



# ***The Journal of The Franklin Institute:***

**Almost two centuries of knowledge**

**a journal that traces  
the advancement of  
society in the  
United States and  
around the world.**

**By Patricia Egerton**

The Franklin Institute of Science is a spectacular building that house mechanical and scientific exhibits which capture the progress of inventions over time. Benjamin Franklin was interested and moved by many events and natural occurrences, which motivated many of his inventions.

We can thank Franklin for his contribution to mechanics and the sciences, which were so great that in 1824 the Institute was founded and The Franklin Institute Awards Program began. The program recognized the achievements in Science and technology and it is in the pages of the Journal of the Franklin

Institute that we can retrace the advances in technology and science. The print of the journal and the layout of the publication overtime retrace the evolution of a changing society for over sixteen decades.

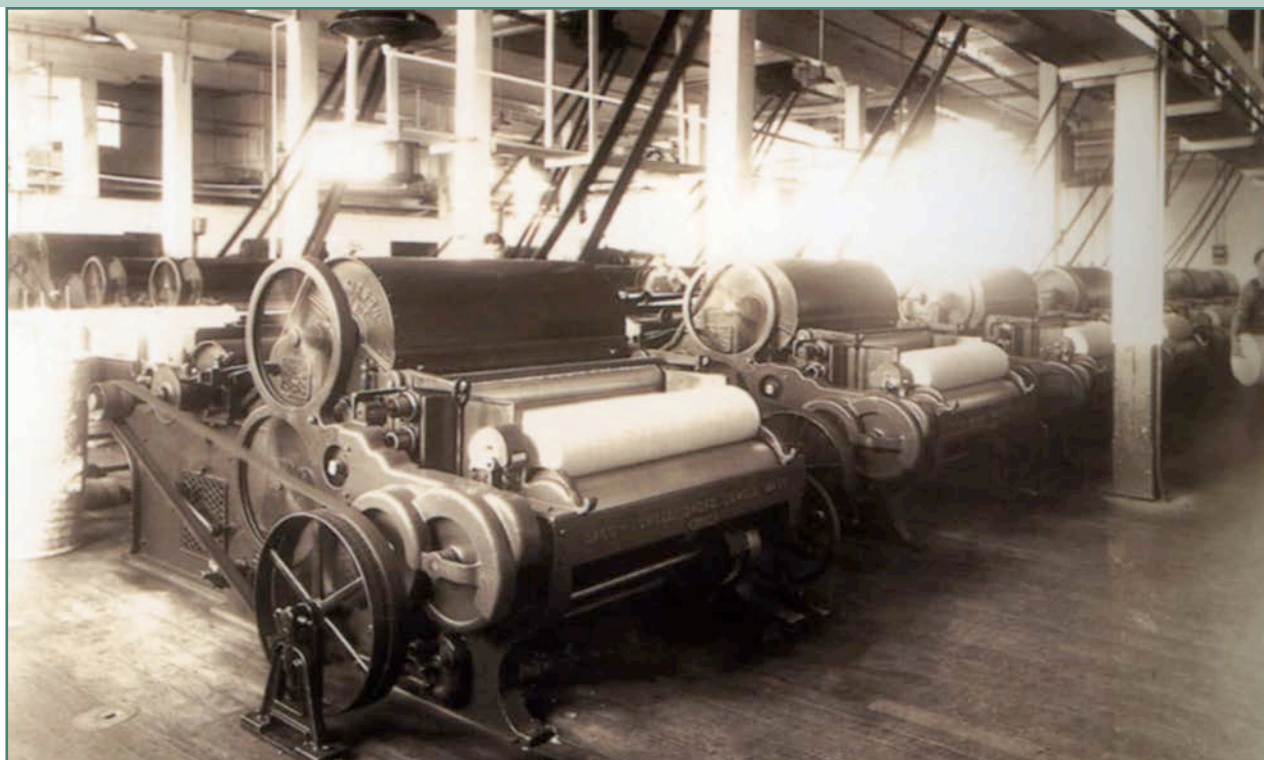
## **Philadelphia and Printing**

Philadelphia is a city that in 1800 was the largest city in the United States and was filled with firsts. The first paper mill was established by William Bradford

near Germantown on the Wissahickon Creek in 1690. The beauty of this area attracted many literary geniuses such as Edgar Allen Poe. In 1728 Benjamin Franklin opened his own printing office in Philadelphia. He was just twenty-two years old. The opening of this office made Philadelphia his home. Some of his more famous publications were The Pennsylvania Gazette and Poor Richard's Almanack.

The Journal of the Franklin Institute first printed in 1826, has continued collecting and publishing scientific papers to the present day. For over 180 years it has evolved not only scientifically, but also as a journal that traces the advancement of society in the United States and around the world. In examining issues from 1928, when the first issue was published, to 1991 we can follow the history of publications. Changes in publications throughout this period are evident in The Journal of the Franklin Institute and as is, essentially, the evolution of society. Examining the covers that encase the pages, the people responsible for the information, the types of advertisements, the typography,





subscription information, and even the images enables us to identify some of these changes giving valuable insight into the history of the journal.

### 1928

The 1920s was an explosive time for countless reasons, coined the “Roaring Twenties” and “The New Era,” the 1920s brought multiple advances that we enjoy today. Radio, television, in home electrical appliances, mass production, quantum mechanics, and aerodynamics are just some of the entities, which were established. It is no wonder that The Journal of the Franklin Institute also had its beginning in the course of this decade.

The 1928 issue of the journal was published in the journals second year

of publication and a subscription could be purchased for \$6 a year. The journal was quite primitive in terms of publication, but not in terms of scientific information.

The olive-drab green cover is thick and linen-like in texture almost as if it was made from collected rags that city folk regarded as no longer wearable. The title of the journal is printed across the top. The month and year of the publication is positioned below the title and is considerably smaller than the title. The focus is on the title and the logo printed in the center, “The Franklin Institute of the State of Pennsylvania, 1824” medallion. Across the bottom the publisher, which is simply the Franklin Institute is listed as well as the locations of Lancaster and Philadelphia,

Pennsylvania. The back cover and the inside of the back of the cover house some of the advertisements.

The first page lists the editors and the publication committee. All of the names are in a serif font and are in capital letters. Some of the editor's first names are listed and some are simply initialed. It is difficult to tell the gender, but we can assume that they are all male because this period did not accommodate the “working woman” unless she was poor. After winning the right to vote the 1920s resulted in a decline in the women's movement. This may be directly related to an era in which the daughters of the suffrage period were more concerned with smoking, drinking, bobbing their hair, and reading “racy” literature, a luxury afforded them by their ancestors perseverance.

The list of advertisers is mostly related to science and mechanics except for the advertisements placed by the institute itself pertaining to lectures and reprints of lectures. The advertisements are

a substantial portion of the journal taking up eighteen pages. An advertisement for Link-Belt was a full page and featured photographs of their assembly conveyer.

This was a time of prosperity and growth providing mass production was essential to the growth and prosperity of companies.

Every paragraph is indented and the publication's format

is single columns per page. The font is a serif font throughout the journal. The headings or titles are differentiated through bold fonts that are larger than the articles. In addition, the titles and authors gain importance through an all capital letter format. San serif fonts gained importance in the 1920s and 1930s, but the *Journal of the Franklin* Institute seemed





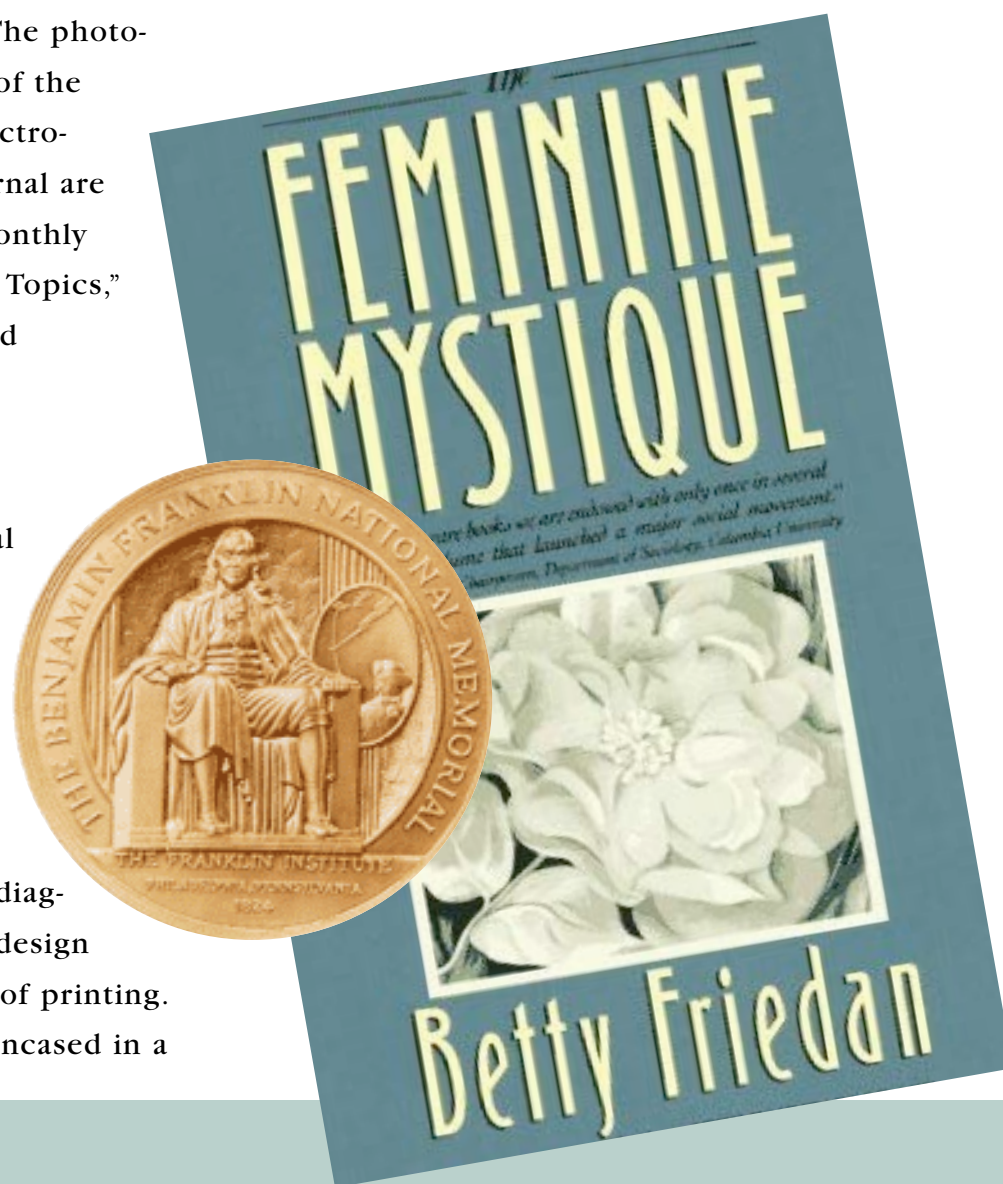
unwilling to update their typography. This was possibly due to the label of “grotesque” that was initially placed on san serif fonts. San serif was limited for use in the advertisements. However, we must also keep in mind that Paul Renner didn't develop his Futura font until 1928, which is considered the starting point of san serif. Only one article contained an abstract about the author and this might possibly because he did not have a Ph.D. Any references were numbered throughout the essay and were listed on the bottom of the page. There are multiple diagrams and equations, but few photographs. The diagrams are simple and clean. The photographs are limited to a portrait of the Institute's president and six spectrograms. Also included in the journal are the minutes of the Institute's monthly meeting, book reviews, “Current Topics,” awards given by the institute and membership guidelines.

### 1963

Thirty-five years later the journal has been in publication for 137 years and has undergone a drastic transformation. The cover of the January 1963 is now a glossy pale yellow and not as thick or course. The font is still serif, but there are vertical and diagonal lines that give the cover a design element and show the progress of printing. The title of the journal is now encased in a

border to help it stand out from the rest of the printing on the cover, which now includes article titles and their author's names. The greatest surprise is the name of one of the authors who is a female. Women have now earned a place in a scientific community previously dominated by males.

The 1960s saw the Civil Rights Movement make great strides and changes in American Politics, nuclear power plants were built that were large enough to compete with coal and fuel, and “The Feminine Mystique” was published by Betty Frieden.



The journal reflects this change in American society by proudly publishing a scholarly paper by Vivian O'Brien entitled “Axi-Symmetric Magnetic Fields and Related Problems.” In addition to the publication of Ms. O'Brien's article, there is an article written by two men who are perhaps of Indian descent.

### The frenzied sixties gave way to the seventies, which seemed destined to maintain the status of war and societal variation.

The managing editor is also female, and the committee has allowed a woman to obtain the title of Committee Hostess. The Institute officers and board managers remain men only, but change is on the way.

The advertisement index still merits the first page, but has now diminished to ten pages. The advertisers again are mechanical or scientifically connected. Yarnall-Waring's

Yarway Steam Plant Equipment has an advertisement that uses three different colors, multiple san serif fonts and geometric shapes. Arthur H. Thomas Co. that sold laboratory apparatus and reagents has an ad with a decorative border. The back cover has been reserved to advertise The Franklin Institute Computing

Services and list a phone number: LOcust4-3600.

The Franklin Medal is still awarded to a recipient that meets the standards set by the committee, however there are fourteen additional awards. The Franklin logo, which is also the medal, takes priority nevertheless and is displayed on the cover. The change in medals awarded is not the only difference from the 1928 issue. The articles have been updated to reflect a new documentation and format. However, the font of the title has not changed; it is still serif and all capital letters. What has changed is the presentation of the author. At the

end of the author's name there is a number citation, which correlates to the author's personal abstract at the bottom of the page. There is also an abstract on the subject listed at the beginning of the article in italics.

Multiple diagrams and equations accompany the articles and references are now listed at the end of the article. The articles are presented in single columns, but the “Book Reviews” section and the “Current Topics have been condensed into double columns. We can surmise that although the journal remains devoted to publishing scientific papers there is a need to reduce costs. The cost of a yearly subscription is now a whopping \$20 a year.

### 1972

The frenzied sixties gave way to the seventies, which seemed destined to maintain the status of war and societal variation. This was a time of rising cynicism of government, the influence of the women's movement, continued steps forward in civil



rights, worries in regards to the environment, and major advances in space exploration. The January 1972 issue reflects the sign of the times. The cover is now a stiff mustard yellow matte border and the medallion has been replaced with a bust of Benjamin Franklin. The title no longer stands alone, but is accompanied by a slogan, "Devoted to Science and the Mechanic Arts." Philadelphia, Pennsylvania is also now listed under the title, with a national audience and a new publisher, Pergamon Press, a connection to the city seems important. The center boasts multiple articles and authors of national acclaim. The editors page is on the inside front cover and the editors are from prestigious national universities such as M.I.T.,

Yale, and Brown. Most of the editors are men, but the Managing Editor is a woman, Lillian H. Falgie. The journal is now proudly in its 147th year of publication.

The journal is 75 pages total with only three articles. The articles remain in the format shared by the scientific community. The only difference in articles is that pages with photographs are glossy versus pages with text only. Following the articles "Brief Communications" has replaced "Current Topics," and book reviews are written by authors of various nationalities showing the diversity of the scientific community and the move towards international progression. The minutes of the Institute's monthly meeting follow these departments and of course there is a page acknowledging the committee members. No advertisements are presented which could be the result of hiring an outside publishing company as well as increases in subscription price. The cost of a yearly subscription has gone up to \$50 a year.

### 1991

Publishing has become increasingly sophisticated by the time the January 1991 issue is printed. In William S. Lofquist's article "Printing and Publishing - Industry Overview" he explains "Expanding use of desktop publishing systems, combining text and graphics into digitized formats, reduces the time require-

ments of pre-press operations and lowers the cost of printing products in full color." The journal, now in its 166th year of publication, has an elaborate cover. The white matte paper possesses a copy of Benjamin West's painting, "Franklin Taking Lightning From the Sky." There is an International Standard Serial Number printed on the top right hand cover so the journal is easily obtainable for anyone interested in his or her own copy. In addition to the painting and the ISSN number, the volume and number is listed, the year of publication, and the publishing company. The publishing company is still Pergamon Press, but it lists the countries of affiliation from England to Tokyo. Pergamon is the only advertiser. Technological advances has made searching for specific information possible through the ISSN and the Internet.

There are 171 pages and over ten articles written by an international community of scientists from as far away as Yugoslavia and China. The inside cover remains a listing of editors, but now there are also Associate Editors who are international as well. The Associate Editors prove that the journal is a global endeavor. The first page lists the Officers of the Institute and the Board of Trustees demonstrating the complexity of the Institute. It is on this page that the Franklin Medallion has made a humble resurgence. The back cover now serves as a table of contents where the contents are easily viewable.

The basic format of the articles continues to follow the standards of the scientific community. References are listed in full detail at the end of each article and the paragraphs are indented. Serif fonts are still utilized throughout the publication possibly to retain the ambiance of the past. The changes in technology are apparent by the use of gray scale art and more elaborate graphs. The information has become more technical and verifiable due to the numerous equations and calculations that accompany the authors' theories.

The journal has come full circle in its evolution which will no doubt continue to progress. No matter where you are in the world you can acquire a copy of the journal. At an inflated cost of \$515 a year everyone can experience the latest news in the science and mechanic arts bi-monthly.

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*Patricia is currently a student at Rowan University where she has attended college for three years and will probably be attending college for another 15 years. She is also a famous author among her family and friends and is well known for writing poems about her hamster, Boris, and eulogies for the hamsters that came before Boris. She aspires to someday write for Hallmark or some other major greeting card writing apology cards for mistakes made in relationships. In addition to entering the fast paced world of greeting card writing she would like to be an essayist, focusing mainly on the sensation of sand between your toes on the Cape. ■*