeier Jr.
SE: W. O. Bozeman
SCEN: Hawain E. Underwood
GC: Stanley Hobart
MW: David A. Anderson
PNW: Thomas P. Stapleton
PSW: Werner F. Schulz

1969

NNE: Roland E. Derby Jr.
RI: John J. O'Neill Jr.
WNE: Walter E. Thompson Jr.
HM: Irwin J. Smith III
NF: Frederic Sievenpiper
MET: William M. Segall
DV: George S. Wham
W: Walter W. Gleadall
NPI: William F. Okey
PIED: Thurston D. Carroll
PAL: Walter V. Walukewicz
SE: W. O. Bozeman Jr.
SCEN: Lebron L. Madaris
GC: Stanley R. Hobart
MW: David A. Anderson
PAC: James G. Ramsey III

1970

NNE: Paul Weise
RI: Charles E. Rummel
WNE: Rhoderick R. Blue
HM: Roger L. Rounds
MET: E. James Stavrakos
DV: Frank A. Mather
W: Charles A. Rader
NPI: Piet B. Bodenhorst
PIED: Forest B. Gardner
PAL: Adam Fisher
SE: Francis X. Nerney
SCEN: Lebron L. Madris
GC: Neva F. Olsen
MW: Aloysius A. Gorski
PAC: Don M. Mitchell

1971

NNE: Paul Weise
RI: Rhoderick R. Blue
WNE: Charles E. Rummel
HM: Victor J. Christopher
MET: E. James Stavrakas
DV: Frank A. Mather
W: Charles A. Rader
NPI: Jesse D. Long Jr.
PIED: Walter D. Moss Jr.
PAL: Ernest E. St. Louis
SE: Francis X. Nerney
SCEN: Benjamin N. Freshwater
GC: Neva F. Olsen
MW: Aloysius A. Gorski
PAC: William E. James Jr.

1972

NNE: Daniel P. Collins
RI: Andrew J. McNulty
WNE: A. R. DeCesare
HM: Victor J. Christopher
MET: Charles L. Zimmerman
DV: William H. Bertolet III
W: Mary B. Spicer
NPI: Wayne H. Lawson
PIED: Richard P. Barber
PAL: Charles A. Davis
SE: George H. Dockray
SCEN: Benjamin N. Freshwater
GC: Darrell J. Donaldson
MW: Ralph A. Supper
PAC: Norman A. Koshak

1973

NNE: Daniel P. Collins
RI: Andrew J. McNulty
WNE: John F. Lauretti
HM: Achilles S. Mafilios
MET: Charles L. Zimmerman
DV: William H. Bertolet III
W: Mary B. Spicer
NPI: James M. Buckner Jr.
PIED: W. Bickett Hawkins
PAL: William E. Mathews
SE: George H. Dockray
SCEN: Earl J. Ball
GC: Darrell J. Donaldson
MW: Ralph A. Supper
PAC: James R. Sisson

1974

NNE: William J. Flanagan
RI: Terry H. Trimmer
WNE: Stephen P. Petrie
HM: Achilles S. Mafilios
MET: Brandon F. Quigley
DV: Virgil D. Lyon
W: A. Mason DuPre Jr.
NPI: Henry H. Latham
PIED: Frank P. Fields
PAL: Lamar R. Smith
SE: Ralph E. Taylor
SCEN: Earl J. Ball
GC: David J. Stanonis
MW: Frederick K. Jones
PAC: Melton S. Birmingham Jr.

1975

NNE: William J. Flanagan
WNE: Alvin E. Hardy
RI: Terry H. Trimmer
MET: Brandon F. Quigley
HM: David O. Hamer Jr.
DV: Virgil D. Lyon
W: A. Mason DuPre Jr.
NPI: Horace D. Penn
PIED: John C. Boesch Jr.
PAL: C. Hugh Patrick Jr.
SE: Ralph E. Taylor
SCEN: Robert R. Hixson
GC: David J. Stanonis
MW: Frederick K. Jones
PAC: Albert Meilink

1976

NNE: A. Morris Campbell
WNE: Alvin E. Hardy

RI: Marguerita C. Hindle
MET: George C. Anderson
HM: David O. Hamer Jr.
DV: Arthur W. Boesler Jr.
NPI: Clyde T. Canter
PIED: William L. O'Connor Jr.
PAL: E. Randall Poole
SE: Charles E. Gavin
SCEN: Robert R. Hixson
GC: Bethlehem K. Andrews
MW: Richard L. Thistlethwaite
PAC: G. V. Dreyer

1977
NNE: A. Morris Campbell
WNE: Alvin E. Hardy
RI: Marguerita C. Hindle
MET: George C. Anderson
HM: William J. Vullo
DV: Arthur W. Boesler Jr.
NPI: Richard W. Miller
PIED: Robert F. Miller
PAL: Robert L. Baker
SE: Charles E. Gavin
SCEN: John E. Lancaster
GC: Bethlehem K. Andrews
MW: Richard L. Thistlethwaite
PAC: John H. McKinley Jr.

1978
NNE: Robert A. McGurren
WNE: John D. Sullivan
RI: Raymond E. Horbert
MET: Nick J. Christie
HM: William J. Vullo
DV: Edward T. Diamond
NPI: V. Thomas Novak
PIED: Robert G. Ellis
PAL: Phillip S. Patrick
SE: Donald K. Durden
SCEN: John E. Lancaster
GC: Judy D. Timpa
MW: Paul M. Grinder
PAC: Walter E. Kramer

1979
NNE: Robert A. McGurren
WNE: John D. Sullivan
RI: Raymond E. Horbert
MET: Nick J. Christie
HM: Jerry G. Sokaris
DV: Edward T. Diamond
NPI: Roy L. Barham
PIED: Charles J. Wolhar
PAL: Richard S. Powell
SE: Donald K. Durden
SCEN: David L. White
GC: Gerald B. Verburg
MW: Paul M. Grinder
PAC: David A. Hansbrough

1980
NNE: Armand R. Lemire
WNE: John D. Sullivan
RI: Ronald S. Perry
MET: Edward L. Kelly
HM: Jerry G. Sokaris
DV: Samuel J. Guertin
NPI: William D. Graham
PIED: Robert L. Bridgman
PAL: Thoas A. Tantillo
SE: Joe W. Richardson Jr.
SCEN: Gregg C. Underwood
GC: Gerald B. Verburg
MW: Wendell C. Hildenstein
PAC: Sandy V. Hutchens Jr.

1981
NNE: Armand R. Lemire
WNE: John A. Bucchi
RI: Ronald S. Perry
MET: Edward L. Kelly
HM: Edmund J. Levine
DV: Samuel J. Guertin
NPI: James M. Buckner Jr.
PIED: Hartley W. Eastwood
PAL: Marshall White Jr.
SE: Joe W. Richardson Jr.
SCEN: Gregg C. Underwood

GC: Eugene J. Blanchard
MW: Wendell C. Hildenstein
PAC: Ronald D. Aldendorf

1982
NNE: Phillip W. Wood
WNE: John A Bucchi
RI: Robert E. Rivet
MET: Richard E. Kimble
HM: Edmund J. Levine
DV: Gordon M. Smith
NPI: William K. Mileski
PIED: Vernon S. Ryan
PAL: Joe M. Fox
SE: John T. Riggan
SCEN: Tony M. Leonard
GC: Gene J. Blanchard
MW: Bruce G. Pudlock
PAC: Ronald D. Aldendorf

1983
NNE: Philip W. Wood
WNE: John A. Bucchi
RI: Robert E. Rivet
MET: Richard E. Kimble
HM: Andrew A. Kennedy
DV: Gordon M. Smith
NPI: Harry L. Rowden
PIED: Kermit W. Holshouser
PAL: Charles E. Wood
SE: John T. Riggan
SCEN: Tony M. Leonard
GC: John P. Madacsi
MW: Bruce G. Pudlock
PAC: Bert T. Rene

1984
NNE: Ronald J. Fryer
WNE: John A. Bucchi
RI: J. William Buschald
MET: Richard E. Kimble
HM: Andrew A. Kennedy
DV: Charles H. Schuettler
NPI: Mary Ann Zentner
PIED: John B. Neely
PAL: Phillip W. Davis
SE: Arthur W. Davis
SCEN: Jim E. Price
GC: John P. Madacsi
MW: John A. Andrews
PAC: W. Eugene Buffington

1985
NNE: Ronald J. Fryer
WNE: John A. Bucchi
RI: J. William Busald
MET: James A. Eichinger
HM: Robert I. Moyer
DV: Charles H. Shuettler
NPI: John A. Wolhar
PIED: W. Lewis Cowan
PAL: Charles A. Bailey
SE: Arthur W. Davis
SCEN: Jim E. Price
GC: Jerry P. Morea
MW: John A. Andrews
PAC: Albert Meilink

1986
NNE: Daniel J. Ardito
RI: Prem P. Amin
WNE: John A. Bucchi
DV: Vinson J. Brock
HM: Robert I. Moyer
MET: Evans Reitman Swiss
NPI: John McGrimes
PIED: Frank W. Bancroft
GC: Jerry P. Moreau
PAL: Charles A. Bailey
SCEN: James R. Ellis Jr.
SE: Thomas H. Randall
MW: Donald F. Johnson
PAC: Robert A. Freas

1987
NNE: Daniel J. Ardito
RI: Prem P. Amin
WNE: Francis M. Curtis

DV: Vinson J. Brock
HM: Donald L. Siver
MET: Robert J. Beaulieum
NPI: Tom W. Hollingsworth
PIED: Henry E. Chapin
GC: Brenda J. Trask-Morrell
PAL: Emile Jacumin Jr.
SCEN: James R. Ellis Jr.
SE: Thomas H. Randall
MW: Donald F. Johnson
PAL: James M. Childers

1988

NNE: Ernest R. Florand
RI: Andrew J. McNulty Jr.
WNE: Francis M. Curtis
DV: Carl D. Sickerott
HM: Donald L. Siver
MET: Anne Patterson
NPI: Gary N. Mock
PIED: Richard G. Nicholson
GC: Brenda J. Trask-Morrell
PAL: Harry O. Deloach
SCEN: R. Jayanth Manay
SE: Edward P. Maffett
MW: Robert L. Lattie
PAL: James M. Childers

1989

NNE: Ernest R. Florand
RI: Andrew J. McNulty Jr.
WNE: Timothy J. Horan
DV: Carl D. Sickerott
HM: Frank A. Fuss
MET: Anne Patterson
NPI: Vernon L. Misenheimer
PIED: Joan Tubbyfill
GC: Timothy Allen Calamari Jr.
PAL: Harry O. Deloach
SCEN: R. Jayanth Manay
SE: Edward P. Maffett
MW: Robert L. Lattie
PAL: None

1990

NNE: Moustafa T. Nour
RI: Philip C. Hilton
WNE: Timothy J. Horan
DV: John C. Dempsey III
HM: Frank A. Fuss
MET: Anne Patterson
NPI: Bob L. McConnell
PIED: John A. Darsey Jr.
GC: Timothy Allen Calamari Jr.
PAL: James H. Lee
SCEN: Gregory D. George
SE: Warren S. Perkins
MW: Janis J. Catanzarite
PAL: Werner F. Schulz

1991

NNE: Moustafa T. Nour
RI: Philip C. Hilton
WNE: Francis M. Curtis
DV: John C. Dempsey III
HM: Stephen T. Dougherty
MET: George C. Anderson
NPI: Phil McBryde
PIED: Robert Frederick Miller Jr.
GC: Phyllis S. Howley
PAL: James H. Lee
SCEN: Gregory D. George
SE: Roy J. Ferrell
MW: Janis J. Catanzarite
PAL: Richard D. Parrish

1992

NNE: James F. Lindell
RI: Martin J. Bide
WNE: Francis M. Curtis
DV: Francis X. Shuletsky
HM: Stephen T. Dougherty
MET: Norman R. Demers
NPI: Simon P. Stone Jr.
PIED: Robert F. Miller Jr.
GC: Phyllis S. Howley
PAL: Cindy B. Bellamy
SCEN: Larry C. Kelly

SE: J. Nolan Etters
MW: None
PAL: Richard D. Parrish

1993
NNE: Marcia L. Quinlan
RI: Martin J. Bide
WNE: Francis M. Curtis
DV: Francis X. Shuletsky
HM: Robert J. Ensminger Jr.
MET: Ken G. Udani
NPI: Dexter R. Barbee Jr.
PIED: Roberta M. Tremain
GC: Cletus E. Morris
PAL: Phillip K Martin
SCEN: Larry C. Kelly
SE: Michael J. Knight
MW: None
PAL: Scott S. Wingate

1994
NNE: Jeffery S. O'Neail
RI: Gertrud Goetz
DV: Catherine M. Burk
HM: Robert J. Ensminger Jr.
MET: Michael J. Zavaglia
NPI: Ben L. Bruner
PIED: McKenzie P. Moore
GC: Cletus E. Morris
PAL: Phillip K. Martin
SCEN: James R. Ellis Jr.
SE: Michael J. Knight
MW: Abdolmajid Sarmadi
PAL: Scott S. Wingate

1995
NNE: Jeffrey S. O'Neail
RI: Debra K. Gross
DV: Catherine M. Burk
HM: Lyman J. Cross
MET: Michael J. Zavaglia
NPI: Billy R. Gardner
PIED: James W. Brown
GC: Billie J. Collier
PAL: Rick D. Bishop
SCEN: James R. Ellis Jr.
SE: David C. Lamb
MW: Jimmie A. Merritt
PAC: James R. Sisson

1996
NNE: Richard G. Lemire
RI: Marty H. Silvia
DV: John M. McChesney III
HM: Lyman J. Cross
MET: Michael J. Zavaglia
NPI: Peter J. Frandsen
PIED: James W. Brown
GC: Billie J. Collier
PAL: Rick D. Bishop
SCEN: Gregory D. George
SE: David C. Lamb
MW: Jimmie A. Merritt
PAC: Lester F. Stevens Jr.

LEGEND:
DV: Delaware Valley
GC: Gulf Coast
HM: Hudson-Mohawk
MET: Metropolitan
MW: Midwest
NF: Niagara Frontier
NNE: Northern New England
NPI: Northern Piedmont
NY: New York
PAC: Pacific Coast
PAL: Palmetto
PNW: Pacific Northwest
PSW: Pacific Southwest
PHI: Philadelphia
PIED: Piedmont
RI: Rhode Island
SCEN: South Central
SE: Southeastern
SO: Southern
W: Washington
WNE: Western New England

Appendix 13

Types of Member Employment

Job Category	Percent by Year				
	1921	1940	1960	1980	1990
Chemist (Laboratory, Plant)	27.7	19.2	12.5	5.9	5.1
Chemist (Management)	22.8	28.9	36.7	36.0	32.3
Bleacher/Dyer	15.7	20.1	6.8	6.8	5.6
Chemist (Research)	3.4	2.1	15.3	12.2	17.9
Demonstrator (Technical Sales)	2.2	15.2	10.6	7.6	7.6
Academia	1.5	3.6	3.8	6.3	11.1
Retired	0	0	1.4	2.1	2.7
Other/Unknown	26.6	10.9	12.7	22.9	17.7

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Appendix 14

Formal Education of Members

Degree	Percent Holding Degrees				
	1921	1940	1960	1980	1990
Doctorate[1]	3.4	2.6	8.5	5.5	6.6
Masters[2]	1.5	2.6	7.3	10.0	10.3
Bachelors[3]	13.5	26.5	34.0	35.3	38.9
Other	4.5	2.1	4.0	2.7	0.8
None/Unknown	77.1	66.2	46.2	46.5	43.4

[1] Ph.D., Sc.D.
[2] M.S., M.A.
[3] B.A., B.S., B.T.C, B.T.E.

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Appendix 15

Regional Affiliation of Members

Section Comprising Region*	Percent				
	1921	1940	1960	1980	1990
NNE	29.7	13.5	5.2	3.8	2.3
NY/MET/HM	29.1	22.3	23.5	14.3	10.3
Phil/DV/W	11.0	18.5	12.7	7.8	6.8
RI/WNE	14.4	12.8	8.9	6.8	4.1
NPI/PAL/PI	0	10.2	16.9	28.8	28.6
MW/PAC	0	8.0	7.7	8.0	8.0
GC/SCEN/SE/S	10.2	10.6	12.0	13.8	16.9
International/Unknown	5.6	4.0	13.1	17.0	23.0

*The groupings of Sections are arbitrary and do not represent any Region at a given date. They merely reflect relative shifts in where members live. See Appendix 11 for keys to Section codes and 1996 boundaries.

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Appendix 16

Student Chapters

Chapter	Date Established
Lowell Textile School	1922*
North Carolina State University	1930
Philadelphia College of Textiles and Science	1936
New Bedford Textile Institute	1942*
Georgia Institute of Technology	1946
Clemson University	1947
University of Massachusetts at Dartmouth	1948
New York State Institute for Applied Arts and Sciences	1949*
Fairleigh Dickinson College	1951*
Rhode Island School of Design	1953*
Auburn University	1956
Virginia Technological University	1971
Radford University	1971
University of Rhode Island	1972
North Carolina Center for Applied Textile Technology	1975*
University of North Carolina at Greensboro	1975
Purdue University	1975
University of Tennessee, Knoxville	1976
University of Wisconsin at Madison	1976
University of Delaware	1976

*Disbanded by 1996.

Technical Institute of Alamance	1976*
Florida State University	1976
Kansas State University	1976
Istituto Politechnico Nacional	1977*
California State University at Northridge	1977*
University of California at Davis	1978
University of Georgia	1978
Louisiana State University	1979
University of Maryland	1979*
University of Seattle	1980*
Fashion Institute of Technology	1981
Oregon State University	1987
Institute of Textile Technology	1988
Southern College of Technology	1988
Bangladesh College of Textile Engineering	1993

Appendix 17

General Meetings of the Association (1921–1996)

1921	Nov. 3—Boston, MA Engineers' Club (Inaugural Meeting)
1922	Dec. 2—New York, NY, Hotel Pennsylvania
1923	Dec. 7-8—Providence, RI, Biltmore Hotel
1924	Dec. 6-8—Philadelphia, PA, Bellevue-Stratford Hotel
1925	Dec. 4-5—Cambridge, MA, Walker Memorial, Massachusetts Institute of Technology
1926	Dec. 3-4—Charlotte, NC, Charlotte Hotel
1927	Dec. 2-3—New York, NY, Hotel Pennsylvania
1928	Dec. 7-8—Providence, RI, Biltmore Hotel
1929	Dec. 6-7—Philadelphia, PA, Bellevue-Stratford Hotel
1930	Dec. 5-6—Chattanooga, TN, Read House
1931	Dec. 4-5—Boston, MA, Hotel Statler
1932	Dec. 2-3—Greensboro, NC, King Cotton Hotel
1933	Sept. 8-9—Chicago, IL, Congress Hotel
1933	Dec. 8—New York, NY, Chemists' Club (Annual Business Meeting)
1934	Dec. 7-8—New York, NY, Hotel New Yorker
1935	Dec. 6-7—Chattanooga, TN, Read House
1936	Dec. 4-5—Providence, RI, Biltmore Hotel
1937	Dec. 3-4—Philadelphia, PA, Bellevue-Stratford Hotel
1938	Dec. 2-3—Atlanta, GA, Biltmore Hotel
1939	Sept. 15-16—Boston, MA, Copley-Plaza Hotel
1940	Oct 18-20—New York, NY, Hotel Commodore
1941	Oct. 31-Nov. 1—Pinehurst, NC, Hotel Carolina
1942	(No Meeting)
1943	April 16—New York, NY, Engineers' Society Building (General Business Meeting)
1944	Oct. 12-14—Atlantic City, NJ, Hotel Claridge
1946	Jan. 3-5—New York, NY, Hotel Pennsylvania (Victory Convention)

1946 Dec. 12–14—Boston, MA, Hotel Statler
1947 Oct. 23–25—Chicago, IL, Congress Hotel
1948 Oct. 21–23—Augusta, GA, Sheraton Bon Air Hotel
1949 Oct. 13–15—Atlantic City, NJ, Chalfonte-Haddon Hall
1950 Sept. 28–30—Portsmouth, NH, Wentworth-By-The-Sea
1951 Oct. 17–19—New York, NY, Hotel Statler
1952 Nov. 6–8—Boston, MA, Hotel Statler
1953 Sept. 17–19—Chicago, IL, Conrad Hilton Hotel
1954 Sept. 15–18—Atlanta, GA, Atlanta Biltmore Hotel
1955 Sept. 22–24—Atlantic City, NJ, Chalfonte-Haddon Hall
1956 Sept. 13–15—New York, NY, Waldorf-Astoria Hotel
1957 Nov. 14–16—Boston, MA, Hotel Statler
1958 Oct. 30–Nov. 1—Chicago, IL, Conrad Hilton Hotel
1959 Oct. 7–10—Washington, DC, Hotels Sheraton Park and Shoreham
1960 Oct. 6–8—Philadelphia, PA, Sheraton Hotel (National Convention)
1960 Nov. 18—New York, NY, Sheraton-Atlantic Hotel (Annual Meeting)
1961 Sept. 27–29—Buffalo, NY, Statler Hilton Hotel (National Convention)
1961 Nov. 17—Chicago, IL, Hotel Sherman (Annual Meeting)
1962 Nov. 14–17—Atlanta, GA, Atlanta Biltmore Hotel (Annual Meeting and National Convention)
1963 Oct. 30–Nov. 1—Boston, MA, Statler Hilton Hotel (National Convention)
1963 Dec. 6—Dedham, MA, Motel 128 (Annual Meeting)
1964 Sept. 23–25—New York, NY, Statler Hilton Hotel (National Convention)
1964 Nov. 20—New York, NY, Sheraton-Atlantic Hotel (Annual Meeting)
1965 Oct. 13–15—Chicago, IL, Conrad Hilton Hotel (National Convention)
1965 Nov. 19—New York, NY, Sheraton-Atlantic Hotel (Annual Meeting)
1966 Sept. 29-Oct. 1—Atlantic City, NJ, Chalfonte-Haddon Hall (National Technical Conference)
1966 Nov. 18—New York, NY, Sheraton-Atlantic Hotel (Annual Meeting)
1967 Oct. 19–21—New Orleans, LA, Jung Hotel (National Technical Conference)
1967 Nov. 17—New York, NY, Sheraton-Atlantic Hotel (Annual Meeting)
1968 Oct. 16–18—Montreal, Canada, Queen Elizabeth Hotel (International Technical Conference)
1968 Nov. 22—New York, NY, Belmont Plaza Hotel (Annual Meeting)
1969 Nov. 12–15—Charlotte, NC, White House Inn (National Technical Conference)
1969 Nov. 14—Charlotte, NC, White House Inn (Annual Meeting)
1970 Nov. 4–6—Atlanta, GA, Regency Hyatt House (National Technical Conference)
1970 Nov. 20—New York, NY, Belmont Plaza Hotel (Annual Meeting)
1971 Oct. 6–8—Boston, MA, Sheraton-Boston Hotel (Golden Jubilee Conference)
1971 Nov. 19—New York, NY, Belmont Plaza Hotel (Annual Meeting)

1972 Sept. 28–30—Philadelphia, PA, Bellevue Stratford Hotel (National Technical Conference)
1972 Nov. 17—New York, NY, Belmont Plaza Hotel (Annual Meeting)
1973 Sept. 20–22—Atlantic City, NJ, Chalfonte-Haddon Hall (National Technical Conference)
1973 Nov. 16—New York, NY, Belmont Plaza Hotel (Annual Meeting)
1974 Oct. 9–11—New Orleans, LA, Braniff Place (National Technical Conference)
1974 Nov. 22—New York, NY, The Belmont Hotel (Annual Meeting)
1975 Oct. 15–17—Chicago, IL, Conrad Hilton Hotel (National Technical Conference)
1975 Nov. 21—New York, NY, The Belmont Hotel (Annual Meeting)
1976 Oct. 13–15—Montreal, Canada, Queen Elizabeth Hotel (International Technical Conference)
1976 Nov. 18—New York, NY, The Belmont Hotel (Annual Meeting)
1977 Oct. 19–21—Atlanta, GA, Hyatt Regency Hotel (National Technical Conference)
1977 Nov. 18—New York, NY, The Doral Inn (Annual Meeting)
1978 Nov. 1–3—Anaheim, CA, Disneyland Hotel (National Technical Conference)
1978 Nov. 17—New York, NY, The Doral Inn (Annual Meeting)
1979 Oct. 3–5—Cherry Hill, NJ, Hyatt House (National Technical Conference)
1979 Nov. 15—New York, NY, The Doral Inn (Annual Meeting)
1980 Oct. 15–17—Boston, MA, Sheraton-Boston Hotel (National Technical Conference)
1980 Nov. 20—New York, NY, The Doral Inn (Annual Meeting)
1981 Oct. 21–23—Charlotte, NC, Radisson Plaza Hotel (National Technical Conference)
1981 Nov. 19—New York, NY, The Doral Inn (Annual Meeting)
1982 Oct. 5–8—Atlantic City, NJ, Playboy Hotel (National Technical Conference)
1982 Nov. 18—Cedar Grove, NJ, The Friar Tuck (Annual Meeting)
1983 Oct. 5–7—New Orleans, LA, Hyatt Regency Hotel (National Technical Conference & Exhibition)
1983 Nov. 19—St. Charles, IL, Pheasant Run (Annual Meeting)
1984 Oct. 3–5—Chicago, IL, Conrad Hilton Hotel (International Conference & Exhibition)
1984 Nov. 17—Chicago, IL, Hyatt Regency O'Hare (Annual Meeting)
1985 Oct. 6–9—Montreal, Canada, Queen Elizabeth Hotel (International Conference & Exhibition)
1985 Nov. 16—Charlotte, NC, Marriott Executive Park (Annual Meeting)
1986 Oct. 28–31—Atlanta, GA, Peachtree Plaza Hotel (International Conference & Exhibition)
1986 Nov. 13—Uxbridge, MA, Cocke 'n Kettle Restaurant (Annual Meeting)

1987 Oct. 13–16—Charlotte, NC, Convention Center (International Conference & Exhibition)
1987 Nov. 13—Charlotte, NC, Holiday Inn-Woodlawn (Annual Meeting)
1988 Sept. 28–Oct. 1—Nashville, TN, Opryland Hotel (International Conference & Exhibition)
1988 Nov. 17—New York, NY, The Doral Inn (Annual Meeting)
1989 Oct. 3–6—Philadelphia, PA, Adam's Mark Hotel (International Conference & Exhibition)
1989 Nov. 16—New York, NY, The Doral Inn (Annual Meeting)
1990 Sept. 30–Oct. 3—Boston, MA, Sheraton Boston Hotel & Towers/Hynes Convention Ctr. (International Conference & Exhibition)
1990 Nov. 15—New York, NY, The Doral Inn (Annual Meeting)
1991 Oct 8–11—Charlotte, NC, Convention Center (International Conference & Exhibition)
1991 Nov. 21—New York, NY, The Doral Inn (Annual Meeting)
1992 Oct. 4–7—Atlanta, GA, Hyatt Regency/Inforum (International Conference & Exhibition)
1992 Nov. 19—New York, NY, The Doral Inn (Annual Meeting)
1993 Oct. 3–6—Montreal, Quebec, Canada, Queen Elizabeth Hotel/Place Bonaventure (International Conference & Exhibition)
1993 Nov. 18—Research Triangle Park, NC, AATCC Technical Center (Annual Meeting)
1994 Oct. 11–14—Charlotte, NC, Convention Center (International Conference & Exhibition)
1994 Nov. 17—Research Triangle Park, NC, AATCC Technical Center (Annual Meeting)
1995 Oct. 8–11—Atlanta, GA, Hyatt Regency/Inforum (International Conference & Exhibition)
1995 Nov. 16—Research Triangle Park, NC, AATCC Technical Center (Annual Meeting)
1996 Sept. 15–18—Nashville, TN, Opryland Hotel (International Conference & Exhibition)
1996 Nov. 21—Research Triangle Park, NC, AATCC Technical Center (Annual Meeting)

Appendix 18

Typical Publications by AATCC Research Personnel (1922–1947)*

William H. Cady, "A Summary of the Progress Made to Date (1922) by Various Investigators in an Effort to Standardize Methods for Determining the Fastness of Dyes to Light," *American Dyestuff Reporter (ADR),* v. 11, n. 11, November 20, 1922, pp. 92–94.

"Report of Series 2 Light Exposures: A Comparison of Sunlight, the Violet Carbon Arc, and the Mercury Vapor Arc (with Glass Shield)," *AATCC Year Book*, 1924, p. 73.

Harold C. Chapin, "Effect of Alkalies on Wool: The Importance of Hydrogen Ion Concentration," *ADR*, v. 14, n. 22, December 28, 1925, p. 231–233.

W. D. Appel, "Experiments with the Photo-electric Cell in Relation to Testing the Fastness to Light of Dyed Materials," *ADR*, v. 16, n. 19, November 14, 1927, pp. 187–191.

W. D. Appel and W. C. Smith, "The Fading of Dyed Textiles in the Light Transmitted by Various Glasses," *ADR*, v. 17, n. 11, June 25, 1928, pp. 180–192.

Milton Harris and Daniel A. Jessup, "The Effect of pH on the Photo Chemical Decomposition of Silk," *ADR*, v. 20, n. 24, December 7, 1931, pp. 349–352.

Milton Harris, "The Physical Chemistry of the Proteins of Silk and Wool," *ADR*, v. 21, n. 3, February 1, 1932, pp. 58, 62, 76, 96.

Milton Harris, "The Iso-electric Point of Wool," *ADR*, v. 21, n. 13, June 20, 1932, pp 233–237.

Milton Harris, "The Application of the Results of the Study of the Iso-electric Point of Wool to Some Practical Problems," *ADR*, v. 22, n. 3, January 30, 1933, pp. 325, 336, 337.

*Twenty-nine items selected from a list of 135 publications given in *1947–1948 AATCC Technical Manual and Yearbook*, pp. 77–80, to show the variety of work done.

Sivert N. Glarum, "A Fundamental Study of Printing Pastes," *ADR*, v. 23, n. 7, March 26, 1934, pp. 85–89.

Roland E. Derby, "Review of Carbonizing Project," *ADR*, v. 23, n. 9, April 23, 1934, pp. 123–126.

Light Committee, "A Comparison of the Fading Produced by Four Fading Lamps and the Sun on Forty Selected Dyeings," *ADR*, v. 23, n. 23, November 5, 1934, pp. 283–284.

Milton Harris, "Effect of Alkalies on Wool," *ADR*, v. 24, n. 20, October 7, 1935, pp. 306–311.

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AATCC/ASTM, "Evaluation of Compounds Designed to Increase the Resistance of Fabrics and Yarns to Insect Pests," *ADR*, v. 34, no. 21, October 8, 1945, pp. 403–404.

J. R. Redmond, "Fire Resistance in Aircraft Textiles," *ASD,* v. 36, n. 5, March 10, 1947, pp. 103, 121.

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Appendix 19

AATCC Workshops (1965–1996)

Subject[1]	No. Sessions	Inclusive Years
Wash and Wear/Durable Press	16	1965–1972
Colorfastness to Light	20	1966–1978
Colorfastness to Washing, Water, and Dry Cleaning	9	1966–1979
Water Resistance/Water Repellency	5	1967–1969
Abrasion and Dimensional Change	12	1967–1976
Fire Resistance/Flammability	28	1967–1977
Fabric Preparation	27	1968–1996
Knit Processing/Testing	8	1971–1978
Bonded and Laminated Fabrics Test Methods	9	1972
Dyeing Properties	2	1973–1974
Basics of Dyeing and Finishing	26	1973–1996
Environmental Concerns	3	1974–1977
Apparel Fabrics Evaluation	3	1975–1979
Introduction to Textile Testing	44	1976–1996
Carpet Printing/Testing	7	1977–1991
Textile Printing	2	1977–1979
Textile Performance/Care Labeling	5	1977–1988
Color Measurement Principles in the Textile Industry	23	1977–1996
Trends in Fabric Finishing	1	1979
Wet Processing Machinery	5	1980–1989
Analytical Methods for a Textile Laboratory	9	1980–1990
Formaldehyde in Textiles	1	1983
Computer Applications in Wet Processing	1	1984
International Standards	3	1984–1987
Testing of Automotive and Airline Textile Products	3	1987–1989

Subject[1]	No. Sessions	Inclusive Years
Statistical Quality Control	1	1987
Garment Wet Processing	1	1988
Surface Finishing	1	1990
Wrinkle-Free Finishing of Cotton and Cotton Blends	1	1994
Total	276	

[1] Specific titles varied. At times, the programs were called seminars; at other times, workshops, depending on the extent of hands-on content.

Appendix 20

AATCC Symposia (1966–1996)

Year	Subject	City
1966	What to Test for Durable Press	Washington, D.C.
1967	Flock Technology	Washington, D.C.
1969	Water Pollution Control in the Textile Industry Textile Wear Tests Bonded and Laminated Fabrics	Washington, D.C. Raleigh, N.C. Washington, D.C.
1971	Textile Printing The Textile Industry and the Environment Flock Technology	New York Atlanta Washington, D.C.
1972	Knit Barré–Causes and Cures	New York
1973	Textile Solvent Technololgy–Update Coated Fabrics Technology The Textile Industry and the Environment Knit Shrinkage: Cause, Effect and Control	Atlanta Newton, Mass. Washington, D.C. New York
1974	Flock Technology	New York
1975	Textile Printing: An Ancient Art and Yet So New Textile Technology/Ecology Interface Sense and Nonsense in Knit Testing	New York Charlotte, N.C. New York
1976	Coated Fabrics Update	Newton, Mass.
1977	Textile Technology/Ecology Interface Practical Dyeing Problems–Analysis and Solution	Atlanta Washington, D.C.
1978	Textile Printing	New York

Year	Subject	City
1979	Toxic Substances Related to Textiles	Charlotte, N.C.
	Textile Industry and the Environment	Raleigh, N.C.
	Color Science in the Textile Industry	Charlotte, N.C.
1980	Textiles: Toxicological and Environmental Concerns	Charlotte, N.C.
	The Dyer's World–1980's: Theory to Practice	Washington, D.C.
1981	Sizing: Keystone to Quality Fabrics	Atlanta
	The Textile Industry and the Environment/1981	Washington, D.C.
	American Textile Prints: Are We Competitive?	New York
1982	New Trends in Coated Fabrics	Newton, Mass.
1983	Sizing: Keystone to Quality Fabrics	Atlanta
	New Challenges in the Art and Science of Dyeing	Atlanta
	Practical Applications of Color Control	Greensboro, N.C.
1984	Safety, Health and Environmental Technology	Asheville, N.C.
	Textile Printing	Philadelphia
1985	Sizing: Keystone to Quality Fabrics	Greenville, S.C.
	Coating Today in the U.S.A.	Wakefield, Mass.
1986	Trends in Dyeing and Finishing: A Global View	Charlotte, N.C.
	Safety, Health, and Environmental Technology	Charlotte, N.C.
1987	Sizing: Keystone to Quality Fabrics	Charlotte, N.C.
1988	Printing With Pride in the U.S.A.	Charlotte, N.C.
	Safety, Health, and Environmental Technology	Charlotte, N.C.
1989	Sizing: The Total Perspective	Greenville, S.C.
	Global Trends in Dyeing Science and Technology	Charlotte, N.C.
1990	Safety, Health and Environmental Technology	Atlanta
	Industry's Answer to Yarn Dyeing Problems: A Group Discussion	Charlotte, N.C.
	Near-Infrared Technololgy in Textiles	Charlotte, N.C.
	Garment Wet Processing Technology	Nashville, Tenn.
1991	Sizing: The Total Perspective	Raleigh, N.C.
	Continuous Improvement in Yarn Dyeing	Southern Pines, N.C.
	Garment Wet Processing Technology	Long Beach, Calif.
	Wet Processing Machinery	Charlotte, N.C.
	Environmental Awareness: Targeting the Textile Industry	Charleston, S.C.
	Coated Fabrics: Meeting the Challenges of the 90s	Wakefield, Mass.
	Yarn Dyeing: Keys to the Puzzle	Asheville, N.C.
	International Dyeing Symposium–Theory and Practice for the 90s	Charlotte, N.C.

Year	Subject	City
1993	Safety, Health and Environmental Technology	Savannah, Ga.
	Garment Wet Processing Technology	Dallas
	Yarn Dyeing '93: Avenues to Excellence	Southern Pines, N.C.
	Warp Sizing Technology	Asheville, N.C.
	Textile Applications of Near Infrared Technology	Asheville, N.C.
1994	The Textile Industry 1994: Achieving Our Environmental Commitment	Charlotte, N.C.
	Yarn Dyeing '94: Back to Basics	Charlotte, N.C.
	Wrinkle-Free Finishing of Cotton and Cotton Blends	Anaheim, Calif.
1995	Warp Sizing: Back to Basics	Atlanta
	Garment Wet Processing Technology	Lake Buena Vista, Fla.
	Dyeng Technologies for Changing Times	Lake Buena Vista, Fla.
	Coated and Laminated Fabrics: New Processes and Products	Danvers, Mass.
	Yarn Dyeing '95: The Next Generation	Charlotte, N.C,
1996	Printing for the Global Market	Charlotte, N.C.
	Yarn Dyeing '96: Meeting the Challenges	Sunset Beach, N.C.
	Printing for the Global Market	Anaheim, Calif.
	Textile Applications of Near Infrared Technology	Asheville, N.C.
	Environmental Success: American Textile Industry '96	Sunset Beach, N.C.

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Appendix 21

AATCC Publications (1921–1996)

Serials	Date
Procedings of the AATCC in *American Dyestuff Reporter*	1921–1968
AATCC Yearbook	1922–1946
AATCC Technical Manual and Yearbook	1947/1948–1958
AATCC Technical Manual[1]	1959–1996
Buyer's Guide[2]	1968–1996
AATCC Membership Directory[3]	1968–1996
Colour Index, Second Edition, four volumes[4]	1956
Colour Index Supplement[4]	1963
Textile Chemist and Colorist	1969–1996
Colour Index	
Additions and Amendments, New Series[4]	1971
No. 1-21, September 1963–October 1968	
No. 22-30-/31, January 1969–January/April 1, 1971	
Colour Index, Third Edition, nine volumes[4]	1971
Colour Index	
Additions and Amendments[4]	1994
No. 32-92, July 1979–July 1994	

[1] Volume numbers were assigned to *AATCC Yearbooks* starting with the 1935–1936 issue (XIII) and continued with the *Technical Manual and Yearbook* (1947/1948) and to the Technical Manual starting in 1959 (XXIV). The *Technical Manual* was separated into three publications after 1969: the *AATCC Technical Manual*, the *Guide to Products*, and the *Membership Directory* [year].

[2] Published as *Products/[year]* from 1968 to 1977. From 1968 to 1991, the spine and front cover prominently displayed the words *Buyer's Guide*. Since 1992, these words have been replaced with a downplayed statement of contents on the front cover.

[3] Published in the *AATCC Yearbook* and *AATCC Technical Manual*, 1922–1968.

[4] Published jointly with the Society of Dyers and Colourists (SDC). The first edition, F. M. Rowe, editor, was published by the SDC in 1924 and a Supplement in 1928.

Books	**Date**
Analytical Methods for a Textile Laboratory, Percival Theil, editor	1949
The Application of Vat Dyes, Raymond W. Jacoby, editor	1953
Proceedings of the Perkin Centennial, 1856–1956: Commemorating the Discovery of Aniline Dyes, Howard J. White Jr., editor	1957
Industrial Waste Guide for Processors of Synthetic Fibers	1966
Analytical Methods for a Textile Laboratory, second edition J. W[illiam] Weaver, editor	1968
Flock Handbook	1972
Glossary of Printing Terms, second edition, Donald B. Deaton, editor	1973
Textile Flammability Handbook	1974
Handbook of Bonded and Laminated Fabrics	1974
Dyeing Primer	1981
Pigments and Solvent Dyes to 1982	1982
Color Technololgy in the Textile Industry	1983
Gullekin Celekiz and Rolf Kuehni, *Color Measurement Principles and the Textile Industry*	1984
Analytical Methods for a Textile Laboratory, third edition, J. William Weaver, editor	1984
Basics of Dyeing and Finishing of Natural and Synthetic Fibers	1984
Warp Sizing Handbook	1985
Pigments and Solvent Dyes Supplement, 1982–1988	1988
Cumulative Index: Textile Chemist & Colorist, 1969–1987	1988
OSHA Laboratory Standards Guide	1991
Glossary of Printing Terms, Donald B. Deaton, editor	1992
Warp Sizing Handbook, second edition	1993
Garment Wet Processing Technical Manual	1994
Bibliography of Fabric Hand	1994
Pigment Printing Handbook	1995
I Remember When: Anecdotes of the Dyeing and Finishing Trades, Herbert T. Pratt, editor	1996

Visual Aids

Film Strips

Heat Transfer Printing	1971
Screen Printing of Textiles	1972
Textile Testing	1974
Rotary Screen Printing	1976

Video Tapes

Visual Color Evaluation	1989
Colorfastness to Crocking	1989
Technique for Solution Measurement Used in Dye Strength Determination	1994

Appendix 22

AATCC Standard Test Methods (1925–1996)

Method Number[1]	Title	Committee	Year First Published	Year Discontinued
1	Colorfastness to Washing, Mill Washing and Scouring: Wool Textiles		1925	1970
2	Colorfastness to Fulling	RR22	1954	
3	Colorfastness to Bleaching with Chlorine	RA34	1927	
4	Colorfastness to Washing, Mill: Silk Textiles		1931	1970
5	Colorfastness to Dry and Wet Heat (Superseded by Method 133)		1928	1969
6	Colorfastness to Acids and Alkalis	RR1	1925	
7	Colorfastness to Degumming		1928	1996
8	Colorfastness to Crocking: AATCC Crockmeter Method	RA38	1936	
9	Colorfastness to Stoving		1928	1996
10	Colorfastness to Commercial Laundering and to Domestic Washing (Superseded by Method 36)		1944	1945
11	Colorfastness to Carbonizing	RR4	1931	
12	Colorfastness to Sea Water Superseded by Method 63		1931	1956

Method Number[1]	Title	Committee	Year First Published	Year Discontinued
13	Colorfastness to Peroxide Bleaching with Peroxide: Silk (Superseded by Method 101)		1932	1962
14	Dimensional Changes in Cotton and Linen Textiles (Superseded by Method 91)		1953	1959
15	Colorfastness to Perspiration	RR52	1949	
16	Colorfastness to Light	RA50	1964	
16A	Colorfastness to Light: Carbon-Arc Lamp, Continuous Light (Superseded by Method 16)		1937	1991
16B	Colorfastness to Light through Glass: Sunlight		1952	1983
16C	Colorfastness to Light through Glass: Daylight (Superseded by Method 16)		1957	1991
16D	Colorfastness to Light: Carbon-Arc Lamp, Alternate Light and Darkness (Superseded by Method 16)		1964	1991
16E	Colorfastness to Light: Water-Cooled Xenon-Arc Lamp, Continuous Light (Superseded by Method 16)		1964	1991
16F	Colorfastness to Light: Water-Cooled Xenon-Arc Lamp, Alternate Light and Darkness (Superseded by Method 16)		1964	1991
16G	Colorfastness to Light: Determination of Fastness Above L-7 (Superseded by Method 16)		1970	1991
17	Wetting Agents, Evaluation of	RA8	1932	
18	Water Resistance: Hydrostatic Pressure Test (Superseded by Method 127)		1945	1968
19	Mercerization of Cotton, Determination of; Degree of (Superseded by Method 89)		1937	1958
20	Fiber Analysis: Qualitative	RA24	1955	

Method Number[1]	Title	Committee	Year First Published	Year Discontinued
20A	Fiber Analysis: Quantitative	RA24	1957	
21	Water Repellency: Static Absorption Test		1941	1991
22	Water Repellency: Spray Test	RA63	1941	
23	Colorfastness to Burnt Gas Fumes	RA33	1941	
24	Insects, Resistance of Textiles to	RA31	1940	
25	Colorfastness to Drycleaning (Superseded by Method 85)		1957	1958
26	Aging of Sulfur Dyed Textiles: Accelerated	RR9	1943	
27	Wetting Agents: Evaluation of Rewetting Agents	RA8	1944	
28	Insect Pest Deterrents on Textiles	RA31	1940	
29	Colorfastness to Bleaching with Peroxide: Cotton and Linen (Superseded by Method 101)		1956	1962
30	Antifungal Activity, Assessment on Textile Materials: Mildew and Rot Resistance of Textile Materials	RA31	1946	
31	Colorfastness to Pleating (Superseded by Method 131)		1946	1969
32	Detection of Phototropism (Superseded by Method 139)		1946	1972
33	Flammability of Clothing Textiles		1946	1985
34	Fire Resistance of Textile Fabrics		1947	1974
35	Water Resistance: Rain Test	RA63	1947	
36	Colorfastness to Washing: Characterization of Textile Colorants		1928	1974
37	Colorfastness to Commercial Laundering and Domestic Washing (Silk) (Superseded by Method 36)		1952	1956
38	Colorfastness to Commercial Laundering and Domestic Washing (Wool) (Superseded by Method 36)		1952	1956

Method Number[1]	Title	Committee	Year First Published	Year Discontinued
39	Wettability, Evaluation of		1947	1981
40	Dimensional Changes in Textiles Other Than Wool (Superseded by Method 91)		1957	1959
41	Dimensional Changes in Wool Textiles: Accelerated Test (Superseded by Method 91)		1949	1960
42	Water Resistance Impact Penetration Test	RA63	1945	
43	Wetting Agents for Mercerization	RA8	1941	
44	Title unknown.[2] (Superseded by Method 54)		?	1952
45	Title unknown.[2] (Superseded by Method 54)		?	1952
46	Title unknown.[2] (Superseded by Method 63)		?	1956
47	Colorfastness to Water (Other than Silk and Wool) [3] (Superseded by Method 63)		1949	1951
48	Colorfastness to Water Spotting (Superseded by Method 633)		1950	1956
49	Colorfastness to Chlorination[3] (Superseded by Method 3)		1950	1956
50	Colorfastness to Soda Boil[3]		1950	1956
51	Colorfastness to Mercerizing[3]		1950	1956
52	Colorfastness to Decatizing[3]		1950	1956
53	Colorfastness to Chrome (Dichromate) in the Dyebath[3]		1950	1956
54	Colorfastness to Cross Dyeing[3]		1950	1956
55	Colorfastness to Potting[3]		1950	1956
56	Colorfastness to Cellulose Ester Bonding[3]		1950	1956
57	Colorfastness to Storage (Acetate)[3]		1950	1956

Method Number[1]	Title	Committee	Year First Published	Year Discontinued
58	Colorfastness to Steaming (Acetate)[3]		1950	1956
59	Colorfastness to Peroxide Bleaching (Wool)3 (Superseded by Method 13)		1950	1956
60	Detergents on Wool: Detergency Comparator Method		1950	1971
61	Colorfastness to Laundering, Home and Commercial: Accelerated	RA60	1950	
62	Oils, Wool; Oxidation in Storage		1950	1962
63	Colorfastness to Water: Distilled or Demineralized; Sea, and Chlorinated Pool (Superseded by Methods 105, 106, 107)		1956	1962
64	Scouring, Continuous Scouring of Raw Grease Wool		1950	1985
65	Snag Resistance of Women's Nylon Hosiery		1951	1990
66	Wrinkle Recovery of Fabrics: Recovery Angle Method	RA61	1951	
67	Wrinkle Recovery of Fabrics: Roller Pressure Crease-Recovery Method		1951	1962
68	Colorfastness to Washing at 105°F: Rapid Control Test		1952	1974
69	Damage Caused by Retained Chlorine (Superseded by Method 92)		1952	1959
70	Water Repellency: Tumble Jar Dynamic Absorption Test	RA63	1952	
71	Colorfastness to Perspiration: Rapid Control Test		1952	1971
72	Colorfastness to Washing and Shrinkage: Combined Rapid Control Test		1952	1974
73	Shrinkage of Wool Hose: Accelerated Test (Superseded by Method 99)		1953	1960

Method Number[1]	Title	Committee	Year First Published	Year Discontinued
74	Relaxation and Felting Shrinkage of Wool Knit Fabrics Superseded by Method 99)		1953	1960
75	Colorfastness to Oxides of Nitrogen in the Atmosphere: Rapid Control Test		1953	1972
76	Electrical Resistivity of Fabrics	RA32	1954	
77	Scourability of Spinning Lubricant		1954	1985
78	Ash Content of Bleached Cellulosic Textiles	RA34	1954	
79	Absorbency of Bleached Textiles	RA34	1954	
80	Determining the Noncotton Content of Bleached Woven Cotton Cloth (Superseded by Method 97)		1954	1960
81	pH of the Water-Extract from Bleached Textiles	RA34	1954	
82	Fluidity of Dispersions of Cellulose from Bleached Cotton Cloth	RA34	1954	
83	Colorfastness to Light and Washing: Alternate Exposure		1954	1985
84	Electrical Resistivity of Yarns	RA32	1955	
85	Colorfastness to Drycleaning (Superseded by Method 132)		1957	1969
86	Drycleaning: Durability of Applied Designs and Finishes	RR43	1957	
87	Colorfastness to Washing, Industrial Laundering: Accelerated		1958	1970
88	Appearance of Wash and Wear Fabrics After Home Laundering (Superseded by Method 88A)		1958	1962
88A	Appearance of Fabrics in Wash and Wear Items after Home Laundering (Superseded by Method 124)		1962	1967
88B	Smoothness of Seams in Fabrics after Repeated Home Laundering	RA61	1962	

Method Number[1]	Title	Committee	Year First Published	Year Discontinued
88C	Retention of Creases in Fabrics after Repeated Home Laundering	RA61	1963	
89	Mercerization in Cotton	RR66	1959	
90	Antibacterial Activity of Fabrics, Detection of: Agar Plate Method		1958	1989
91	Dimensional Changes in Woven Textiles (Excluding Wool) (Superseded by Method 96)		1958	1960
92	Chlorine, Retained, Tensile Loss: Single Sample Method	RR35	1958	
93	Abrasion Resistance of Fabrics: Accelerotor Method	RR29	1959	
94	Finishes in Textiles: Identification	RA45	1959	
95	Dimensional Restorability of Woven Textiles after Laundering Superseded by Method 96		1959	1960
96	Dimensional Changes in Commercial Laundering of Woven and Knitted Fabrics Except Wool	RA42	1960	
97	Extractable Content of Greige and/or Prepared Textiles	RA34	1960	
98	Alkali in Bleach Baths Containing Hydrogen Peroxide	RA34	1960	
99	Dimensional Changes of Woven or Knitted Wool Textiles: Relaxation, Consolidation and Felting	RA42	1960	
100	Antibacterial Finishes on Textile Materials: Assessment of	RA31	1961	
101	Colorfastness to Bleaching with Hydrogen Peroxide	RA34	1961	
102	Hydrogen Peroxide by Potassium Permanganate Titration: Determination of	RA34	1957	
103	Bacterial Alpha-Amylase Enzymes Used in Desizing, Assay of	RA34	1962	

Method Number[1]	Title	Committee	Year First Published	Year Discontinued
104	Colorfastness to Water Spotting	RA23	1962	
105	Colorfastness to Water: Chlorinated Pool		1962	1985
106	Colorfastness to Water: Sea	RA23	1962	
107	Colorfastness to Water	RA23	1962	
108	Dimensional Changes in Drycleaning		1963	1969
109	Colorfastness to Ozone in the Atmosphere Under Low Humidities	RA33	1963	
110	Whiteness of Textiles	RA36	1964	
111	Weather Resistance: General Information	RA64	1964	
111A	Weather Resistance: Sunshine Arc Lamp Exposure With Wetting	RA64	1964	
111B	Weather Resistance: Exposure to Natural Light and Weather	RA64	1964	
111C	Weather Resistance: Sunshine Arc Lamp Exposure Without Wetting	RA64	1964	
111D	Weather Resistance: Exposure to Natural Light and Weather Through Glass	RA64	1964	
112	Formaldehyde Release from Fabric, Determination of: Sealed Jar Method	RA68	1965	
113	Formaldehyde Odor in Resin Treated Fabric, Determination of: Steam Method		1965	1986
114	Chlorine, Retained, Tensile Loss: Multiple Sample Method	RR35	1965	
115	Electrostatic Clinging of Fabrics: Fabric-to-Metal Test	RA32	1965	
116	Colorfastness to Crocking: Rotary Vertical Crockmeter Method	RA38	1966	
117	Colorfastness to Heat; Dry (Excluding Pressing)	RR54	1966	

Method Number[1]	Title	Committee	Year First Published	Year Discontinued
118	Oil Repellency: Hydrocarbon Resistance Test	RA56	1966	
119	Color Change Due to Flat Abrasion (Frosting): Screen Wire Method	RR29	1967	
120	Color Change Due to Flat Abrasion (Frosting): Emery Method	RR29	1967	
121	Carpet Soiling: Visual Rating Method	RA57	1967	
122	Carpet Soiling: Service Soiling Method	RA57	1967	
123	Carpet Soiling: Accelerated Soiling Method	RA57	1967	
124	Appearance of Fabrics after Repeated Home Laundering	RA61	1967	
125	Colorfastness to Water and Light: Alternate Exposure	RA23	1967	
126	Colorfastness to Water (High Humidity) and Light: Alternate Exposure	RA23	1968	
127	Water Resistance: Hydrostatic Pressure Test	RA63	1968	
129	Colorfastness to Ozone in the Atmosphere Under High Humidities	RA33	1962	
130	Soil Release: Oily Stain Release Method	RA56	1969	
131	Colorfastness in Pleating: Steam Pleating	RR33	1969	
132	Colorfastness to Drycleaning	RA43	1969	
133	Colorfastness to Heat: Hot Pressing	RR54	1969	
134	Electrostatic Propensity of Carpets	RA32	1969	
135	Dimensional Changes in Automatic Home Laundering of Woven or Knit Fabrics	RA42	1970	
136	Bond Strength of Bonded and Laminated Fabrics	RA79	1972	

Method Number[1]	Title	Committee	Year First Published	Year Discontinued
137	Rug Back Staining on Vinyl Tile	RA57	1972	
138	Cleaning: Washing of Textile Floor Coverings	RA57	1972	
139	Colorfastness to Light: Detection of Photochromism	RA50	1972	
140	Disperse and Vat Dye Migration: Evaluation of	RA87	1974	
141	Compatibility of Basic Dyes for Acrylic Fibers	RA87	1974	
142	Appearance of Flocked Fabrics after Repeated Home Laundering and/or Coin-Op Drycleaning	RR81	1975	
143	Appearance of Apparel and Other Textile End Products after Repeated Home Laundering	RA61	1975	
144	Alkali in Wet Processed Textiles: Total	RA34	1975	
145	Color Measurement of the Blue Wool Lightfastness Standards: Instrumental		1975	1996
146	Dispersibility of Disperse Dyes: Filter Test	RA87	1975	
147	Antibacterial Activity Assessment of Textile Materials: Parallel Streak Method	RA31	1976	
148	Light Blocking Effect of Curtain Materials		1976	1995
149	Chelating Agents: Chelation Value of Aminopolycarboxylic Acids and Their Salts; Calcium Oxalate Method	RA90	1976	
150	Dimensional Changes in Automatic Home Laundering of Garments	RA42	1977	
151	Soil Redeposition, Resistance to Launder-Ometer Method	RA56	1977	

Method Number[1]	Title	Committee	Year First Published	Year Discontinued
152	Soil Redeposition, Resistance to Terg-O-Tometer Method		1977	1996
153	Color Measurement of Textiles: Instrumental (Superseded by Evaluation Procedure 6)		1978	1996
154	Thermal Fixation Properties of Disperse Dyes	RA87	1978	
155	Transfer of Disperse Dyes on Polyester	RA87	1978	
156	Transfer of Basic Dyes on Acrylics	RA87	1978	
157	Colorfastness to Solvent Spotting: Perchloroethylene	RR92	1978	
158	Dimensional Changes on Drycleaning in Perchloroethylene: Machine Method	RA43	1978	
159	Transfer of Acid and Premetallized Acid Dyes on Nylon	RA87	1979	
160	Dimensional Restoration of Knitted and Woven Fabrics After Laundering	RA42	1980	
161	Chelating Agents: Disperse Dye Shade Change Caused by Metals; Control of	RA90	1983	
162	Colorfastness to Water: Chlorinated Pool	RA23		
163	Colorfastness: Dye Transfer in Storage; Fabric-to-Fabric	RA92	1985	
164	Colorfastness to Oxides of Nitrogen in the Atmosphere Under High Humidities	RA33	1985	
165	Colorfastness to Crocking: Carpets—AATCC Crockmeter Method	RA57	1986	
166	Dispersion Stability of Disperse Dyes at High Temperature	RA87	1986	
167	Foaming Propensity of Disperse Dyes	RA87	1986	

Method Number[1]	Title	Committee	Year First Published	Year Discontinued
168	Chelating Agents: Active Ingredient Content of Polyaminopolycarboxylic Acids and Their Salts; Copper PAN Method	RA90	1987	
169	Weather Resistance of Textiles: Xenon Lamp Exposure	RA64	1987	
170	Dusting Propensity of Powder Dyes: Evaluation of	RA87	1987	
171	Carpets: Cleaning of; Hot Water Extraction Method	RA57	1987	
172	Colorfastness to Non-Chlorine Bleach in Home Laundering	RA60	1988	
173	CMC: Calculation of Small Color Differences for Acceptability	RA36	1989	
174	Antimicrobial Activity Assessment of Carpets	RA31	1991	
175	Stain Resistance: Pile Floor Coverings	RA57	1991	
176	Speckiness of Liquid Colorant Dispersions: Evaluation of	RA87	1992	
177	Colorfastness to Light at Elevated Temperature and Humidity: Xenon Lamp Apparatus	RA50	1992	
178	Barré: Visual Assessment and Grading	RA97	1992	
179	Skewness Change in Fabric and Garment Twist Resulting from Automatic Home Laundering	RA42	1994	

[1] Test methods were first numbered in 1949. Titles given are those in use at that time.
[2] The titles of these methods were not published in the *AATCC Technical Manual* in 1949, the first year test methods were numbered, or subsequently.
[3] Methods 47–59, designated "Temporary" when they were published in the *AATCC 1950 Technical Manual*, were adopted from methods published in the *Journal of the Society of Dyers and Colourists*, v. 64, n. 4, April 1948, pp. 133–145. See *AATCC 1950 Technical Manual*, p. 80.

Appendix 23

AATCC Evaluation Procedures (1954–1996)

Procedure Number	Committee		Year Published
1	RA36	Gray Scale for Color Change	1954
2	RA36	Gray Scale for Staining	1954
3	RA36	Chromatic Transference Scale	1972
4	RA36	Standard Depth Scales for Depth Determination	1987
5	RA89	Subjective Evaluation of Fabric Hand	1990
6	RA36	Instrumental Color Measurement	1995
7	RA36	Instrumental Assessment of the Change in Color of a Test Specimen	1995

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Appendix 24

Financial Development of the Association (1922–1995)

Year	Total Assets[1]	Income from Member Dues[2]
1922	$ 1,885	$ 1,885
1940	37,840	12,459
1960	515,968	127,937
1980	1,145,373	241,062
1990	2,465,693	377,057
1995	4,000,543	470,363

[1] Investments, property, inventories.
[2] Individual, corporate, and sustaining.

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Appendix 25

The Olney Medal (1944–1996)

For Achievement in Textile Chemistry–This inscription on the Olney Medal signifies outstanding achievement in textile chemistry, or in polymer or other fields of chemistry of major importance to textile science, including the development of chemical agents or chemical processes used in the manufacture of textiles, or methods for their evaluation.

The Olney Medal is given to encourage and afford public recognition of such achievements and contributions. It is the Association's highest scientific award and is presented at the International Conference & Exhibition.

The Medal was established in 1944 as a testimonial to Dr. Louis Atwell Olney, founder of the AATCC, in recognition of his lifetime of devotion and multitudinous contributions to the field of textile chemistry.

Recipients

1944	Louis A. Olney
1945	Milton Harris
1946	William H. Cady
1947	Edward R. Schwarz
1948	Harold M. Chase
1949	Charles A. Seibert
1950	George L. Royer
1951	Raymond W. Jacoby
1952	Werner von Bergen
1953	Roland E. Derby
1954	William D. Appel
1955	Miles A. Dahlen
1956	Walter J. Hamburger
1957	Percival J. Wood
1958	Henry E. Millson

1959	Emery I. Valko
1960	Arnold M. Sookne
1961	Fred Fortess
1962	Charles F. Goldthwait
1963	Giuliana C. Tesoro
1964	Richard O. Steele
1965	Herman F. Mark
1966	Wilson A. Reeves
1967	Edwin I. Stearns
1968	Harold P. Lundgren
1969	D. Donald Gagliardi
1970	Paul L. Meunier
1971	Ernest R. Kaswell
1972	Victor S. Salvin
1973	Herman B. Goldstein
1974	Henry A. Rutherford
1975	R. Lee Wayland Jr.
1976	George L. Drake Jr.
1977	James M. Straley
1978	Dmitry M. Gagarine
1979	Joseph W. Gibson Jr.
1980	Roland E. Derby Jr.
1981	Mathias J. Schuler
1982	Stephen B. Sello
1983	Theodore F. Cooke
1984	Ralph McGregor
1985	Stanley P. Rowland
1986	Melvin D. Hurwitz
1987	Ludwig Rebenfeld
1988	Martin K. Lindemann
1989	J. Lee Rush
1990	Hans-Dietrich H. Weigmann
1991	Robert J. Harper Jr.
1992	Bethlehem K. Andrews
1993	Herbert T. Pratt
1994	J. Nolan Etters
1995	Vivian T. Stannett
1996	Wayne C. Tincher

Appendix 26

The Harold C. Chapin Award (1959–1996)

The Harold C. Chapin Award is presented each year at the Association's International Conference & Exhibition to a senior member of at least twenty years continuous membership in AATCC who has contributed outstanding service in enabling the Association to attain the objects for which it was founded. The award is in the form of a suitably worded and illustrated framed scroll.

The award was established in 1958. The first recipient was Harold C. Chapin, for whom the service award was named, who served as secretary of AATCC for a quarter of a century. Dr. Chapin was cited for his example that inspired the creation of the award, for his outstanding leadership, for dignity and integrity in office, for indefatigable attention to minor detail and major policy, for advancing the Association's objectives, for bringing national and international prestige to the Association, and for long and devoted service.

Recipients

1959	Harold Canning Chapin
1960	Leonard S. Little
1961	Arthur R. Thompson
1962	Thomas R. Smith
1963	J. Robert Bonnar
1964	Joseph H. Jones
1965	Charles A. Sylvester
1966	A. Henry Gaede
1967	Percival Theel
1968	Joe D. Mosheim
1969	Percival J. Fynn
1970	H. Gillespie Smith
1971	Harold B. Sturtevant
1972	Albert H. Rant

1973	Ernest J. Chornyei
1974	Patrick J. Kennedy
1975	Frank J. Rizzo
1976	Carl R. Teichgraber
1977	John J. Hanlon
1978	Frederick V. Traut
1979	Charles L. Zimmerman
1980	Richard M. Jones
1981	Virgil D. Lyon
1982	John J. O'Neil
1983	Vernon C. Smith
1984	George S. Wham
1985	Luther B. Arnold Jr.
1986	Donald W. Robinson
1987	Fernand Schlaeppi
1988	Andrew J. McNulty Sr.
1989	Reg W. Redston
1990	Joseph S. Panto
1991	James P. Patton Jr.
1992	Marguerita C. Hindle
1993	Samuel J. Guertin
1994	Charles J. Wolhar
1995	Roderick R. Blue
1996	C. Hugh Patrick

Appendix 27

The Henry E. Millson Award for Invention (1980–1996)

The Henry E. Millson Award for Invention was established in 1979 to recognize and encourage contributions to textile wet processing technology.

The award is named in honor of Henry E. Millson, renowned scientist, researcher, and textile chemist who was the 1958 recipient of AATCC's Olney Medal for outstanding achievement in textile chemistry.

Recipients

1980	Samuel Smith
1981	L. Russell Maguire
1982	George M. Bryant and Andrew T. Walter
1983	Valentin Appenzeller
1984	Victor T. Fahringer
1985	Herman B. Goldstein
1986	Andrew G. Pierce Jr. and John A. Frick Jr.
1987	Dietrich Hildebrand
1988	Hugh R. Davidson and Henry Hemmendinger
1989	Winfried T. Holfeld
1990	Ulrich E. Meyer
1991	Wolfhard Beckmann
1992	Sueo Kawabata
1993	Bernard F. North
1994	Angelo J. Sabia
1995	Fredgar Hoffman
1996	Wilhelm Christ

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Appendix 28

Awards for Best Papers Published in *American Dyestuff Reporter* (1925–1933)

Year	Award	Author	Title
1925	$100	Walter M. Scott	The Application of Hydrogen Ion Determination to Textile Work
1926	$75	Earl K. Strachan	The Accurate Measurement of Hydrogen Ion Concentration as an Aid to the Textile Chemist
	$50	William D. Appel	A New Lamp for Fading Tests
	$25	Walter E. Hadley	Brief Resume of Trade Waste Disposal
1927	$100	R. E. Lee	The Enzymes
	$75	Robert E. Rose	Modern Theories of Dyeing
	$50	Berthold Wuth	The Chemical Constitution and Fastness Properties of Colors
	$25	Charles S. Hollander	The Manufacture and Use of Hydrosulphites
1928	$100	Carl Z. Draves	The Use of the Spectrophotometer in the Dyestuff Industry
	$75	Albert H. Grimshaw	Methods of Testing Sulphonated Castor Oils for the Determination of their Fatty Content
	$50	John F. Warner	Some Methods of Handling Cotton and Rayon Piece Goods
	$25	Edward R. Schwarz	Practical Textile Microscopy

Year	Award	Author	Title
1929	$100	Harold W. Leitch	A Discussion of Piece Dye Kettles
	$75	Carl Z. Draves	The Dyeing of Ponsol Blue BCS
	$50	Ephraim Freedman	A Proposed Method for Describing Washable Materials and Garments
	$25	Berthold Wuth	Optical Heterogeneity and Its Influence on the Fastness to Light of Vat Colors
1930	$100	Hugh H. Mosher	The Degumming of Silk
	$75	Earl K. Strachan	Some Facts About Colloids
	$50	M. L. Crossley	The Effect of Isomerism on Color
	$25	Elwin P. Davidson	Notes on Sulphur Dyeing
1931	$100	Carl Z. Draves R. G. Clarkson	A New Method for the Evaluation of Wetting Agents
	$75	Walter M. Scott	Some Unusual Reactions of Cellulose
	$50	Noel D. White	Dyeing Silk Hosiery
	$25	Foster Dee Snell Cyril S. Kimball	The Process of Silk Soaking
1932*			
1933	$50	J. B. Wilkie	Mercerization of Cotton for Strength
	$25	Robert E. Rose	Mechanism of Dyeing
	$15	Dorothy Nickerson	Cotton Fiber Quality
	$10	John B. Dick	Chromium Plating in Calico Printing

*Prizes not awarded because of lack of funds.

Appendix 29

Intersectional Technical Paper Competition (1940–1996)

The Intersectional Technical Paper Competition has, since 1940, provided local sections an opportunity to contribute original research findings to the wet processing literature while at the same time engaging in friendly competition. Papers are judged for originality, scientific value, and presentation. First, second, and third place awards are given.

First Prize Intersectional Papers

Year	Section	Title
1940	Rhode Island	The Effect of Modern Finishing Agents on the Light Fastness of Cotton Colors
1941	New York	Cotton Fabric Construction in Relation to Water Resistance
1942	New York	Calibration of Fade-Ometers
1943	Philadelphia	Minimum Chrome Necessary for After-Chrome Dyeing
1944	Rhode Island	Factors Affecting Color Yield in Vat Color Printing
1945	No Award	
1946	Rhode Island	Factors Which Cause or Prevent Agglomeration of Pigment Particles
1947	Northern New England	An Electrolytic Method for Stripping Colored Wool
1948	Piedmont	Stability of Vat Colors at Elevated Temperatures
1949	Rhode Island	Acid Colloids of Resins

Year	Section	Title
1950	Piedmont	A Comparison of the Dyeing Characteristics and Related Properties of Rain-Grown and Irrigated Cotton
1951	New York	The Strip-Tester—An Instrument Designed to Measure Dimensional Change in Woven Rayon Fabrics
1952	Rhode Island	The Continuous Dyeing of New Synthetic Fibers
1953	Rhode Island	Printing Acrylic and Polyester Fibers
1954	Washington	Soiling of Fabrics in Contact with the Skin
1955	Rhode Island	The Effect of Mercerization as Related to Crush Resistance of Cotton
1956	Piedmont	The Effect of Resin Finishes on the Lightfastness of Photosensitive Vat Dyes—Part I
1957	Piedmont	The Effect of Resin Finishes on the Lightfastness of Photosensitive Vat Dyes—Part II
1958	Piedmont	The Effect of Thermal Treatments on the Dyeability of Thermoplastic Yarns
1959	Northern New England	Pile Fabrics
1960	Piedmont	Chemical Mechanisms in Chlorine Retention by Resin-Treated Cotton Fabrics
1961	Rhode Island	A Study of the Drying of Cotton Fabric and Its Effect on Subsequent Dyeing and Finishing
1962	Northern New England	Insulating Values of Fabrics, Foams, and Laminates
1963	Northern Piedmont	The Influence of Contaminants on the Water Repellency of Fabrics
1964	Rhode Island	A Study of Sublimation of Disperse Dyes on Polyester and Polyester/Cotton Blends
1965	South Central	The Influence of Additives on the Liquor Flow in Package Dyeing
1966	Rhode Island	Instrumental Evaluation of the Color of Fluorescent Textiles in Terms of Average Observer Response
1967	Northern Piedmont	Disperse Dye Migration Due to the Thermosetting Reactant Resin-Catalyst System
1968	Ontario (CATCC)	Some Aspects of Shrinkproofing and Inducing Stretch in Wool Fibers and Fabrics

Year	Section	Title
1969	Palmetto	Relationships of Flammability Measurements
1970	Metropolitan	Fixation of Dyes by High Energy Radiation
1971	Rhode Island	Removal of Color from Textile Dye Wastes
1972	Northern Piedmont	The Effect of Auxiliaries on the Thermal Fixation of Disperse Dye
1973	Metropolitan	Plasma Treatment of Textiles: A Novel Approach to the Environmental Problems of Desizing
1974	Metropolitan	Transfer Printing on Cationic Dyeable Fabrics
1975	Northern Piedmont	Processes Involved in Particulate Dye Migration
1976	Metropolitan	Compatibility Behavior of Cationic Retarders: A Novel Method of Classification
1977	Northern Piedmont	Improving Properties of Cotton Fabrics Prepared from Ring Spun and Open-End Spun Yarns
1978	Delaware Valley	Effect of Disperse Dyes on Certain Flammability Characteristics of Polyester
1979	Southeastern	Evaluation of New Energy-Conserving Processes for Batch Dyeing Polyester/Cotton Blends
1980	Northern Piedmont	Carbohydrazide Found to be an Effective Scavenger for Reducing Free Formaldehyde
1981	Southeastern	Evaluating Combined Preparation Processes for Energy and Material Conservation
1982	Palmetto	The Relationship Between Selected Fabric Residues and Formaldehyde Release
1983	South Central	Foam Application of Durable Press and Fluorochemical Finishes to Cotton Fabrics
1984	Gulf Coast (Tie)	Problems in Low-Water Coloration: Foam and Kiss-Roll Techniques
	Southeastern	Comparison of Chemical and Physical Properties of Conventional and Foam Finished Fabrics
1985	South Central	New Observations on the Effects of Oxidizing Agents on Fiber Reactive Dyed Cellulosic Yarns
1986	Quebec Section (CATCC)	The Influence of Vacuum Extraction on the Removal of Unfixed Dyes from Cotton Fabrics

Year	Section	Title
1987	Northern Piedmont	A Pressing Need for a New Wrinkle: DP [Durable Press] Finishing of Garment Dyed Products
1988	Rhode Island	Development and Optimization of Diagnostic Tests for Dyeability Variations of Rayon
1989	Southeastern	Effect of Dyebath pH on Color Yield in Indigo Dyeing of Cotton Denim Yarn
1990	Piedmont	An Investigation of the Afterrinsing and Washing of Fiber Reactive Dyes
1991	Quebec (CATCC)	Effects of Dye Substrativity in Dyeing Cotton with Reactive Dyes
1992	Hudson-Mohawk	Spectrophotometric Analyses of Electrochemically Treated, Simulated, Disperse Dyebath Effluent
1993	Midwest	Accelerated Lightfastness Testing of Disperse Dyes on Polyester Automotive Fabrics
1994	Delaware Valley	Union Dyeing of Modified Cotton/Wool Fabric with Covalently Fixed Reactive Dyes
1995	Southeastern	The Influence of Polymeric Padbath Additives in Flame Retardant Fixation on Polyester Fabric
1996	Gulf Coast	Identification, Quantification, and Elimination of White Speck Defects on Dyed Cotton Fabrics

Appendix 30

The *American Dyestuff Reporter* Award (1951–1968)

Year	Author	Company	Title of Paper
1951	Mason Hayek Fred C. Chromey	E. I. DuPont Co. E. I. DuPont Co.	The Measurement of Static Electricity on Fabrics
1952	C. G. Lyle J. J. Iannarone R. J. Thomas	E. I. DuPont Co. E. I. DuPont Co. E. I. DuPont Co.	High-Temperature Dyeing of New Synthetic Fibers
1953	Robert H. Blaker	E. I. DuPont Co.	Principles of Copper Dyeing of Polyacrylonitrile Fibers: The Controlled Redox-Potential Method
1954	Charles L. Zimmerman	American Cyanamid Co.	The Application of Dyes to Textile Fibers at High Temperatures
1955	Henry E. Millson	American Cyanamid Co.	The Microdyeoscope: Microscopical Observations on Dyeing
1956	Fred Fortess	Celanese Corp. of America	Dyeing, Finishng, and Heat-Treating "Arnel" Triacetate
1957	Irving A. Berstein	Controls for Radiation	Applications of Radioactivity in the Textile Industry
1958	Emery I. Valko Guiliana C. Tesoro Waldek L. Ginilewicz	Lowell Technological Institute J. P. Stevens Onyx Oil & Chemical Co.	Elimination of Static Electricity from Textiles by Chemical Finishing

Year	Author	Company	Title of Paper
1959	Charles R. Williams	Monsanto Chemical Co.	Mechanisms Influencing the Wash and Wear Characteristics of Cellulosic Fibers
1960	Victor S. Salvin Ruth A. Walker John R. Adams Jr.	Celanese Corp. of America Hunter College of New York Disperse Dyes Celanese Corp. of America	Relation of Dye Structure to Properties of
1961	Frank J. Rizzo Alvin O. Ramsley	Quartermaster Research and Engineering Command, U.S. Army	New Color-Measuring Instruments for Use by the Textile Industry
1962	Donald Gagliardi	Gagliardi Research Corp.	Antibacterial Finishes
1963	William G. Sloan Helen M. Robinson A. S. Cooper Jr.	U.S. Dept. of Agriculture, Southern Regional Research Laboratory	Stretchable Cotton Fabrics—Properties and Processing Techniques
1964	Allen G. Pittman William L. Wasley	U.S. Dept. of Agriculture, Western Regional Research Laboratory	Fluorine-Containing Polymers for Application on Wool
1965	Robert F. Schwenker Louis R. Beck Jr. Robert K. Zuccarillo	Textile Research Institute Textile Research Institute Textile Research Institute	Application of Differental Thermal Analysis and Dynamic Thermogravimetric Analysis in Textile Research
1966	Guido Schetty	J. R. Geigy Co.	Coloristic Behavior in Relation to the Sterochemistry of 1:2 Metal Complex Dyestuffs
1967	J. H. Menkart L. J. Wolfram	Harris Research Labs. Harris Research Labs.	Wool-Containing Vinyl Polymers: Production and Some Properties
1968	Herbert T. Pratt	E. I. DuPont Co.	Factors Affecting the Quality and Performance of Doubleknits of Textured Set Polyester

Appendix 31

The J. William Weaver Award (1980–1996) for the Best Paper Published in *Textile Chemist and Colorist*

Year	Author	Company	Title of Paper
1980	Frederick T. Walenberger A. Slack Manfred Wentz	E. I. DuPont Co. University of Wisconsin	The Effect of Fabric Composition on Energy Demand in Home Laundering
1981	Wayne C. Tincher Fred L. Cook Lynn A. Barch	Georgia Institute of Technology	Reusing Dyebaths in Jet Dyeing
1982	Theodore F. Cooke Hans-Dietrich Weigmann	Textile Research Institute	The Chemistry of Formaldehyde Release from Durable Press Fabrics
1983	Kenneth C. Smeltz	E. I. DuPont Co.	Why Do White Fabrics and Garments Turn Yellow During Storage in Polyethylene Bags and Wrappings?
1984	Clark M. Welch	U.S. Department of Agriculture, Southern Regional Research Laboratory	Glyoxal-Glycol Mild Cure Process for Formaldehyde-Free Durable Press Finishing of Cotton
1985	Winfried T. Holfeld Royden H. Pike	E. I. DuPont Co. E. I. DuPont Co.	The Role of Fiber Surface on Dye Rate Uniformity
1986	Teruo Hori Heinrich Zollinger	Fukui University Swiss Federal Institute of Technology	The Role of Water in the Dyeing Process

Year	Author	Company	Title of Paper
1987	Theodore F. Cooke	Textile Research Institute	Soil Release Finishes for Fibers and Fabrics
1988	Brian Glover	ICI Colours	Computer Technology in the Modern Dyehouse
1989	Joanne C. Zwinkels	National Research Councilof Canada	Errors in Colorimetry Caused by the Measuring Instrument
1990	Arthur D. Broadbent	University of Sherbrooke	Basic Principles and Applications of Vacuum Slot Extraction
1991	G. Douglas Chambers	Capital Cost Control	Justifying New Technology
1992	James W. Rucker Harold S. Freeman Whei-Neen Hsu	North Carolina State University North Carolina State University North Carolina State University	Evaluation of Factors Contributing to the Light-Induced Yellowing of Whitewashed [sic] Denim
1993	Dietrich Hildebrand Fredgar Hoffmann	Bayer Bayer	Laboratory-to-Bulk Reproducibility in Exhaust Dyeing Processes
1994	Donald E. Brushwood Henry H. Perkins Jr.	U.S. Department of Agriculture	Determining the Metal Content of Cotton
1995	J. Nolan Etters	University of Georgia	Advances in Indigo Dyeing: Implications for the Dyer, Apparel Manufacturers and Environment
1996	Josef Dannacher Wolfgang Schlenker	Ciba-Geigy Ciba-Geigy	The Mechanism of Hydrogen Peroxide Bleaching

Appendix 32

The Herman and Myrtle Goldstein Student Paper Competition (1982–1996)

The Student Paper Competition was established in 1982 to provide individual student chapter members an opportunity to develop, conduct, and report original research projects. The competition took its present name in 1962 after Dr. and Mrs. Goldstein endowed it with a gift of $60,000.

Papers are judged on originality, scientific value, practical value, and presentation. Since 1994, two awards have been given: the two best graduate and the two best undergraduate papers. Monetary awards are also given to the chapters to which winning students belong.

First Place Winners

1982	Jaw-Hau Chiao-Cheng, Kansas State University
1983	Lynne Macy, University of Wisconsin-Madison
1984	Debbie J. Jose, University of Maryland
1985	Prasad S. Potnis, University of Tennessee
1986	Julie B. Brumbelow, Auburn University
1987	Richard Fortin, University of Sherbrooke
1988	Susan J. Mangan, University of Tennessee
1989	Diana G. Johnson, Kansas State University
1990	Pantea Sarabi, University of Sherbrooke
1991	Siamak Jamshidi-Barzi, University of Sherbrooke
1992	Ajoy K. Sarkar, University of Georgia
1993	Anurag Bairathi, University of Georgia
1994	Renita S. Jinkins, graduate student, University of Georgia
1994	Douglas Barr, undergraduate student, Scottish College of Textiles
1995	Entry withdrawn prior to presentation
1996	Melissa Day Phillips, graduate student, Louisiana State University
1996	Elias Dau, undergraduate student, University of Georgia

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Appendix 33

Honorary Members of the Association

This award was established in 1939 to honor persons who render "distinguished service" to the textile industry or to the Association.[1] Honorary members are exempt from paying further dues. This list of honorary members was compiled from the various *Yearbook*s. The date shown is the first year the name appeared in the *Yearbook*. Since substantiating records were difficult to establish, the records, as best as they can be determined, are cited below.

	Date Honored
William K. Robbins[2]	1949
Walter E. Hadley[3]	1949
Hugh Christison[4]	1952
William R. Moorhouse[5]	1953
William H. Cady[6]	1954
Albert E. Sampson[7]	1957
Harold C. Chapin[8]	1957
The President of the Society of Dyers and Colourists[9]	1979
George J. Mandikos[10]	1981
The President of the National Council of the Canadian Association of Textile Colourists and Chemists[11]	1985
William R. Martin Jr.[12]	1995

[1] *1939 AATCC Yearbook*, p. 82
[2] *ADR*, v. 35, n. 24, December 2, 1946, p. 565.
[3] Listed in the *1949 AATCC Yearbook* as an honorary member. No other election record was found.
[4] Listed in the *1953 AATCC Yearbook* as an honorary member. No other election record was found.
[5] No election record was found. Moorhouse resigned in 1953 after 20 years as AATCC treasurer.
[6] Minutes, 191st Council Meeting, *ADR*, v. 43, n. 13, June 21, 1954, p. P400.
[7] *ADR*, v. 16, n. 12, June 17, 1957, p. P448.
[8] *ADR*, v. 16, n. 12, June 17, 1957, p. P448.
[9] *TCC*, v. 11, n. 11, November 1979, p. 238/25.
[10] *TCC*, v. 13, n. 8, August 1981, pp. 8–10.
[11] *TCC*, v. 17, n. 8, August 1985, p. 13.
[12] *TCC*, v. 28, n. 1, January 1996, p 9.

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Appendix 34

Life Members of the Association (1996)

Life memberships were established in 1932 to recognize any individual member "who pays into the treasury one hundred dollars in one payment."[1] The fee has increased over the years and in 1996 is five hundred dollars. The number of paid life members has never been large. Life memberships are given automatically to Chapin Award recipients and presidents on their election.[2]

Paul O. Anderson
Luther B. Arnold Jr.
Martin J. Bide*
Rhoderick R. Blue
Peter C. Canoval Jr.*
Richard Chang*
Adi B. Chehna*
Nick B. Christie
Kriplani Thakorbhai Desai*
Debra K. Gross*
John J. Hanlon
Marguerita C. Hindle
Frederick K. Jones
Richard M. Jones
Ernest R. Kaswell
Wayne H. Lawson
Walter P. Lipscomb
Virgil D. Lyon
George J. Mandikos
William R. Martin Jr.*

[1] *1932 AATCC Yearbook*, p. 70.
[2] *Bylaws*, Article II, Section 3, 1996.

Andrew J. McNulty Sr.
Narendra Meishery*
John J. O'Neil
Joseph S. Panto
Hugh Patrick Jr.
James P. Patton Jr.
Warren S. Perkins
John A. C. Pope*
Bashir A. Qureshi*
Reg. W. Redston
Elizabeth A. Richards*
Donald W. Robinson
Fernand Schlaeppi
Herbert F. Schwarz*
Irwin J. Smith, III*
Vernon C. Smith
Bo Young Sou*
E. James Stavrakas
Chung Sun Suh*
Charles A. Sylvester
George S. Wham
Charles J. Wolhar
Charles L. Zimmerman

*Paid member.

Essay on Sources

The most consistently informative source for the AATCC's routine activities were the pages of the AATCC's own publications. *American Dyestuff Reporter (ADR)* carried the Proceedings of the Association from its founding in 1921 until 1968. The AATCC then began to publish its own journal, *Textile Chemist and Colorist* (*TCC*). In general, I found that earlier issues of *ADR* were more useful than later ones. In the 1920s, *ADR* often published complete transcripts of discussions at general meetings. Additionally, papers presented at meetings were published with verbatim transcripts of the comments made by individuals in the audience after the presentation. This practice was discontinued in the early 1930s, though coverage of General Meetings continued to be extensive through the mid-1950s.

The most informative single issue of *ADR* is that published in December 1946 celebrating the Silver, or twenty-fifth, anniversary of the Association. Several hundred pages long and covered in a distinctive shiny silver paper, this issue contains a variety of articles related to the founding and early development of the AATCC.

The actions of the Council are recorded in its minutes, copies of which are on file at the AATCC Technical Center. Although there is a complete record of votes and resolutions, the minutes are written in a bland style that stresses consensus—controversy has been edited out. The few verbatim transcripts (from which the minutes were prepared) that survive from the late 1950s and early 1960s show that Council meetings were far from tame, and that Council members often argued at length about a variety of topics. My greatest regret in researching this book was that more verbatim transcripts of these minutes did not survive.

The routine activities of the AATCC's various committees are described in the compilations of test methods published annually, beginning in 1921 as the *AATCC Yearbook* (known later as the *AATCC Technical Manual*). Again, reports in the earlier volumes are more detailed and informative than in later years, with a noticeable decline in content after the early 1960s.

In addition to the Association's publications, I also had full access to the AATCC's files (with the exception of AATCC employee personnel files). Records for current

and recent matters are held in active files near employee offices; older material is kept in storage. Older materials that have been selected as particularly important historically are stored in a room set aside as the Institute for the History of Textile Arts and Sciences, along with photographs, gifts to the AATCC from other organizations, and other artifacts.

Records of membership are the most complete, going back to the Association's founding. Other records are less complete. When the AATCC moved its administrative offices from Massachusetts to North Carolina in the early 1960s, staffers took the opportunity to purge older material from the files. As a result, while a fair amount of correspondence and internal paperwork survive from the Association's earliest years (essentially the period when Louis Olney was president, 1921–1927), there is almost nothing from the late 1920s through the mid-1940s.

For the period from 1945 on, internal records (correspondence, memos, etc.) relating to committee activities, financial and tax matters, and the relationship between the AATCC and the Howes Publishing Company are fairly complete, though some gaps exist due to the fact that limited storage space has meant that files must be occasionally culled and the material discarded. In general, however, documents relating to major controversial issues have been preserved, with collections relating to the move to North Carolina, the building of the Technical Center at Research Triangle Park, and the decision to end the AATCC's relationship with Howes Publishing and publish *Textile Chemist and Colorist,* all existing in the AATCC Archives. I hope that future leaders of the AATCC will also be scrupulous about preserving a record of their decisions.

One source I found particularly useful was the clipping file maintained by *TCC* staffers on AATCC members. This proved highly useful in providing background information on a variety of persons mentioned in the book.

Relatively few sectional records were examined for this book. I and the History and Archives Committee made several requests, but did not get much response. As a result, descriptions of sectional activities are based on oral interviews, records in the AATCC Archives, and histories in the AATCC 25th anniversary issue of *ADR*.

By far the most useful source for recent Association activities was the series of oral interviews I conducted with AATCC members and employees. I had every cooperation from those I talked with, and their input helped greatly in understanding written documentation.

The published material I consulted is listed in the bibliography. I found Maurice Tordoff's book *Servant of Colour,* published in 1984, very useful in its description of the activities of the AATCC's British counterpart. Information on the more recent period I obtained during a visit to the SDC's headquarters in England. Kathy Steen's Ph.D. dissertation on the American dye industry during and immediately after World War I proved extremely valuable in setting the context within which the AATCC was founded.

The data for the statistical studies of AATCC membership given in Appendices 13–15 was extracted from AATCC annual membership directories, with the exception of the 1921 sample, which was based on the original applications of Charter members

in the AATCC archives. For 1921, data for all 259 Charter members was entered. For all other years, random samples were generated as follows. First, the total membership for the sample year was determined. Second, a sampling ratio (for example, one in eight) was selected that would yield a sample size of approximately 300 entries. Finally, starting from the beginning of each membership directory, data was entered for individuals selected based on the sampling ratio (for example, if the sampling ratio was one in eight, data for every eighth person listed in that year's directory was entered). Since the sampling ratio selected was always a whole number, the sample size generated varied from year to year.

Overall, I was generally satisfied with the amount of material I had at my disposal. The AATCC has been lucky enough to have had several active members over the years who were interested in preserving the history of the Association. Their efforts made my job much easier.

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Index

D

E

F

G

H

I

J

K

L

M

N

O

P

Q

R

S

T