

Current Comments

You're Invited to Historic Philadelphia for the Tercentennial

Number 1

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From March to October 1982, Philadelphia will be celebrating the 300th anniversary of William Penn's landing in America. By European or Oriental standards, 300 years must seem like a short time. However, 300 years covers a period of phenomenal scientific discovery. It is not coincidental that the arrival of the soon-to-be-called Pennsylvanians took place during the same period of time that the first scientific journals were founded. *Philosophical Transactions* was founded in 1665.¹ Dozens of others followed in the next few decades.

Six years ago, I urged *Current Contents*® (CC®) readers to visit Philadelphia and ISI® to help celebrate the 200th anniversary of the signing of the Declaration of Independence.² Most foreigners, or Americans for that matter, don't realize that Philadelphia was the original capital of the US. Since 1976, a great deal has changed in Philadelphia. Not the least significant, from my point of view, has been the construction of the new ISI building.³ (See Figure 1.) So Philadelphia's Tercentennial celebration seems to be a wonderful occasion for once again inviting our friends to visit.

There will be a number of interesting events during 1982 in Philadelphia, including the first of a series of international conferences which ISI will organize. The first of these Annual Conferences on Advances in Information Access, to be held in February, will be on "New Developments in Citation Search-

ing." Later, in fall 1982, ISI will celebrate the opening of its new child care center. And I'm especially pleased to report that 1982 also marks the twenty-fifth anniversary of *CC*. I'll have more to say about *CC*'s anniversary in a future essay.

Apart from these ISI events, and the annual conventions of such organizations as the Association of College and Research Libraries, the city's Century IV Celebration Committee has organized a number of interesting happenings. Among them are a flower show in March; the April arrival of the *Queen Elizabeth II* from England, retracing Penn's voyage;⁴ a music festival in June and July; and on October 24, Penn's birthday, an interfaith religious service commemorating American religious freedom. One of the most spectacular sights promises to be the arrival in June of about 35 old-time sailing ships at Penn's Landing on the Delaware River. This mooring is located in Society Hill, where one can have a sightseer's feast. From my thirtieth floor Society Hill apartment, I can see not only the "Olde City" (Independence Hall, etc.), but I have a wonderful view of the river and of Camden, New Jersey, across its waters.

Also planned is a research project called "Philadelphia: Past, Present and Future." This 20-month study, the results of which will be announced in October 1982, was launched to identify ways that Philadelphia can deal with

Figure 1: ISI*'s Philadelphia headquarters.



such subjects as poverty, race relations, energy and transportation problems, education, culture and recreation, and cutbacks in federal funding.

While I cannot resist mentioning a number of the city's cultural landmarks, such as the Philadelphia Museum of Art, the Barnes Foundation, or the Rodin Museum, let me try to catalog for you some of the scientific attractions of this city. After all, why would a *CC* reader visit Philadelphia *just* to hear the Philadelphia Orchestra or the Pennsylvania Opera Theater, or to see the Pennsylvania Ballet?

Philadelphia, of course, is a major scientific city. It is the home of numerous educational institutions, including the University of Pennsylvania, Temple University, Drexel University, Thomas Jefferson University, Hahnemann Medical College and Hospital, and the Medical College of Pennsylvania. Many pharmaceutical companies are also located in or near Philadelphia. These include SmithKline Corporation, Wyeth Laboratories Inc., and Merck, Sharp & Dohme. There is certainly too much of scientific interest in Philadelphia to cover in one short essay. I've decided to limit this discussion to places of both

scientific *and* historical interest that are easily accessible from Center City or the University City Science Center area. Many of these sites are not as heavily visited as Philadelphia's more famous historical attractions. But all of them contain much to see and to think about. Addresses and other information for the sites discussed are listed in Table 1.

Not coincidentally, many of the city's scientific attractions are located in the "historic" section. That means they are within easy walking distance of Independence Hall. This includes one of the nation's oldest medical institutions, Pennsylvania Hospital, founded by Benjamin Franklin and Dr. Thomas Bond in 1751. The original building has been preserved not far from the modern wings, through which doctors and nurses hurry about their duties.

Pennsylvania Hospital also houses the first medical library established in the US. The library contains English medical works dating from 1750 to 1850, and some French works published as early as 1480. The hospital grounds contain a garden planted with medicinal herbs known to have been used in colonial medical practice. Oddly enough, though the physicians who helped es-

Table 1: Historical sites discussed in this essay.

Pennsylvania Hospital
8th & Spruce Sts.
Admission free
Monday-Friday, 9:00 am-5:00 pm
For a tour: (215) 829-3971

Hill-Physick-Keith House
321 South 4th St.
Admission \$2.00 adults; 50 cents children
Tuesday-Saturday, 10:00 am-4:00 pm;
Sunday, 1:00-4:00 pm
For a tour: (215) 925-7866

Pennsylvania Horticultural Society
325 Walnut St.
Admission free
Monday-Friday, 9:00 am-5:00 pm
For information: (215) 625-8250

American Philosophical Society—
Philosophical Hall
104 South 5th St.
Tours by appointment
Monday-Friday, 9:00 am-5:00 pm
For information: (215) 627-0706

American Philosophical Society—
Library Hall
105 South 5th St.
Admission free
Monday-Friday, 9:00 am-5:00 pm
For information: (215) 627-0706

Library Company
1314 Locust St.
Admission free
Monday-Friday, 9:00 am-4:45 pm
For information: (215) 546-3181

Franklin Court
Chestnut St. between 3rd & 4th Sts.
Admission free
Open 7 days a week
For information: (215) 597-8974 (Independence
National Historical Park Visitor Center)

Franklin Institute
20th St. & Benjamin Franklin Pkwy.
Admission \$3.50 adults; \$2.00 children
Monday-Saturday, 10:00 am-5:00 pm;
Sunday, noon-5:00 pm
For information: (215) 448-1000

Academy of Natural Sciences
19th St. & Benjamin Franklin Pkwy.
Admission \$2.25 adults; \$1.75 children
Open 7 days a week, 10:00 am-4:00 pm
For information: (215) 299-1000

University Museum
33rd & Spruce Sts.
Donation requested
Tuesday-Saturday, 10:00 am-4:30 pm
For information: (215) 243-4000

Wistar Institute
36th & Spruce Sts.
Admission free. Children must be accompanied
by an adult.
Monday-Friday, 10:00 am-4:00 pm
Groups by appointment only: (215) 243-3716

For Tercentennial information:
Century IV Celebration Committee
1682 Municipal Services Building
Philadelphia, PA 19107
(800) 241-8444

For general tour information:
Tourist Center
16th St. & John F. Kennedy Blvd.
Philadelphia, PA 19107
(800) 241-8444

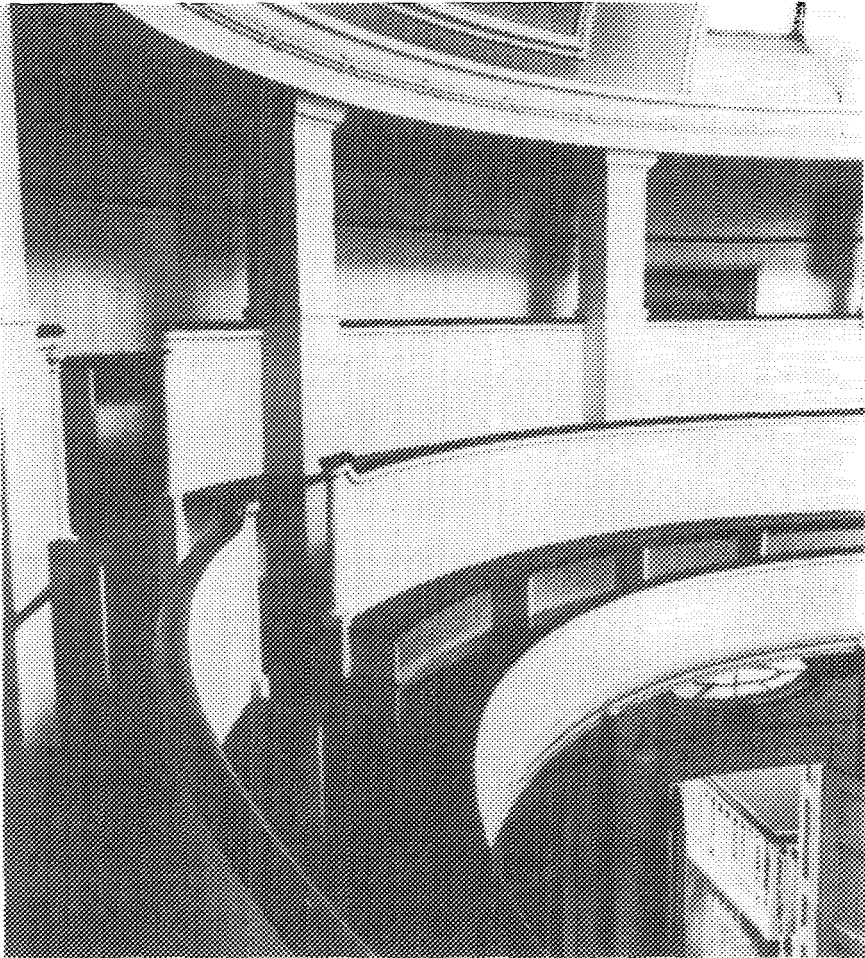
**For information on "Philadelphia:
Past, Present and Future":**
Theodore Hershberg
Project Director
Center for Philadelphia Studies
University of Pennsylvania
4025 Chestnut St., Suite 600
Philadelphia, PA 19104
(215) 243-8713

tablish Pennsylvania Hospital planned such a garden in the 1770s, it wasn't planted until 1976, the year of the Bicentennial.

The hospital's main attraction is its surgical amphitheater. (See Figure 2.) The amphitheater was built in 1804 and has been restored. It's a circular chamber surrounded by several tiers of wooden benches. From these benches, for an annual admission fee, students watched surgeons operate. The operating table sits under the domed ceiling, in the center of which is a large skylight. If you take this tour, your guide will explain that the skylight was the only light source available to surgeons. For that reason, most operations were performed at noon on clear days.

Next door to the amphitheater, exhibits relate the history of American hospitals and particularly Pennsylvania Hospital. They give the viewer the flavor of the times. They explain the medical theories of Benjamin Rush, the pioneering colonial physician who signed the Declaration of Independence. In 1793 he fought the city's yellow fever epidemic, which claimed 4,000 lives.

Figure 2: View of the surgical amphitheater in the Pennsylvania Hospital.



Courtesy Pennsylvania Hospital, Philadelphia

About 20,000 of the 30,000 citizens fled the city, so Rush had little help. Unfortunately, Rush's home has not been restored, but a plaque in the city's historical section, at 3rd and Walnut Streets, marks the spot where it once stood.⁵ (p. 15-16)

Also on display at the hospital are some early medical instruments invented by prominent early physicians. One of these devices is a small guillotine for removing tonsils. It was invented by Dr. Philip Syng Physick. Physick also invented the stomach pump.

Physick's own house, a few blocks away from the hospital, includes a wine cooler given to him by Chief Justice John Marshall, in appreciation for Marshall's 1831 kidney stone operation. Marshall also gave Physick a portrait of himself, which hangs in the house. The home also contains a memento from Napoleon's brother, Joseph: a painting of the Roman ruins. Another patient, the exiled Spanish king lived in Philadelphia from 1815 to around 1830.⁶ The full name of the house is the Hill-Physick-Keith House—after its original owner,

Henry Hill (executor of Franklin's will), and after Mrs. Charles Penrose Keith, who inherited the house in the late-1800s.

Medicine was not the only science that thrived then in Philadelphia. The Pennsylvania Horticultural Society was founded in 1827 and is still active, making it the oldest ongoing horticultural organization in the US. The society's original goal was to beautify the city by landscaping and planting trees. The garden of the society contains only plants and trees known to have grown in Philadelphia in the 1780s.

It's only a short walk from the oldest horticultural society to America's oldest learned society. The American Philosophical Society (APS), founded by Franklin in 1743, is located in Philosophical Hall, next to Independence Hall. Its purpose is to cultivate and improve all knowledge of art and science. The hall is generally not open to the public, though sometimes candlelight tours are available and can be arranged by appointment.

The APS's meetings take place in April and November. Recent meetings included discussions of nuclear power, strategic minerals, genetics, race, brain activity, and Albert Einstein. Past members have included Einstein, Charles Darwin, Marie Curie, Enrico Fermi, Ivan Pavlov, Louis Pasteur, and Joseph Priestley. Almost half the Nobel laureates in science are or were members of the society. The executive officer of APS, Whitfield J. Bell, Jr., was a recent visitor to ISI.

A visit to the hall is worth the effort. It contains the rooms where people like George Washington, Alexander Hamilton, and the Marquis de Lafayette conversed. Many portraits are displayed, including those of Rush and Thomas Jefferson by the American painter Thomas Sully.⁷ Also on display are a number of antique instruments and inventions. These include an astronomical clock,

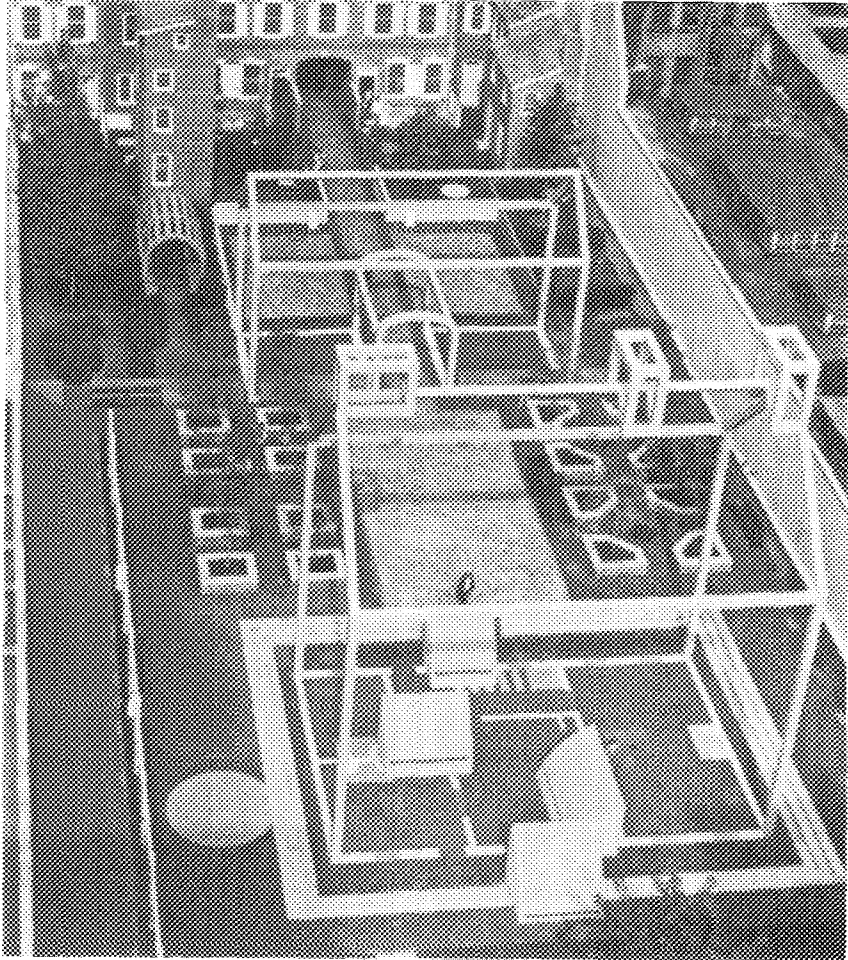
Franklin's original electric battery, a revolving chair designed by Jefferson, and an early mowing machine.⁵ The clock was used by the society to observe the 1769 transit of Venus. The accuracy of its observations proved useful to navigators and astronomers, and earned the society international acclaim.

Across the street in Library Hall, the APS keeps one of the world's greatest collections of science and medical literature. It includes over 158,000 volumes and bound periodicals. Included in the collection are first editions of Darwin's *Origin of Species*, Isaac Newton's *Principia*, and much of Franklin's own library. The archives include half of Franklin's known manuscripts, the handwritten journals of Lewis and Clark, and papers on quantum physics and the history of genetics. The present library is actually a 1959 reconstruction of the original.

The Library Company, founded in 1731 by Franklin and other intellectuals, is also of bibliographic interest. The Library Company celebrated its 250th birthday in October 1981. It's a closed-stack library but tours and talks for small groups can be arranged. Usually the Library Company has an exhibit, and on display until April 1982 is a collection of rare books and manuscripts, including a copy of the original charter that Franklin signed, and a first edition of Walt Whitman's *Leaves of Grass*.

Franklin, as we have seen, founded quite a few of Philadelphia's early scientific institutions. I'll have more to say about him in a future essay. For now, I want to highly recommend two sites named after him. Right next to the building ISI occupied for over ten years, you will find Franklin Court. (See Figure 3.) This is where Franklin's home once stood. Only some brick foundations remain. Nobody knows exactly what the house looked like, so a metal frame was put up to show the house's approximate outlines and to let the

Figure 3: Franklin Court.



Courtesy Independence National Historical Park Collection

viewer's imagination do the rest. The structure was designed by Venturi, Rauch and Scott Brown, architects of the new ISI building.⁸

Franklin Court also includes a print shop, a bindery, and the only post office in the US where employees wear colonial garb. Beneath all this is the Franklin Court Museum, an elaborate tribute to the man. The museum includes a display of Franklin's inventions, such as the stove he designed. In another room,

mirrored walls reflect neon signs that flash on and off, spelling out Franklin's scientific and political achievements. Yet another area is devoted to dozens of telephones, over which you can hear famous "voices from the past" praise or denounce Franklin.

A push-button display allows the visitor to read Franklin's aphorisms on practically every subject. Throughout the day, a half-hour film of Franklin's life is shown. The role of Franklin is

played by Howard DaSilva, who also acted the role in the musical *1776*.

Farther away from the Independence Hall area are many other sights worth seeing. Philadelphia's other major monument to Franklin, the Franklin Institute, is, appropriately enough, a science and technology museum. It began as the Franklin Memorial in 1824; in 1934, it was expanded to a museum of science and technology. The museum's philosophy is to do away with the old "don't touch" attitude, and to encourage hands-on learning. One of its most famous exhibits, for example, is a model of the human heart big enough for an adult to walk through. Other exhibits include computer games, a walk-in demonstration of a fusion reactor, full-scale replicas of locomotives and rockets, a real (though grounded) airplane, and scores of exhibits and demonstrations that light

up and move at the touch of a button. The museum's Fels Planetarium presents several sky shows daily. The Franklin Institute's emphasis is on direct involvement.⁹ It also tries to instill a sense of social consciousness. An exhibit to be installed in fall 1982, for example, will discuss Philadelphia shipping's scientific, economic, and social impact from the 1700s to the present.


One could spend days at the Franklin Institute. For those with limited time, there's a computerized device called Select-a-Visit located near the museum's entrance. For 25 cents, the machine will provide a schedule planned according to your time, interests, and the age of your group. An example of such a print-out is shown in Figure 4.

A block away from the Franklin Institute is one of the oldest natural history institutions in the US, the Academy of

Figure 4: Sample of a computer-suggested tour of the Franklin Institute.

Your Personal Tour of The Franklin Institute

Science Museum and Planetarium



YOUR MUSEUM TOUR
AGE: 19 YRS AND OLDER MUSEUM HIGHLIGHTS

1. TIME 2:35 FLOOR #1 PATTERNS EXHIBIT	4. TIME 3:20 FLOOR #2 AVIATION EXHIBIT
2. TIME 3:00 FLOOR #2 HEART EXHIBIT	5. TIME 3:40 FLOOR #3 PHYSICS EXHIBIT
3. TIME 3:15 FLOOR #3 IN PHYSICS EXHIBIT SPIN RIDE SHOW	

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Natural Sciences. Founded in 1812, the academy now encompasses educational programs, environmental and evolutionary research programs, and a natural history museum. The academy's specimen collection numbers in the millions. It also keeps a library of about 200,000 volumes.

The natural history museum includes exhibits in natural history art, examples of specimens from the academy's collection, and dioramas of animals from North America, Africa, and Asia. "Outside-In," an exhibit for children, allows visitors to touch and experiment with plants, fossils, and animals. The skeleton of a 73-million-year-old dinosaur, *Corythosaurus*, exhibited in the first floor lobby, is a Philadelphia landmark.

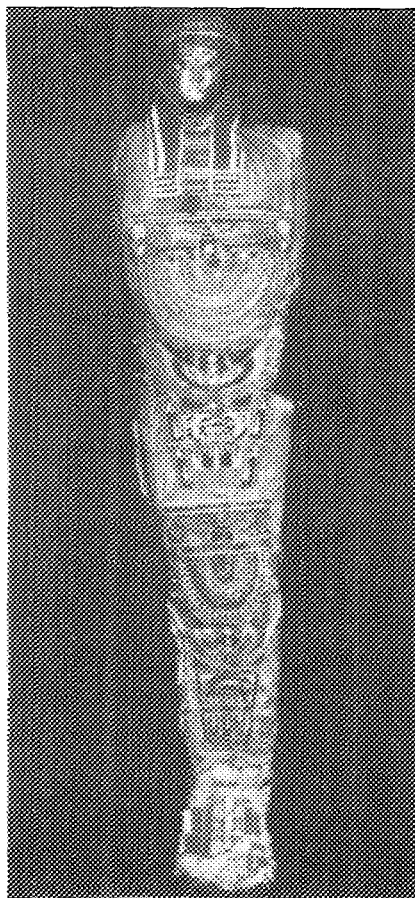
The attractions I've discussed so far are located in Center City. Some other exhibits of note are located on or near the University of Pennsylvania campus. The University of Pennsylvania's University Museum is one of the world's best archaeological and anthropological museums. The lives and work of primitive and ancient humans are represented in many collections of rare artifacts. On display from Mexico are jade necklaces and figurines; from Panama, pottery and animal-teeth necklaces. North American Indians are represented by charms, shields, tomahawks, and pipes. The Mayan civilization is represented by pottery and sculpture. Also on display are early Chinese sculptures, ritual bronzes, two huge frescoes, and a 55-pound crystal ball.

One of the most impressive sections of the museum is its Egyptian collection. On display are many artifacts from ancient Egypt: predynastic burial remains from 3500 BC; a black granite statue of the lion-headed goddess Sakhmet from 1400 BC; a huge limestone head from 1290 BC; sandstone offering tables; even a wood model of a Nile-going rowboat, complete with figurines of the rowers, from 2150 BC.

Featured as part of an exhibit called "The Egyptian Mummy: Secrets and Science" are two mummies studied with X rays by University of Pennsylvania radiologists, physicists, and archaeologists. The mummy Djed-Hapi, dating from 750 BC, is shown in Figure 5. Other mummies and coffins on display date from 1300 BC.

Right up the street from the University Museum is the oldest independent biomedical research institute in the US. The Wistar Institute of Anatomy & Biology

Figure 5: The mummy Djed-Hapi, dating from 750 BC, on display at the University of Pennsylvania's University Museum.



Courtesy University Museum, University of Pennsylvania

was founded in 1892 by General Isaac J. Wistar in memory of his great-uncle, surgeon and anatomist Caspar Wistar (1761-1818) and his colleague, William Edmonds Horner (1793-1853). The museum houses some of the earliest anatomical specimens used in teaching nineteenth-century anatomy students. Horner's microscope and Wistar's dissecting instruments as well as rare texts and surgical instruments, circa 1850-1863, are on display. Particularly interesting is the exhibit which tells the story of the Wistar rat, which has been one of the most important biomedical research animals in the world. Now under the direction of Hilary Koprowski, the Wistar Institute is one of the world's leading research institutes, specializing in cancer, nutrition, multiple sclerosis, and aging studies, as well as investigations of certain viral diseases, such as rabies. We are especially proud of Koprowski's longtime membership on our board of directors.

The political importance of Philadelphia to American history is well known to the general public. I've tried to highlight a few of the many institutions

and historical sites which demonstrate Philadelphia's importance to American and world science. Those of us who work in the city's research laboratories, hospitals, medical schools, pharmaceutical and cosmetics companies, libraries, information companies, and other organizations sometimes fail to realize the many contributions Philadelphians have made to scientific progress. When last we examined the number of papers published by Philadelphia scientists, Philadelphia ranked among the world's top ten publishing cities.¹⁰ While many new cities in the world are justly proud of the contributions they make to world science, most of the old cities like Philadelphia simply continue an established tradition without much fanfare.

* * * * *

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