

NEWSletter

of the History of Science Society

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WELCOME TO BOSTON

by Adam Apt, HSS Treasurer and Local Arrangements Co-Chair

Boston members welcome the return of the History of Science Society to the city where it was born in 1924, on the kitchen table in the modest brick house of the **American Academy of Arts and Sciences** in the Back Bay area at 26 Newbury Street (currently occupied by Banana Republic). A more prosperous AAAS has moved to an imposing mansion on the old Shady Hill estate, which straddles the Cambridge-Somerville town line. A building designed by the firm of **Kallmann McKinnell & Wood**, who are also responsible for Boston's unloved, impractical, Brutalist, but fascinating **City Hall** (1968).

And here begins a concise survey of Boston, capital of Massachusetts.

In 1743, with a population of more than 16,000, Boston was the largest town in British North America, a position it ceded to Philadelphia by 1760. Today, with a population of a little over 630,000, it may seem to slickers from other cities not even to be large. And although growing, it's down from its peak of 800,000 in 1950. Cambridge, across the Charles River, has a population of just 105,000, down from its peak in the 1950s at around

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150,000, when it was a largely industrial city but for Harvard and MIT and the elegant homes along Brattle Street to the west and on Avon Hill to the north of a somewhat seedy Harvard Square, and the fine houses near the Divinity School. But Greater Boston sprawls over a wide urban and suburban area, including Cambridge and Somerville, one of the most densely populated cities in the country. The Census Bureau defines its Combined Statistical Area as extending west to Worcester and north to Manchester, in New Hampshire, making it the fifth largest in the country. A sleepy town during the first half of the twentieth century, with just two tall buildings, the old John Hancock insurance company tower in the Back Bay, and the Custom House tower downtown (now a Marriott hotel), Boston is now forested with tall modern buildings, with new ones sprouting annually. The transformation began in the 1960s with the extension of the Massachusetts Turnpike into the city along the old railroad tracks and the construction of the undistinguished Prudential Center in the Back Bay. It continues with the creation of the Seaport District, which follows the completion of the painfully disruptive and expensive “**Big Dig**” that replaced with a tunnel the divisive eyesore of the elevated “Central Artery” of U.S. 93. This “Green Monster” was put up in the 1950s and tore through the center of the city. (The city’s surviving Green Monster is the left-field wall of Fenway Park.) The Big Dig was more than the depression of the Central Artery; it also entailed the construction of the Ted Williams

Tunnel to Logan Airport and the **Leonard Zakim–Bunker Hill Memorial Bridge**, a new Boston landmark, and the reconfiguration of much of the downtown’s electrical, communications, water, and sewerage infrastructure.

Boston is one of those cities that outgrew their patrimony of natural land and had to steal more from the surrounding waters. The original Shawmut Peninsula, whose solitary first European inhabitant, the Reverend William Blaxton (or Blackstone, 1595–1675) set up a home in 1625 at what is now the edge of the Boston Common after wandering north from a failed colony in Weymouth, had only a very narrow neck of land to connect it to the west. The town began when Blaxton invited other Puritan colonists to join him, in 1630. Beginning in the late eighteenth century, the steep hills of the city were cut down to fill in the Mill Pond in the North End, one of the city’s earliest settled neighborhoods, where stands the oldest surviving house in the city proper, **Paul Revere’s**, which he bought in 1770, when it was already about 90 years old. (There are much older houses in the suburbs, like the **Fairbanks House** in Dedham, ca. 1637.) Then the Back Bay, in the Charles River’s tidal estuary, was filled in during the nineteenth and early twentieth centuries, for the creation of one of the country’s most elegant residential districts, as well as a vibrant business and fashionable shopping district that is an alternative to downtown, which is about a fifteen-to-twenty-minute walk away. Copley Square, the center of the Back Bay, showcases the massive

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Romanesque **Trinity Church** (1876), designed by H.H. Richardson (Joseph Priestley's great-grandson), the sheer, sleek reflective rhomboid of the new **John Hancock building** (1976), designed by Henry N. Cobb, of the firm of I.M. Pei and Partners, and the Renaissance Italianate **Boston Public Library** (1895), designed by the firm of McKim, Mead & White, with an extension (1972) by Philip Johnson. The finish line of the **Boston Marathon**, the world's oldest annual marathon, run since 1897 on **Patriots' Day** (a state holiday observed on the third Monday in April, close to April 19, the anniversary of the battles of Lexington and Concord), is painted on Boylston Street, outside Johnson's front entrance to the library. The reclamation of land from the harbor also continued well into the twentieth century: Logan International Airport grew, starting in the 1920s, from the old Governor's Island, but it now displaces what were once mostly shallow waters.

Naturally, Boston's situation was inseparable from its being a seaport. The **U.S.S. Constitution** ("Old Ironsides"), which gained its nickname in the War of 1812 and remains the oldest commissioned ship in the U.S. Navy, occasionally sails from its berth in what was the Charlestown Navy Yard, but it was constructed in the city's North End, through which waves of immigrants passed, though the last, the Italians, are now being displaced by urban professionals. Clipper ships, many designed by the great naval architect Donald McKay (1810-1880), who lived in East Boston (which is now another Italian neighborhood, under the flight

paths of much of Logan Airport's traffic), were built here. But modern Boston has repudiated almost entirely its seafaring heritage. The original seaport district, at the waterfront of downtown, had vanished by the twentieth century. There is one small shipping terminal in South Boston, but otherwise, seaborne cargo enters and leaves the East Coast through great ports to the south, like New York. The **Charlestown Navy Yard** is mostly gone, except for a few historic relics, including the Constitution, and is otherwise a picturesque residential district. Recreational boats and small cruise ships sail the harbor past the **island fortifications** designed by Sylvanus Thayer, the "father of West Point," and passenger boats ply its waters, transporting daily commuters from the North and South Shores into the city. The redevelopment of the Seaport District and its semi-derelict warehouses, industrial buildings, and parking lots, has proceeded apace for the last two decades. Some of its old purely factory structures remain, like the one housing the **Mass Bay Brewing Company**, which produces Harpoon Ale, and, closer to downtown, the "World Shaving Headquarters" of Gillette. This is the neighborhood in which we are holding our annual meeting, and you can see the construction continuing around you. Nearby, you can visit the striking new quarters of the **Institute of Contemporary Art**. As residential buildings go up, so better restaurants are opening, though the old classic seafood restaurants, like Jimmy's Harborside and Anthony's Pier 4, have closed.

The Seaport district is contiguous with South Boston, familiarly known as "Southie," which achieved national notoriety when it rebelled violently in the 1970s against court-ordered student busing intended to end racial discrimination in the schools, and, to the city's disgust, has just been in the news again, as the home turf of the aged gangster and thug James "Whitey" Bulger and his confederates. He was found guilty of most charges in this summer's trial. (His family and closest friends, like his brother, Bill, the wily, distrusted, and Herodotus-reading former president of the state senate and president of the University of Massachusetts, actually call him "Jimmy.") You may know the neighborhood also from the films *Good Will Hunting* and *The Departed*. Although adjacent to downtown, the layout of the streets and a small body of water, called the **Fort Point Channel**, kept South Boston (not to be confused with the South End, which is south of the Back Bay) in near isolation, both geographically and culturally, from the rest of Boston. It was never purely a working-class Irish neighborhood, as it is often portrayed. There are large, stately homes in its eastern district, known as City Point, and it has (or had) sections that were predominantly Polish and Lithuanian. There are also three Albanian churches, from before the Albanian population moved away. This is where the Perkins School for the Blind began. Now, with the development of the Seaport District, home prices have been rising, houses are being gutted and rebuilt, and a non-native middle class has been moving in. On the

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hill that dominates South Boston, there stands a neo-Georgian tower in a **small national park**, marking Dorchester Heights. Here, under the direction of General George Washington, who had taken command of the Continental Army outside **Christ Church**, in Harvard Square, General Henry Knox (1750-1806, in civilian life a bookseller in Boston) surreptitiously erected earthworks and set up cannon hauled from Fort Ticonderoga, giving him command over Boston Harbor. He thereby completed the siege of Boston, forcing the evacuation of the British troops who had been holed up there since the battles of Lexington and Concord. The British set sail on March 17, 1776. At the turn of the twentieth century, Irish residents of Boston, in a clever subterfuge, persuaded the city's Protestant establishment to make March 17 a holiday commemorating the event, and to this day, South Boston is the venue of an annual Evacuation Day parade, with much display of green and playing of Irish songs. The city's other holiday that is observed nowhere else is June 17, **Bunker Hill** Day, commemorating that battle, which took place in Charlestown, in 1775 still a separate town but annexed by the city in 1874. Charlestown, too, was a scene of fighting over school bussing. If you want to explore eighteenth-century Boston, you can follow the painted red line of the **Freedom Trail**, as most natives of the city neglect to do.

At the opposite end of Boston's social order, there are not just the homes of the Back Bay, but the fine large Federal-period and later houses of Mount

Vernon Street, Chestnut Street, West Cedar Street, Pinckney Street, and Louisberg Square (pronounced "Lewisberg") on Beacon Hill. This is where both John Kerry and George W. Bush's aunt have homes a few blocks apart. Halfway up Mount Vernon Street is the second Harrison Gray Otis house, which played the role of Steve McQueen's house in the first version of *The Thomas Crown Affair*. Its current owner is the founder and former chairman of MediaOne (Continental Cablevision). Charles Street, with its restaurants, boutiques, and antique shops, runs along the foot of the hill—more landfill here—and then the fine houses resume to its west, on what is known as "the flat part of the Hill." This is where you will find the **Church of the Advent**, the city's large brick Anglo-Catholic church, more Roman than the Romans. Before its development at the turn of the nineteenth century, Beacon Hill accommodated the red-light district. Within recent memory, the so-called Combat Zone, where the Theater District meets Chinatown just behind the Masonic Temple at one corner of the Common, was the red-light district, but this has been redeveloped out of existence, as has its immediate predecessor, the honky-tonk Scollay Square, which Government Center supplanted in the late 1960s.

The northern slope of Beacon Hill, with its more modest houses, was, during much of the 19th century, a thriving African-American neighborhood. The **Museum of African American History**, occupying the old meeting house (1806) and the adjacent school building, stands there,

across from another of the oldest wooden houses in the city, a substantial structure built by white bricklayers around 1800 but occupied for most of the century by blacks. The meeting house was a center of cultural activity, such that, in the 1830s, the city's papers took note of a production there of *The Marriage of Figaro*. There is a **Black Heritage Trail** that conceptually parallels the Freedom Trail. Boston today has, proportionally, one of the smaller African-American populations of any large American city (24% for the city, but 7% for the metropolitan area).

At the crest of Beacon Hill is the gold dome of the **Massachusetts Statehouse** (1798), designed by **Charles Bulfinch** (1763-1844) on the model of Somerset House in London. (Paul Revere handled the very early copper cladding; the gilding is a late-nineteenth-century flourish.) Oliver Wendell Holmes described the Statehouse as, in the eyes of a Bostonian, the "Hub of the Solar System," thereby bestowing on all of Boston its popular nickname, "the Hub." Bulfinch posthumously lent his name to the Bull and Finch Pub, the actual name of the bar known far and wide as "**Cheers**," at 84 Beacon Street, on the flat part of the Hill. At least one local has pointed out that the character of the television version isn't right for Beacon Hill, and might more appropriately be situated on Huntington Avenue, near Northeastern University. Then again, a visit to the Sevens Ale House on Charles Street may suggest that the producers weren't that far off the mark. Opposite the Statehouse on Beacon Street, and at the edge

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of the Common, is Augustus Saint-Gaudens' **memorial to Colonel Robert Gould Shaw and the Massachusetts 54th Regiment** (1897), one of the first **African-American regiments** to fight in the Civil War. Its story was told in the film *Glory*. At one time, the Statehouse was in the shadow of Beacon Hill, which rose steeply behind it. Don't call it the "Old State House," as some visitors do. The **Old State House**, put up in 1713 and the oldest public building in the city, is a few blocks away. The lion and the unicorn on its pediment are a twentieth-century reconstruction; you can bet the originals didn't survive the Revolution. Bulfinch designed many of Boston's great buildings of the Federal period. If you stand at the height of land on Anderson Street on Beacon Hill and look downhill to the north, you'll gain a neatly framed view of Bulfinch's so-called "**Ether Dome**," the roof of the original operating theater at Massachusetts General Hospital (1823), where Dr. John Collins Warren (1778-1856, whose uncle, Major General Dr. Joseph Warren, died at the Battle of Bunker Hill), along with William Morton, in 1846 first publicly administered ether as a general anæsthetic before surgery. Warren descendants have continued to work at Mass General to this day.

Bulfinch was a prolific Boston architect. Across the river, Harvard has one building by him, University Hall, the only stone structure in Harvard Yard. Harvard collects architects. There, you can find buildings by Richardson (two), **Stirling**, **Gropius**, White, and Le Corbusier, the

Carpenter Center for the Arts (1963), the only building by Le Corbusier in North America. But if you want to see works by **Gehry**, **Aalto**, and **Eero Saarinen**, you'll have to go down Mass Ave or along the river to MIT. One noteworthy feature of MIT's campus results from the requirement that a certain percentage of the financial allotment to the construction of any building must be spent on public art (though this percentage has diminished over time). MIT's original building stands in Boston's Back Bay, where it is currently undergoing yet another conversion. Both Harvard and Boston University, on the Boston side of the Charles, have buildings by Josep Sert (1902-1983), a Catalan-American architect who used precast concrete in an instantly recognizable style. It was he who brought Le Corbusier to Harvard. Carrying Mass Ave from MIT across the Charles to Boston is the Harvard Bridge—*not* the MIT bridge, and actually named for John Harvard, not the university—which is famously graduated in **Smoots**. In 1958, Oliver Smoot (1940-) was laid end over end along the bridge by his MIT fraternity brothers as they marked off the lengths. Smoot went on to become head of the American National Standards Institute.

MIT and **Harvard** are, of course, only the better known of the many colleges and universities in greater Boston, which include, besides **B.U.**, **Simmons College**, with its important **library school**; **Boston College**, in the village of Chestnut Hill; **Wellesley College**, in Wellesley; **Brandeis University**, in Waltham; the **University of**

Massachusetts Boston, not to be confused with the flagship campus in Amherst, but located in the Columbia Point section of Dorchester (adjacent to the **Kennedy Presidential Library**, another Pei building); downtown **Suffolk University**, which is noted especially for its **law school**; **Northeastern University**; **Tufts University**, in Medford; **Stonehill College**, in Easton; and **Wheaton College**, in Norton, not to mention many smaller institutions for undergraduates and graduates. As you ride the subway, you may see advertisements for the **Benjamin Franklin Institute of Technology**, a vocational school. This was established in 1908 with money from the bequest that Benjamin Franklin left to Boston, his home town, to be invested for a hundred years for the purpose of educating "young married artificers."

Our subway system, the **MBTA**, known familiarly at "the T," has the oldest line in the country (though much newer than the London underground), the Green Line, which opened in 1897 and runs from Park Street Station along the edge of Boston Common. Although very far from being a wonder of modern technology, the T is tolerably reliable, far more so than it was in the 1980s, when one eminent Bostonian, a descendent of John Winthrop, the first governor of the Massachusetts Bay Colony, quipped, "Shall we walk, or do we have time to take the T?" The new electronic passes are called Charlie Cards, in reference to the song "**Charlie on the MTA**" (as it then was), popularized in the 1950s by the **Kingston Trio**. Tom Lehrer, a Cantabrigian but a New Yorker by birth, wrote a

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song about the Red Line to the tune of “Mother” (“M is for the Many things she gave me...”), but this has never been publicly released.

The grand Boston families are still here, like the Lowells, Cabots, Saltonstalls, and Adamses, but it’s been several generations since they were active in public affairs, and their names are seldom in the papers. The Kennedys are still visible, inasmuch as Joseph P. Kennedy III was elected last year to succeed Barney Frank as representative of the 4th Massachusetts congressional district, in the suburbs, and members of both presidential branches of the Roosevelt family, historically associated with New York, are prominent locally, though not much in politics lately. Like the families, many of old Boston’s institutions, tastes, and habits are alive and in good repair, adapted to the present but often unnoticed except by those who know where to look.

This is a significant year in Boston’s political history, because the Mayor, Tom Menino, is stepping down after twenty years in office, having set the record as Boston’s longest-serving mayor, that is, since Boston was incorporated as a city, in 1822. Mayoral elections are non-partisan, but the mayors have for decades invariably been Democrats.

The attribution of any supposed Boston trait to its puritan heritage is almost certainly mistaken. For one thing, those early English colonists weren’t of one mind with regard to religion and social norms, a point made by Thomas Morton (c. 1579–1647) and his Maypole revelries in Wollaston, just south

of Boston. And just among Protestants alone, the character of their religion was so altered by the eighteenth century, not to mention the nineteenth, that such a facile attribution, often made, is foundationless. Nonetheless, some of us are still astonished that, as of a few years ago, we can legally buy alcohol on Sunday in Massachusetts. There will soon be state-sanctioned casinos. But we do seem disposed to self-discipline; by various measures, like body-mass index and time spent exercising, this is one of the healthiest urban populations in the country. The Watch and Ward Society, founded in 1878, was responsible for the popular expression, “banned in Boston,” but it was considerably etiolated by the 1940s, and the expression is now but a feeble gag line. Of course, with Irish immigration in particular, Roman Catholicism became a potent social and, for a time, political force. This is much diminished, but more than 45% of the population identifies as Roman Catholic. In sheer physical presence, the numerically small Church of Christ Scientist is most noticeable because of its **Mother Church and complex** near Symphony Hall. The new buildings of this complex were designed by I.M. Pei. The Church of the Latter Day Saints makes its presence known, too, with a **large temple** topped by a gilt statue of the angel Moroni in the suburb of Belmont, where it overlooks Route 2.

Jewish immigration came relatively late to Boston, which had only a tiny number of Jews until the 1880s. One of the first prominent Jews in Boston was Louis Brandeis (1856-1941), who was already

an up-and-coming lawyer in the early 1880s, before he was 30. But he was an immigrant from Kentucky. There isn’t really a Jewish neighborhood in the city, though Brookline, a prosperous town adjacent to Boston on the west and partly surrounded by it, has a large Jewish community. Starting in the 1970s, Brookline has also developed a large **Russian** community, which overlaps with the Jewish one. Watertown, which was colonized when Sir Richard Saltonstall arrived aboard the *Arbella* in 1630 and sailed up the Charles, and Belmont, to its north, have a very large **Armenian** community, the largest in the country after that in Los Angeles. There are distinct Black communities in Roxbury, which is one of the oldest (1630) neighborhoods of Boston, being where the isthmus of the Shawmut Peninsula joined the mainland, and in Dorchester, though these districts became predominantly black only in the second half of the twentieth century. Downtown, there is a fairly large Chinatown. Cambridge has a lusophone neighborhood with immigrants from Brazil, the Azores, and the Cape Verde Islands. And, naturally, there are many other ethnic groups in the city apart from those that originated in northwestern Europe.

The social composition of Boston has changed in recent decades, and a large proportion of the population wasn’t born here. Consequently, despite the wearisome joke of “I pahked my cah in Hahvad Yahd,” the **distinctive Boston accent** is fading. You won’t hear it at Harvard, though you may as you travel the city and visit shops and information

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desks. Actually, there is no single Boston accent; it varies by class and neighborhood. The Kennedys' was sui generis but unmistakably arose from the same source. Tom Menino has one version of the Boston accent. If you listen carefully, you can also detect a trace of another Boston accent in the speech of Mayor Bloomberg, a native of Medford. Medford, incidentally, is where Étienne Léopold Trouvelot (1827-1895), the French entomologist and **astronomical illustrator**, in an experiment in sericulture, bred **gypsy moths**, another of Boston's gifts to the country.

Most of Boston's leading cultural institutions, with the exception of the Institute of Contemporary Art, already mentioned, and the **Museum of Science**, which sits on a sort of dam and bridge spanning the eastern end of the Charles River Basin, are located to the West. Symphony Hall, with an acoustic design by Wallace Clement Sabine (1868-1919), and home to both the **Boston Symphony Orchestra** and the **Handel & Haydn Society**, founded in 1815, the country's oldest continuously performing music organization and now one of our most prominent period music ensembles, is at the western edge of the Back Bay, on Mass Ave. For many years, Christopher Hogwood was the H&H's music director; now Harry Christophers is. A few blocks away is another concert venue, **Jordan Hall**, of the **New England Conservatory of Music**. Further west along Huntington Avenue, near Northeastern University and adjacent to the Fens, is the **Museum of Fine Arts**, with the **Isabella Stuart Gardner Museum** just across

the way. The Gardner was the victim in 1990 of one of the **greatest art heists** in history, still unsolved. Also near the Fens is the **Massachusetts Historical Society**, founded in 1791 by the Reverend Jeremy Belknap (1744-1798), historian of New Hampshire. It is the oldest society for the study of American history. When the printer Isaiah Thomas (1749-1831) founded the **American Antiquarian Society** in 1812, he set it up in Worcester, Mass., in order to keep it out of range of possible British naval bombardment. Both the MFA (a private institution) and the Boston Public Library (a public one) are offspring, direct or collateral, of the **Boston Athenæum**, founded in 1807 and for much of the nineteenth century the center of Boston's intellectual life; it resides at 10 ½ Beacon Street, near the Statehouse. It is primarily a library, but remains an art gallery, too.

Mention of the Fens naturally brings to mind **Fenway Park**, home to the **Boston Red Sox**, and the oldest major league baseball stadium (1912). Boston is very much a sports town, and it can be difficult to avoid conversations about the local teams: Besides the Red Sox, there are the New England Patriots (whose Foxboro stadium, where the New England Revolution, the soccer team, also plays, is a long way from the city), the Celtics, and the Bruins, who both play in the TD Garden, in the old West End, a residential district that was mostly destroyed in what is now widely regarded as an grave error of urban redevelopment in the 1960s. Some of us miss being able to gripe about the "Curse of the Bambino," said to have been laid

on the Red Sox after they won the World Series in 1918, when the team's owner, Harry Frazee, sold star pitcher Babe Ruth to the New York Yankees in order to raise the funds, so popular legend has it, to produce *No, No, Nanette* on Broadway. But the curse was lifted in the most spectacular fashion in 2004, when the Red Sox, down 0-3 games in the American League pennant race against the Yankees, their historic rivals, came back to win four straight games and the pennant, and went on to sweep the St Louis Cardinals in the World Series, 4-0.

The Fens are part of the "**Emerald Necklace**" of parks which, by the design of **Frederick Law Olmsted** (1822-1903), encircles the city. For an old city, Boston has much green space. The Common may be undistinguished as a park, but the neighboring **Boston Public Garden**—yet more reclaimed land—with its famous swan boats and the duck sculpture honoring Robert McCloskey's 1941 children's book, **Make Way for Ducklings**, is well groomed and flower-blossomed. There are small parks throughout the city, and there are wide open spaces farther from the city's center, like **Franklin Park**, where West Indian immigrants play cricket, Harvard's **Arnold Arboretum** (1872), and, to the south, the **Blue Hills Reservation**, with its **Blue Hill Meteorological Observatory**, all links in the **Emerald Necklace**. To the north, there is the huge **Middlesex Fells Reservation**. Belmont, a residential town bordering on Cambridge, has one working farm, and there are more farms as you go farther west, into towns like Lexington and Concord.

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Running through Lexington and Concord is **Minuteman National Historical Park**, which preserves not just the sites of the first battles of the revolution, but a large section of the route taken by the British troops and the harassing minutemen who fought them during their retreat to Boston. Many of the numerous farms that lay along that route in Concord, Lincoln, and west Lexington in 1775 have reverted to woodland, but there are still farms outside the park's boundaries. The woods are threaded with stone walls, constructed by the struggling farmers as they cleared New England's rocky soil. Just north of the center of Concord is the pastoral site of the **Old North Bridge**, reconstructed as it was in 1775, and Daniel Chester French's **statue of a minuteman**, with Emerson's verses on its plinth:

By the rude bridge that arched the flood,
Their flag to April's breeze unfurled,
Here once the embattled farmers stood,
And fired the shot heard round the world.

French (1850-1931) was also the sculptor of the statues of John Harvard in Harvard Yard and of Lincoln, in the Lincoln Memorial in Washington, D.C.

Concord lovingly preserves sites associated with its literary renaissance in the nineteenth century, like the homes of the **Alcotts**, **Emerson**, **Hawthorne**, and **Thoreau**. There has been much effort to protect and to restore the appearance of **Walden Pond** (which lies partly within Lincoln, a leafy well-to-do suburb with another museum of contemporary

art, the **deCordova**, but hardly any commercial properties), which you can see from the commuter train that runs along the same tracks that had just been laid when Thoreau built his cabin there in 1845. On the road into Concord from Lexington, there is a **memorial stone** marking the farm of Ephraim Wales Bull (1806-1895), the progenitor of the Concord grape.

Boston has a distinctive cuisine only if you regard seafood as a cuisine. Of course, there is much fine seafood here, but there are all sorts of good restaurants, and not just in Boston. Cambridge is becoming known for its fine dining, and even the suburbs that until very recently were "dry" now have decent restaurants. The poet David McCord (1897-1997) reports the story that an updated edition of the standard old Boston text, Fannie Farmer's *Boston Cooking-School Cook Book* (first published 1896) was going to include cocktail recipes until, as it was being readied for the press, the publisher noticed that the formula for a dry martini began, "To one cup of gin add..." In the late 1940s, one gentlemen's club honored its retiring cook by publishing a volume of her recipes. The one for tomato soup ran, "Heat one can of Campbell's tomato soup to which has been added 1 can of water; season to taste." Today, we have our celebrity chefs, like Lydia Shire, Barbara Lynch, Jody Adams, Jasper White, and Todd English. The old Yankees may not have cared for complicated or far-fetched food, but their descendants do. Yes, you can find well-prepared examples of traditional Boston fare, like baked

beans, brown bread, scrod, oyster stew, and Indian pudding, but they're eaten by the natives not much more often than they're eaten by anyone else. The exception is clam chowder, in which we take particular pride. And sometimes during the summer, we'll develop a craving for **fried Ipswich clams**. The classic Boston Restaurant, **Locke-Ober**, with its full-length oil painting of a nearly nude Mademoiselle Yvonne, and whose dark main dining room, with its white-aproned waiters, was men-only until comparatively recently, closed last year, after more than 130 years in business.

Many of the fishing boats that supply the fresh seafood to the local restaurants sail from ports to the north of Boston, like Gloucester, whose economies are highly dependent on the sea. Out of regard for the importance of fish for the state's economy, the wooden effigy of the "**sacred cod**" will continue to hang in the chamber of the General Court, the Massachusetts House of Representatives. Boston's economy, in contrast, never depended heavily on fish alone. The sea provided for it in other ways. Boston's first great fortunes, made in the eighteenth century, came from participation in the Triangular Trade in slaves, molasses, and rum. In the nineteenth century, more fortunes were made in the China Trade, which also especially benefited the city of Salem, north of Boston, where Nathaniel Bowditch (1773-1838) made his name in navigation before moving to Boston to become chief actuary of an insurance company while he translated Laplace. The China trade contributed to the fortune of John Murray Forbes

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(1813-1898), the abolitionist and philanthropist and John Kerry's maternal ancestor.

Boston's position in trade inevitably made it a financial center. Although the large banks lost their local identities in the banking consolidation of the last two decades—the largest to vanish was the Bank of Boston, founded in 1784—financial services in general, and investment management services and insurance in particular, continue to be major employers and contributors to the city's economy. The old wealth made Boston a byword for investment trusts, and the standard legal reference, *Loring on Trusts*, is still edited here. This is the city where the “Prudent Man Rule” of investment management was formulated by Judge Samuel Putnam in his decision concerning *Harvard v. Amory* in 1830. Fidelity Investments, still privately held, mostly by the Johnson family, is one of the largest investment companies in the world. As a separate enterprise, Ned Johnson put up the Seaport Hotel, a short distance from our conference hotel and the anchor building of the district. The local economy is monitored by the **Boston Fed**, housed in the tall aluminum-clad building (1977), designed by Hugh Stubbins, that you pass as you cross the Fort Point Channel from the Seaport District to enter the downtown. Its gun ports and recently redesigned ground-level fortifications are tasteful and unobtrusive.

Family wealth here has underwritten a variety of industries over the last two centuries. In the early nineteenth century, the Lowells and Lawrences

took advantage of New England's hydropower to participate in the initiation of the American industrial revolution. The mill towns depended heavily on supplies of cotton from the South, and this explains in part why, during the Civil War, there were many “copperheads” here (those who would have accommodated the Confederacy) besides the prominent abolitionists like William Lloyd Garrison, Governor John Andrew, Senator Charles Sumner, and the “Secret Six,” who underwrote, intentionally or not, John Brown's raid on Harpers Ferry. The cities of Lowell (birthplace of James McNeill Whistler and Jack Kerouac) and Lawrence, to the north, have never really recovered since their industries moved away. Waltham, west of Boston along the Charles, which made its name synonymous with **watches**, such that the Swiss were counterfeiting them, has recovered from its decline a little better, being better situated for more modern technology and simply for commuting to the big city.

Among the ghostly businesses is Polaroid, which was based on Main Street in Cambridge and was a glamorous corporation in the 1960s; now the barest traces remain. A couple of hundred yards from the Hyatt Regency Hotel in Cambridge, the venue of the 2003 HSS annual meeting, is the site of Alvan Clark & Sons, the makers of many of the great telescope lenses of the second half of the nineteenth century and the beginning of the twentieth. The lenses of the Lick and Yerkes observatories came from here. But even the commemorative plaque on the site has now vanished.

All the same, and probably to the surprise of any Bostonian presented with the statistics, manufacturing halted its decline years ago and remains a significant contributor to the Massachusetts economy, though not in city.

Downtown, the city has repurposed the structures from its old economy. **Quincy Market**, behind **Faneuil Hall** (pronounced “Fan'l”) has devolved into a crass tourist destination, to the dismay of the late Benjamin C. Thompson (1918-2002), the architect and designer responsible for its rebirth in the 1970s. But in the financial district, the old warehouses along Broad Street are now offices, the old **United Shoe Machinery** building (1928) on Federal Street is now the law offices of Bingham McCutchen, and the **Chadwick Lead Works** (1887), with its shot tower, at 184 High Street, opposite Philip Johnson and John Burgee's **International Place** (1987 and 1992), houses the Boston office of the Associated Press.

It may be difficult to remember, when we look westward to Silicon Valley, that Boston from the 1960s to the 1980s was one of the two poles of the computer industry, with such names as Prime, ComputerVision, Thinking Machines, Wang Labs, Digital Equipment Corporation, on whose machines many of us, including Bill Gates, learned to program in school, and so forth. Lotus Development Corporation, on the banks of the Charles, was briefly the largest publicly-traded software company. Microsoft was founded on the second floor of Currier House, a Harvard-Radcliffe

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dormitory, during Bill Gates's sophomore year, 1974-75. Dan Bricklin invented the spreadsheet here. This is where Richard Stallman started and led the **free software** movement. Many of the creators of the internet, both the individuals, like J.C.R. Licklider, Wes Clark, and Larry Roberts, and the institutions and companies that employed them, like Bolt, Beranek, and Newman, were here; their progeny, in both the biological and the metaphoric senses, continue to create new businesses. Route 128 (which for much of its length is coincident with US 95) forms an arc around the metropolitan area, was, in the 1960s, seen much as Silicon Valley is today.

Although the large computer and software companies, apart from EMC, are no longer based here, and "Route 128" is no longer synonymous with high tech, software remains a major participant in the local economy, and all the major firms, such as Google and Microsoft, have offices here, and not just for sales. We've probably all seen *The Social Network* and know where Mark Zuckerberg began Facebook in 2004.

Sand Hill Road has no Boston analogue, but the city has several of the country's leading venture capital firms, like Greylock Partners, Bain Capital, Bessemer Venture Partners, Battery Ventures, and Highland Capital. A number of the world's leading management consultancies, like Boston Consulting Group and Bain & Company, are also headquartered here.

Despite the retreat from shipping and manufacturing, and the continuing economic reliance on finance, Boston's and Cambridge's economic base is now more diverse even than it was during the previous recession, in the early 1990s. Biotech and pharmaceuticals are one of the leading and growing drivers of the local economy. The brick cathedral of Amgen stands near the Cambridge exit of the Mass Pike. Novartis has recently taken over the factory which, throughout the last century, turned out **NECCO wafers** (first produced in 1847), across the street from the **MIT Museum**, and is now putting up a large new building next door. Most of the world's biotech firms are here: Genentech, Biogen Idec, AstraZeneca, Millennium Pharmaceuticals, Immunogen and many more, and buildings are being thrown up around **Kendall Square** in Cambridge to house them all. Preceding biotech, medical services in general were and continue to be a large part of the economy. The Longwood medical district lies not far from Fenway Park, and there are other large teaching and research hospitals besides Mass General throughout the city and the surrounding towns, along with the medical schools of Harvard, Tufts, Boston University, and U. Mass. American health insurance reform began in Massachusetts in 2006 with Romneycare, designed in part by Professors David Cutler of Harvard and Jonathan Gruber of MIT.

One legacy of Boston's old industrial heritage was a poisonous and noxious **Charles River**,

which also bore away far too much untreated sewage, such that, in the 1960s, you couldn't drive along the river on a hot summer's day without rolling up your windows, even in a car without air-conditioning. Hence Boston's anthem, the Standell's "**Dirty Water**." The pollution has now been so far contained and reversed that Cambridge officially permitted a day of swimming in the Charles earlier this year. Just don't disturb the sediment.

Not all of the environment can, alas, be improved. The waters may now be nearly salubrious, but no one comes to Boston for the climate. We have four seasons, but spring is short, and during some summer weeks, you might as well be south of the Mason-Dixon line. Outside the city, the fall foliage is as picturesque as in any part of New England. Winters can be cold and snowy, but nowhere near as challenging as in the Midwest, and Bostonians have lately gone soft, with the city's government too ready to declare an emergency at the forecast of just a few inches of snow. Winters were, as we all know, colder in the nineteenth century, when Fresh Pond, in western Cambridge, was the **nucleus of the worldwide trade in ice for refrigeration**. Like three-quarters of the states in the Union, this state claims as its motto, "If you don't like the weather, wait a minute." As we meet in November, the weather is almost as likely to be balmy and comfortable as it is to be blustery and raw.

NOTES FROM THE INSIDE

A Brilliant Time in Manchester

The British Society for the History of Science (BSHS) hosted the 2013 International Congress of the History of Science, Technology and Medicine (medicine was added because of the Wellcome's support) this past July and as I told local organizer, Jeff Hughes, "I'm going to have to keep an eye on you guys." Simply put, the BSHS shone brightly in organizing and executing this massive meeting (nearly 1800 attendees). A detailed report appears on the BSHS web site, including links to a vibrant "Twitterverse" that orbited the meeting, but since the HSS expends considerable energy in fostering our international ties through the DHST, I would like to provide some of the highlights of the General Assembly of the Division of History of Science and Technology (DHST), which met during the conference.

First of all, I am grateful to Angela Creager, Francesca Bray, and Joe Dauben for agreeing to serve as delegates to the U.S. National Committee (and sitting through multiple hours of business decisions). I offer hearty congratulations to Mike Osborne for being elected as the DHST's new president elect—Mike has been actively involved in DHST governance for many years and his unopposed candidacy speaks volumes to his international reputation—and to the new president, Efthymios Nicolaidis, who served as Secretary General for many years and who has been a constant champion for the DHST. The finances for DHST are in excellent shape thanks

to Catherine Jami (elected as the new Secretary General) and will continue to be robust with Jeff Hughes' election as the new Treasurer. The U.S. Committee nominated Lesley Cormack to serve as Second Vice President and she was duly elected. One of the more important outcomes of the General Assembly is the selection of the next congress site and the proposal from Rio de Janeiro won the spot for 2017, marking an impressive lineup of World Cup, Olympics, and International Congress over the next four years (Brazil had the 3rd highest number of historians of science at the conference, behind only the U.S. and the U.K.).

Other bits of business included the formation of a new national commission for New Zealand (bringing the total number of national members


to 50); the presentation and discussion of the Manchester Manifesto, a clarion call on the value of the history of science; and the approval of two new special interest commissions: History and Philosophy of Computing (made all the more poignant by a Michael Mahoney quotation: "the computer is not one thing but many different things and the same holds true for computing") and a Science and Literature Commission. An overview of the DHST and its activities can be found at <https://sites.google.com/a/dhstweb.org/www/>.

If you have any questions about the DHST and its role in the international community, please do not hesitate to contact me at jay@hssonline.org. And thank you for your membership in the HSS.

- Jay Malone, HSS Executive Director



Graduate & Early
Career Caucus

 HISTORY OF SCIENCE SOCIETY

The Graduate and Early Career Caucus seeks volunteer **Mentors and CV Reviewers** at the HSS annual meeting in Boston.

Mentors meet with assigned students for about an hour at the opening reception on Thursday night. Mentors form an extended bond with the early careerist and offer more in-depth advice on the student's career.

Each **CV Reviewer** meets with up to six students in one hour to be scheduled at the reviewer's convenience during the conference. The CV Reviewer will have ten minutes to look over the student's CV and provide feedback. Realistically, someone reviewing job applications spends little time with each applicant's material. The goal is to treat the CV as if it is one of many in a hiring process.

Ready to meet your discipline's next generation?

Contact us at hss.gecc@gmail.com

Green Cardamoms, *cont.*

I realized a column that called itself history of science would be far too academic for the general reading public. Instead, I could instead simply revive the “Green Cardamoms” to tell my stories—so from 3 August 2013 the column began appearing again, this time every alternate Sunday. It can be accessed on line www.theshillongtimes.com/ (please type green cardamoms into search). What I write in this voluntary, freelance effort is not predetermined. It may be the story behind what is common knowledge (Robert Hooke discovered the cell) or a local event (poachers killing rhinoceroses at Kaziranga) or an anniversary (discovery of Neptune) and in the final call, just any story in history of science that is worth telling. I do try to sustain interest of the general reading public by varying the content and area of focus. But if truth must be told, I remain at heart a teacher of Biology, telling stories that textbooks could not or did not (and I did not or have the time for); crossing boundaries that lie between individual subject textbook covers to restore the wonder and place of science in the context of human civilization.

The HSS membership and papers in *Isis* (and the JSTOR extension) have given me a wide view of the discipline and its intricacies. In the very structured, brand-conscious world of academia, it was a relief to understand that anyone with an interest in history of science could join. It has enabled me to be part of the polycentric

contributor community that the present HSS President spoke of so eloquently in the January 2012 *Newsletter*. I am now working on my second book on the sea change in Biology in the 1800s. In

this electronic media age, this trobairitz can be contacted at trobairitzg@gmail.com and—in the future—through her online green cardamom café as soon as it opens.

Visiting Full/Associate/Assistant Professor of History Pasadena, CA

The Division of the Humanities and Social Sciences at the California Institute of Technology (Caltech), in collaboration with the Huntington Library, invites applications for the annual Eleanor Searle Visiting Professorship in the general field of history, with a preference for history of science and technology. The position is up to a full academic year (September 2014 - June 2015). It is a half - time teaching position (one or two one-quarter courses depending on length of appointment) and half-time research position at the Huntington Library. Candidates should have demonstrated superb teaching and research skills. All applicants must currently hold a Ph.D. and a full-time, tenured or tenure-track appointment at another university.

Please apply by sending a statement detailing your intended research at the Huntington Library, a current CV, a recent sample of writing, and the names of three potential referees to ftise@hss.caltech.edu, or by mail to Chair, Eleanor Searle Search, Division of the Humanities and Social Sciences, California Institute of Technology, MC 101 -40, Pasadena, CA 91125.

Applications will be accepted until December 1, 2013. Caltech is an Equal Opportunity/Affirmative Action Employer. Women, minorities, veterans, and disabled persons are encouraged to apply.

New Features of JASBio, 26 & 27 April 2013 at MBL, Woods Hole, Massachusetts

By Pnina G. Abir-Am and Dawn M. Digrius

The Joint Atlantic Seminar in the History of Biology, now in its 48th year, took place on April 26 and 27, 2013 at the Marine Biological Laboratory (MBL) in Woods Hole. It was hosted in the magnificent Swope Building overlooking the Eel Pond (for those who were lucky to get a “room with such a view”—see photo of the pond) and organized by a joint program of MBL and Arizona State University’s Center for Biology + Society.

Though the JASBio began as a forum for “debutants” or graduate students, independent scholars, and others in the history of biology on the northeastern seaboard, it is usually attended by the presenters’ advisers and scholars from the host and nearby institutions. This year’s meeting had some remarkable features, both good and surprising. On the good side, **most of the eight student speakers** were from regions other than the traditional Northeast, such as Arizona State University, Florida State University, Oregon State University and Duke University, including two European students from the Universities of Rome (Federico Morganti) and Vienna (Florian Huber). On the surprising side, there were no presenters from nearby Greater Boston, an area rich in graduate students. All of the presentations were thought-provoking and inspired questions and comments to facilitate further development.

Two additional well placed new features deserve special mention. The meeting, which stretched from 9 a.m. to 4:30 p.m. on 27 April, was preceded by a workshop in informatics and digital HPS in the afternoon of 26 April, presented by an impressive and large ASU contingent headed by Jane Maienschein and Manfred Laubichler. A panel on “The Present and Future of Publishing in History of Science” which featured two editors of nearby university presses (Margy Avery of MIT Press and Michael Fisher of Harvard University Press) and two historians of biology involved in editorial ventures, (Michael Dietrich of Dartmouth College and Editor of the *Journal of the History of Biology* and Dawn Digrius of Stevens Institute of Technology, Editor of a new *Series in the History and Philosophy of Biology with Pickering and Chatto* concluded the meeting. Two student presentations even managed to attract the publishers’ attention! Congratulations! (Barbara Canavan of OSU who spoke on “Migrating Birds: Biological Sentinels for Human Disease” and Robin W. Scheffler of Yale who spoke on “The [Norton] Zinder Report and Molecular Biology’s Politics of Memory.”)

Among those not on the program who attended the JASBio-2013 and who participated in the Q&A period and otherwise enjoyed the opportunity to meet colleagues of long standing and new faces of bright students in the fresh air of Cape Cod



were: (in alphabetical order) Pnina G. Abir-Am of WSRC-Brandeis; Gar Allen of Washington University, St. Louis, a summer resident at Woods Hole; Luis Campos of the University of New Mexico, David Kohn of the American Museum of Natural History in New York City; Manfred Laubichler of Arizona State University; M Susan Lindee of the University of Pennsylvania; Jane Maienschein of Arizona State University; Everett Mendelsohn of Harvard University; Diane Paul of the University of Massachusetts-Boston and Harvard, and William Summers of Yale University.

The Alfred Russel Wallace Correspondence Project and Wallace Letters Online

Alfred Russel Wallace OM, LLD, DCL, FRS, FLS (1823–1913) was one of the 19th century's most remarkable polymaths. Not only was he the co-discoverer with Charles Darwin of evolution by natural selection, but he made many other notable contributions to science; not just to biology, but also to fields such as glaciology, anthropology, epidemiology, and astrobiology. His pioneering work on evolutionary biogeography led to him becoming regarded as the 'father' of that discipline, and Wallace's Line, the boundary he proposed between the faunas of the Oriental and Australasian regions, is even familiar to non-specialists. Beyond this, Wallace was one of the most highly regarded collectors and field biologists of tropical regions of the 19th century and his book *The Malay Archipelago* is one of the most celebrated travel writings of that century and has never been out of print. Wallace was also a vocal supporter of a variety of controversial non-scientific subjects, such as spiritualism, socialism, land reform, and women's rights, but this didn't turn the scientific community against him as some have supposed. Instead he received some of science's most prestigious honors and awards, including: the Darwin–Wallace and Linnean Gold Medals of the Linnean Society of London; the Copley, Darwin and Royal Medals of the Royal Society; and the Order of Merit (which is awarded by the ruling monarch as the highest civilian honor

of Great Britain). Historian of science Sherrie Lyons recently remarked that "...Wallace has to be one of the most interesting people in the history of science." (Lyons, 2011)—a sentiment shared by many who have studied his life and work.

Research on Wallace has unfortunately often been hampered by the difficulty of obtaining copies of his surviving letters, since (perhaps surprisingly) no serious attempt has ever been made to compile and publish them. Approximately 4800 letters to and from Wallace are known, but these are scattered amongst the collections of over 150 institutions in several countries and no catalogue of them has been published. In 2009 funds were sought to set-up the Wallace Correspondence Project (WCP) at the Natural History Museum, London, and in July 2010 we secured a grant from the Andrew W. Mellon Foundation of £200,730 over a three-year period, to fund phase 1 of the project. This phase aims to locate, catalogue, and summarize Wallace's letters and make the information available free of charge via an easy to use website. Phase 2, which will be more costly, will focus on producing scholarly annotated transcripts of the letters, plus a number of 'popular' and academic publications such as a Calendar of Correspondence.

Work on the WCP officially began in October 2010 and Wallace Letters Online (WLO) was formally launched on 24 January 2013, with around 95%

of Wallace's known surviving correspondence in the digital archive; the remainder of which will be added to in the coming months. WLO brings together all surviving letters to and from Wallace, both personal and academic, for the first time and this new resource offers unprecedented insight into his life and work. Highlights from WLO include the fascinating letters he wrote and received during his epic trip to the Malay Archipelago between 1854 and 1862, and his complete correspondence with Charles Darwin, which has never been published in full before, complete with transcriptions so the letters can be read more easily. Two of his collecting notebooks from the Malay Archipelago which are owned by the Natural History Museum have also been digitized and are included in the digital archive.

Collating, transcribing and making this material freely available online marks a huge advance in understanding Wallace and presents a wealth of new information for those interested in Wallace's life, work and beliefs.

Some key letters from WLO are:

WCP346: Wallace to Henry Walter Bates, 28th December 1845. Wallace discusses his views of the book *Vestiges of the Natural History of Creation*—the work which convinced him of the reality of evolution and started him on his quest to discover the mechanism which drives it.

Wallace, cont.

WCP348: Wallace to Bates, 11th October 1847. This letter contains his famous statement “I begin to feel rather dissatisfied with a mere local collection—little is to be learnt by it. I sh[oul]d like to take some one family, to study thoroughly—principally with a view to the theory of the origin of species. By that means I am strongly of [the] opinion that some definite results might be arrived at.” This was the prelude to Wallace suggesting to Bates that they go on an expedition to Brazil to collect birds, butterflies and beetles in order to try to discover what drives the evolution of new species.

WCP349: Wallace to Richard Spruce, 19th September 1852. “On Friday the 6th of August... about 9 o’clock in the morning just after breakfast the Captain (who was the owner of the vessel) came into the cabin & said “I am afraid the ship’s on fire. Come & see what you think of it”“. Twenty-six days into the voyage, in the mid-Atlantic, the ship had caught fire and sank, taking his specimens down with it. Wallace and the crew took to the lifeboats and, miraculously, were rescued 10 days later.

WCP1703: Wallace to his agent Samuel Stevens, 21st August 1856. This letter is the first mention of Wallace’s famous discovery of what was later named the Wallace Line—the invisible boundary between the animals of Asia and the Australian region.

WCP609: Charles Darwin to Wallace, 23rd February 1867. Darwin and Wallace became good friends. In this letter Darwin writes “On Monday evening I called on Bates & put a difficulty before him, which he could not answer, & as on some former similar occasion, his first suggestion was, “you had better ask Wallace”. My difficulty is, why are caterpillars sometimes so beautifully & artistically coloured?” Darwin was puzzled because his theory of sexual selection (where females choose their mates based on how attractive they are) would not apply to caterpillars since they are immature.

Wallace replied the next day (**WCP4083**) with the suggestion that since some caterpillars “... are protected by a disagreeable taste or odour, it would be a positive advantage to them never to be mistaken for any of the palatable caterpillars, because a slight wound such as would be caused by a peck of a bird’s bill almost always I believe kills a growing caterpillar. Any gaudy & conspicuous colour therefore, that would plainly distinguish them from the brown & green eatable caterpillars, would enable birds to recognise them easily as at a kind not fit for food, & thus they would escape seizure which is as bad as being eaten.”

Thus the concept of warning or aposematic colouration in animals was born.

Wallace was one of life’s great polymaths—a quick browse through WLO will testify to this.

His formidable intellect coupled with the ability to argue points in a clear and consistent fashion allows for some fascinating reading. The extent of the Natural History Museum correspondence is such that it represents an important primary resource, not only for historians of science but also for historians of the wider Victorian period. The letters provide an insight into a broad spectrum of subjects. We know Wallace first and foremost as being a great scientist, but perhaps less-well known is the divergence of his interests over time.

With correspondents from all the key figures in the history of nineteenth century science such as Charles Darwin, Thomas Henry Huxley, Henry Walter Bates, Charles Lyell, Alfred Newton, John Lubbock and Asa Gray to name but a few represented in the catalogue, it reads like a who’s who of the era’s most important and influential scientific figures, reflecting the reach of Wallace’s interests.

Wallace Letters Online can be accessed at www.nhm.ac.uk/wallacelettersonline

Please note that the WCP is always on the lookout for letters we do not know about e.g. ones in private collections. If you know of any then we would be very grateful if you could contact us. We are also looking for volunteers to help transcribe letters—especially volunteers who already have experience of transcribing sometimes difficult Victorian handwriting and who also have an

Wallace, cont.

Internet connection. Volunteers will be sent batches of letters as jpg images, which we need to have transcribed as word processor files and emailed back to us. Full credit will be given for all transcriptions. If you would like to volunteer please contact the WCP Archivist Caroline Catchpole: email c.catchpole@nhm.ac.uk

The museum is also co-ordinating Wallace100, a celebration of the life and legacy of Wallace this year, the centenary of his death. More information can be found about this at www.nhm.ac.uk/wallace100

Reference

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D. Kim Foundation for the History of Science and Technology in East Asia



From left to right: Shigehisa Kuriyama, Christopher Cullen, Dong-Won Kim, Angela K. Leung, Stuart W. Leslie and Takehiko Hashimoto.

The D. Kim Foundation for the History of Science and Technology in East Asia is pleased to offer several annual fellowship awards and grants for 2014. Established in 2008 the D. Kim Foundation is dedicated to furthering the study of the history of science and technology in East Asia since the beginning of the 20th century.

The Foundation provides fellowships and grants to encourage and support graduate students and young scholars in the field. Comparative studies of East Asia and the West as well as studies in related fields (mathematics, medicine and public health) are also welcome.

For more information, see www.dkimfoundation.org

The Neglected Mandate: Teaching Science as Part of our Culture

By Gerald Holton, Jefferson Physical Laboratory, Harvard University, Cambridge, MA, USA

This is the Invited Key Note Lecture at the Conference on "How Can the History and Philosophy of Science Contribute to Contemporary US Science Education?" (Boston University, December 7, 2012)

I have been asked to introduce for your consideration a matter which is as urgent as the time given to me here is brief. I do so gladly, chiefly for two reasons:

One is that by experiment on a national and international scale it has been proven that teaching science with the inclusion of a measure of history and philosophy can be done, with success, even though with much labor.

The other reason is that at this way of improving science teaching is urgently needed just now. For let us be frank here: While we all know exemplary cases of fine science teaching, the results on average in this country are abysmal, by national and international comparisons. You all know the facts. For our profession as educators, this is a deeply sobering matter. Moreover, it is coming just at the time in history when, on many measures, the U.S. lags far behind those of many of our ambitious and well-organized foreign opponents—regarding the knowledge of science by students and the wider public, even regarding the respect for scientific

reasoning and evidence-based facts. On this front, one may still say that ours is "A Nation at Risk."

Thus I earnestly believe that there is an urgent need to upgrade the teaching of science now. For the nation faces a challenge not very different from that, many decades ago, when the Soviet Union launched Sputnik. At that time we woke up, realizing how we had failed in many crucial ways, and seriously experimented with greatly improved science teaching. Many at this conference will have had some experience with those efforts.

I feel sure that from the results of the experiments which succeeded then there are valuable lessons for our own situation today. I have been invited to speak about one of them, in which I was and still am involved.

In a nutshell, it started with an approach to me from the National Science Foundation. The Foundation had supported a large-scale introductory physics course (Physical Science Study Committee) developed by distinguished physicists at MIT. It was imaginative and successful; but the Foundation was concerned that despite its excellence it was reaching a relatively small proportion of high school students in the U.S., of the order of 4%. Therefore the Foundation asked me to help initiate a second curriculum development in physical

science, one designed to reach a larger portion of the student body. I agreed, little knowing how much work this would involve.

From the beginning, I decided that this new course, based at Harvard and called Project Physics, would be enriched by a measure of history and philosophy, thus would take a humanistic approach—precisely the kind to which much of this conference is dedicated. I based my decision in part on the hunch that more beginning students would come to take this course, to learn not only that F is equal to ma , but also that science is a fascinating part of human culture.

In addition, I started the course on this path because that is how I understand science. Years before starting Project Physics I had published a text book incorporating the humanistic enrichment (it had the clumsy title *Introduction to Concepts and Theories in Physical Science* (Holton, 1952)). The same spirit went into the new course, eventually the result of a six-year-long effort involving hundreds of high school teachers in the writing and national try-outs, many distinguished scientists, as well as historians and philosophers of science. Thanks to James Rutherford, the extraordinary co-head of Project Physics, all printed materials are now available free on the Internet.¹

¹ <http://archive.org/details/projectphysicscollection>

The Neglected Mandate, *cont.*

And here is what can be learned for our purpose from all this. During and after the development, a veritable flood of assessments of success or failure was made, including over a dozen Ph.D. theses in Graduate Schools of Education. The net result was as good as we could have hoped for. About four times as many students selected our course compared to PSSC, far more girls, with more than 200,000 students taking our course at its peak in the USA, and uncounted others in about a dozen foreign adaptations, from Italy to Japan. And as one of the assessments showed, our students on average did as well as others on the demanding Regents Tests of the knowledge of physics, even though those tests were only of the old, strictly $F=ma$ variety.²

The squishy phrase “understanding of science” can mean many things, but above all it must, I insist, include *knowledge* of science, plus an acquaintance with how science is done, plus a view of science as part of the cultural development of humanity. In addition to the nuts and bolts of a given subject, an educator of young persons has the ethical imperative to try to convey a way of thinking and functioning, a view of the world in which science has its proper place. It must be part of some preparation for a long life in a society in which science and technology are predominant forces, for better or worse.

² See Ahlgren and Walberg (1973) for an overview. See also Holton (2003).

So if one of your skeptical colleagues, on hearing you might engage in such a plan in your science teaching, came to you, horrified about it all (“There is no time for such extras, we constantly have to squeeze in more of the DNA and E is mc squared type of stuff”), you have an answer:

“The humanistic approach to science teaching has been tried, and it works. If I were to leave out what you regard as extras, I would be apt to teach *dead* science, and my students would know it. Instead, I shall take on the more difficult task that my sense of obligation to my students requires, and they will thank me for it.”

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Plan Ahead Put HSS on your Calendar

6-9 November 2014
Chicago, Illinois (with PSA)

19-22 November 2015
San Francisco, California

3-6 November 2016
Atlanta, Georgia (with PSA)

9-12 November 2017
Toronto, Ontario

1-4 November 2018
Seattle, Washington (with PSA)

Click here to download a zip file of iCalendar (.ics) files that will automatically add each meeting's dates to your calendar.



MEMBER NEWS

Sarah Benharrech (University of Maryland) announces the publication of her book *Marivaux et la science du caractère* (Oxford, 2013). In this work, she compares the anthropological and aesthetic assumptions subsumed in fictional characters with the tools used in the characterizations, descriptions, and definitions of the natural sciences.

.....

Carin Berkowitz (Chemical Heritage Foundation) has been named the Director of the Beckman Center for the History of Chemistry at CHF.

.....

Julie K. Brown (Independent Scholar) has a forthcoming article, "Connecting Health and Natural History: A Failed Initiative at the American Museum of Natural History, 1909-1922" which is being published in the December issue of the *American Journal of Public Health*.

.....

Joan Cadden's (University of California, Davis) book, *Nothing Natural Is Shameful: Science and Sodomy in Late Medieval Europe* is scheduled for publication in October by the University of Pennsylvania Press.

.....

Richard Carrier has published *Proving History: Bayes' Theorem and the Quest for the Historical Jesus* (Prometheus, 2012). The book argues

that historical reasoning is a subset of scientific reasoning, and fundamentally Bayesian, so an understanding of Bayes' Theorem would improve the methods of historians and enable critique of existing methods.

.....

Eugene Cittadino (New York University, Gallatin) has been promoted to Clinical Associate Professor in the Gallatin School of Individualized Study, New York University, thus unintentionally, although not unwittingly, doing his part to undermine the tenure system.

.....

Arthur Daemmrch has joined the University of Kansas Medical Center as an associate professor in the Department of History and Philosophy of Medicine, with affiliations in the Department of Health Policy and Management and the Department of Preventive Medicine and Public Health. He is continuing his comparison of chemicals-testing programs and regulatory cultures in the United States and European Union, with a new project shaping up concerning the history of patient records and the transition from paper to electronic health records. See: <http://clendening.kumc.edu/school-of-medicine/history-and-philosophy-of-medicine/faculty-and-staff/arthur-daemmrch-phd.html>

.....

Lindley Darden (University of Maryland) has just published an article that includes a case

study of the history of work on mechanisms associated with the disease cystic fibrosis, which she presented in a talk at the 2010 Montreal HSS meeting, as well as at a conference in Taiwan. The article is "Mechanisms versus Causes in Biology and Medicine," in Hsiang-Ke Chao, Szu-Ting Chen, and Roberta L. Millstein (eds.), 2013, *Mechanism and Causality in Biology and Economics*.

.....

Lorraine Daston (Max Planck Institute) received an Honorary Degree from Princeton University during their 2013 commencement.

.....

Robert Marc Friedman (University of Oslo), Sven Widmalm and Per Pippin Aspaas are the guest editors of a special issue (2012: 29/2) of *Acta Borealia: Nordic Journal of Circumpolar Societies* devoted to the history of research into the aurora borealis, focusing in particular on cultural politics of the northern lights.

.....

Judith Goodstein (Caltech), along with Donald Babbitt, has just published "E.T. Bell and Mathematics at Caltech between the Wars," in *Notices of the American Mathematical Society* (vol.60, no.6).

.....

Anita Guerrini (Oregon State University) will be a visiting professor at the École des Hautes

MEMBER NEWS, CONT.

Études in Sciences Sociales in Paris this fall. In fall 2014 she will have a senior fellowship at the Max Planck in Berlin.

.....

Brian K. Hall (Dalhousie University) delivered the 2013 Thomas S. Hall Lecture at Washington University, St. Louis, Missouri on October 7th on the topic “Embryos in Evolution and Evolving Embryos: An Historical Overview with Emphasis on Getting “a head” by Riding the Crest of the (neural crest) Wave.” He also led a seminar discussion on the topic “Do we need the concept ‘evolutionary novelty?’” The answer requires integrated phylogenetic, developmental, and molecular genetic analyses.

.....

Frank James (The Royal Institution) in addition to his continuing responsibilities at the Royal Institution has been appointed part-time Professor of the History of Science in the Department of Science and Technology Studies at University College London.

.....

Susan D. Jones (University of Minnesota) is the new Director of the Program in the History of Science and Technology at the University of Minnesota--Twin Cities. She succeeds **Sally Gregory Kohlstedt**, who is the new Acting Interim Vice-Provost for Graduate Education.

.....

Roger D. Launius (Smithsonian Institution) has been named as Associate Director for Collections and Curatorial Affairs at the Smithsonian’s National Air and Space Museum.

.....

Mark Largent has been appointed Associate Dean of the Lyman Briggs College at Michigan State University.

.....

Michael J. Neufeld (National Air and Space Museum, Smithsonian Institution) has published an edited volume, *Spacefarers: Images of Astronauts and Cosmonauts in the Heroic Age of Spaceflight* (Washington, D.C.: Smithsonian Institution Scholarly Press, 2013). Contributors include Margaret Lazarus Dean, Guillaume de Syon, Matthew H. Hersch, Andrew Jenks, Valerie Neal, Trevor S. Rockwell, Jennifer Ross-Nazzal, James Spiller, and Margaret A. Weitekamp. In addition, his *The Rocket and the Reich: Peenemünde and the Coming of the Ballistic Missile Era* (New York: The Free Press, 1995), winner of the SHOT Dexter Prize, has been reissued by Smithsonian Books as an e-book and print-on-demand paperback.

.....

Mary Jo Nye (Oregon State University) has been awarded the 2013 Roy G. Neville Prize in Biography or Bibliography by the Chemical Heritage Foundation (CHF) for her book, *Michael Polanyi and His Generation* (University

of Chicago Press). She will receive the prize at CHF on 10 October 2013. She also received the 2012 John and Martha Morris Award of the Society for the History of Alchemy and Chemistry on August 23rd during the 9th International Conference for the History of Chemistry held at the Museum Gustavianum in Uppsala, Sweden. The award recognizing “Outstanding Achievement in the History of Modern Chemistry or the History of the Chemical Industry” honors the memory of the late parents of Peter Morris, the editor of *Ambix*, who has contributed the endowment for this award. The title of her award lecture was “Mine, thine, and ours: Collaboration and the material culture of the 20th Century Chemical Laboratory.”

.....

Donald Opitz (DePaul University) was promoted to associate professor with tenure in the School for New Learning at DePaul.

.....

Michael Osborne (Oregon State University) became president-elect of the International Union of History and Philosophy of Science and Technology’s Division of the History of Science and Technology in July at the 24th International Congress of History of Science, Technology and Medicine held in Manchester, U.K. The next congress, the first to be held in the Southern Hemisphere, will be in Rio de Janeiro, Brazil, in the summer of 2017.

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Laura Otis (Emory University) has been appointed Samuel Candler Dobbs Chair of English at Emory University.

.....

Peter Pesic (St. John's College) has been appointed Editor-in-Chief of *Physics in Perspective*, beginning in 2014.

.....

Shirley Roe (University of Connecticut) has been appointed Associate Dean for the Humanities, having served eight years as History Department Head.

.....

Alan R. Rushton recently published the article "William Bateson and the Chromosome Theory of Heredity: A Reappraisal," in the *British Journal of the History of Science, First View Article*, 5 July 2013, <http://dx.doi.org/10.1017/S0007087413000320>

.....

Dagmar Schäfer (University of Manchester) was appointed as Director at the Max Planck Institute for the History of Science in August 2013 where she will be heading the new Department III on "Artefacts, Action and Knowledge."

.....

Patience A. Schell published a new book titled *The Sociable Sciences: Darwin and his Contemporaries in Chile* (April, 2013).

.....

David Seim (University of Wisconsin-Stout) has published *Rockefeller Philanthropy and Modern Social Science* (Pickering & Chatto, 2013).

The book explores protective procedures and mechanisms created by the Rockefellers and their philanthropies, as they financially supported social scientists between the 1890s and about 1930.

.....

Kathleen L. Sheppard has published her first book *The Life of Margaret Alice Murray: A Woman's Work in Archaeology* (Lanham, Md.: Lexington Books, 2013).

.....

Betty Smocovitis (University of Florida) will be giving the keynote address (a noteworthy honor for a historian) at the American Society of Naturalists' conference at Asilomar in Pacific Grove, California, on 12 January 2014. Her title is "Naturalizing America: The Evolution of the American Society of Naturalists."

.....

Richard Sorrenson's (The University of Auckland Foundation) book, *Perfect Mechanics: Instrument Makers at the Royal Society of London in the 18th Century* (Docent Press, Boston, 2013) will be coming out this October.

.....

Darwin H. Stapleton (University of Massachusetts-Boston) has published two recent articles, one titled "Was the Peking Union Medical College a Christian Institution?", in the

edited volume *The Religion Spread through the Ten Circuits: Studies in Modern Chinese Christianity through Regional Perspectives* (Alliance Bible Seminary, 2013) and the other in the *Journal of the International Committee for the History of Technology* titled "Oswald T. Avery and the Technological Basis for the Discovery of DNA at the Rockefeller Institute for Medical Research."

.....

William Summers (Yale University) published his book *The Great Manchurian Plague of 1910-11: The Geopolitics of an Epidemic Disease* (Yale University Press, 2012).

.....

Elizabeth Watkins (University of California, San Francisco) Dean of the Graduate Division and Professor of History of Health Sciences was named Vice Chancellor of Student Academic Affairs, effective 1 August 2013. She retains her academic appointment as dean and professor, and fully assumes the vice chancellor responsibilities, which include overseeing all student and graduate affairs, leading strategically important educational initiatives and partnerships for UCSF, and acting as primary advisor to the Chancellor on all matters related to students. She will continue to supervise PhD students who are writing dissertations in the history of health sciences.

.....

Per Wisselgren (Umea University, Sweden) published a new edited volume with Rickard

MEMBER NEWS, CONT.

Danell and Anna Larsson, entitled *Social Science in Context: Historical, Sociological, and Global Perspectives* (Lund: Nordic Academic Press. 2013).

Bill Newman (Indiana University) Receives the HIST Award from the Division of History of the American Chemical Society



Bill Newman (left) receiving the HIST Award from Ned Heindel, chair of the Division of History of the American Chemical Society. The award was given on the occasion of a symposium organized in Bill's honor at the ACS meeting in Indianapolis, Indiana, 8 Sept 2013. Presenters for the symposium included John Heilbron, Larry Principe, John Powers, Jole Shackelford, Joel Klein, and Bill. For further information on the prize, see the April 2013 *Newsletter*, page 22.

HSS At Work

HSS's Newest Caucus

The HSS Council has approved Tania Munz's and Carin Berkowitz's proposal to form a caucus that serves historians of science working outside the traditional academic setting or in non-tenure-track jobs within the academy. HSS at Work, as the Caucus is called, will support those who have opted to work outside the academy either after receiving their PhDs or during their graduate training. The Caucus will also offer information and support to tenured faculty seeking to provide better counsel and more effective advising to and advocacy for their graduate students in pursuing a broad range of employment options. The Caucus will seek to cultivate former HSS members as "friends of the field" as well as raise awareness within the profession of this population. It will provide practical career-building support through such efforts as establishing a database of those who have gone on to pursue non-academic careers and organizing networking and non-academic career-focused events at HSS. It will also help to further the ongoing work of those who are in such jobs or who have built such careers by addressing issues of research time, research budgets, access to library resources, conference attendance, and publication permissions/rights, with the hope of raising awareness that might allow for the sharing of information, resources, negotiating ideas, etc. and that

might enable HSS and other history of science meetings to be more friendly to those who work in non-academic jobs. By providing those HSS members who work outside of the academy greater visibility and by celebrating their accomplishments, the Caucus will aim to change the culture within the profession, to support and de-stigmatize the process of leaving the tenure-stream track, and to increase the intellectual and social fluidity between "inside" and "outside" academia.

HSS at Work will meet annually at the HSS meeting; it will maintain ties and build community outside of that meeting through a listserv and through the HSS website. Co-chairs will serve two-year terms. A new co-chair will be elected each year by those present at the Caucus's business meeting (part of its HSS face-to-face meeting), along with those who submit votes by email within one week of the business meeting. The group assembled for the first meeting shall vote to endorse the organizing co-chairs or to elect two new co-chairs, but subsequent regular rotating elections will begin two years after the founding of the Caucus in order to promote some stability at the outset, as the Caucus is established. In addition to the co-chairs, the Caucus will also elect a secretary/webmaster who will serve a three-year term (with possible reelection for no more than one additional term). The first person to serve in this position will be elected at the initial Caucus meeting by those present.

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Some of the Tasks this Caucus Plans to Undertake:

- Establish space on the HSS website dedicated to promoting non-academic jobs that might pertain to historians of science, to mentoring for non-academic jobs, as well as to promoting the work of historians of science who are outside the academy.
- Establish a database for those who have left the field (non-renewing and lapsed members) with the purpose of nurturing these contacts as friends and supporters of our field and providing networking contacts to those thinking of post-academic options.
- Organize special panels and/or networking events at HSS for those thinking of leaving academia and those who have left, making these members welcome and recognizing them as a valuable resource to students, faculty, and “alumni” of the field.
- Organize events geared toward faculty members who want to support graduate students pursuing a wide range of jobs.
- Promote outreach and writing about history of science for non-academic audiences (this should also include discussions of new media and the future of publishing).
- Work to establish a reduced-fee membership (Friends of the Field: electronic newsletter only?), to promote knowledge of day-rates and other measures meant to make the annual meeting friendlier to those who might only be able to attend on specific days, due to work commitments.
- Assess and serve the interests of this “friends of the field” population by keeping them informed of current and interesting scholarship and debates in history of science, perhaps through a regular column in the *HSS Newsletter* or some other format.
- Provide career support through mentorship opportunities among PhD students or recent grads and members of the field who have gone on to pursue successful careers outside the academy. This might also include facilitating externship programs, where students could shadow or work with alumni of the field.
- Think about steps the profession might take to include, recognize, and celebrate the accomplishments of alumni of the field, perhaps through a special prize or special prizes.
- In cooperation with the Graduate and Early Career Caucus, develop HSS alumni/ae for funding and support of graduate students.
- Develop funds to support attendance at the annual meeting and events for those who work outside the Academy (perhaps through sponsorship by those who employ HSS members).
- Develop appropriate funds to supplement the \$300 budget offered by HSS to caucuses in order to support specific projects. This fundraising would be done in cooperation with the Executive Office, and would be minimal and targeted (primarily meant to support a caucus prize or two, travel costs for caucus panel speakers who receive no institutional support, and small networking events at the annual meeting). Solicitations would specifically be aimed at non-academic institutions (museums, libraries, research centers) that employ PhD historians of science and that might be interested in reaching out to this Caucus and its members. For further information, please contact Tania Munz (t-munz@northwestern.edu) or Carin Berkowitz (cberkowitz@chemheritage.org).

A Panel and Networking Event on Putting the History of Science to Work Outside the Academy

We would like to invite you to the kick-off event of the new caucus “HSS at Work” at the 2013 History of Science Society Annual Meeting in Boston.

A panel discussion, “Happiness Beyond the Professoriate – Advising and Embracing Careers Outside the Academy,” will speak to the increasing need to looking outside the academy for viable career paths for trained historians of science. The panel will take place Saturday,

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November 23, from 3:45 p.m. to 5:45 p.m. and will feature Lynn K. Nyhart (President, HSS), Jim Grossman (Executive Director, AHA), Sara Schechner (Curator of Historical Scientific Instruments, Harvard University), and David Attis (Practice Manager, Education Advisory Board).

This panel should be of interest to all members of the field—those who are outside the academy, graduate students who will soon be on the market, as well as those who advise graduate and even undergraduate students. As the HSS community begins to grapple with the realities of an ever-contracting academic job market, it becomes crucial that we all think about the skills we foster in graduate training and about how we define practicing members of our field and cultivate a sense of inclusion for all members of the community. We hope, therefore, to see many of you at this panel!

The panel will be followed by a networking event with experts outside the academy who will offer practical advice and an opportunity to ask questions in a more informal setting about different career paths. Attendees should feel free to bring copies of CVs and résumés for workshopping as well as business cards if they have them. All are welcome and we hope to see you there!

The first HSS at Work Caucus meeting will take place on Saturday, November 23, during the lunch hour (location TBA). All are welcome.

Further details will be sent out via email before the meeting.

Sincerely,

Carin Berkowitz and Tania Munz

New Content on the Women's Caucus Website

In the January 2013 *Newsletter*, HSS President Lynn K. Nyhart reminded Society members of the importance of fostering relationships with historians of science outside of academia. Together with the Graduate and Early Career Caucus, and our colleagues Tania Munz and Carin Berkowitz, who are organizing a new HSS Caucus for historians of science working outside the academy, the Women's Caucus believes it is important to highlight the many careers outside of tenure-track professorships, careers that can be pursued with history of science degrees. To see this new content in the website go to, <http://hsswc.weebly.com/careers.html>.

News From the HSS Standing Committees

On Starting Small: Bringing History into K-12 Science

By Richard J. Oosterhoff, University of Notre Dame

We have all had to explain our monstrous discipline to undergraduate students, nevermind colleagues. “The history of *science*? How do those things fit together?” If this confusion happens in universities, how much more so in elementary schools? At first glance, the history of science looks a tough sell for K-12 classrooms. Isn't it difficult enough for middle school kids to learn what genes are? Must students also retrace the story of Watson and Crick? Besides, science education these days is already under the strain of state and federal testing regimes, forcing some teachers to choose between basic education and meeting the most recent standardized tests. Wouldn't adding the history simply add another check box to the crowded schedules already straining our science teachers?

Versions of such worries have been aired in this newsletter **before**, more than **once**. We all agree that the history of science doesn't matter the way it should in science education, except as gray boxes on the margins of “real” scientific knowledge, to be dismissed as optional investigations into the esoteric

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“nature of science.” But how do we change this unfortunate situation?

In July, we—Greg Macklem, Pablo Ruiz de Olano, and Richard Oosterhoff, all of us graduate students in, or recent graduates of, the History and Philosophy of Science Graduate Program at the University of Notre Dame—decided to go to the experts on children in K-12 schools: the teachers. The History of Science Society’s Committee on Education helped fund a workshop, together with the Reilly Center of Notre Dame. Our angle would be to start small... simply begin a conversation about what classroom teachers actually need.

Our pilot workshop therefore had to be open ended, as an opportunity to listen as much as to speak. We hoped to explore whether future collaboration might happen, and if so how. Jay Malone opened the day by recalling the significance of school educators in lighting the passion for history as well as science. Then we offered case studies as examples of different ways that scholars in science studies think about science. We suggested, based on our own teaching, that historically and socially complex case studies do give students an understanding of “the nature of science,” but also—and this is key—give students compelling ways to process scientific knowledge itself, from basic astronomy to the basics of DNA. For the rest of the

morning we explored the current state of science education. We assessed the kinds of resources that currently exist for teaching science from a historical perspective. We tried to enumerate the constraints teachers face when trying to deepen science education, both from other subject concerns or testing regimes. We also learned about what kinds of current resources already excite teachers. Finally, after lunch, we turned to the future. If the history of science can help K-12 educators to enrich science education, what might that look like?

The positive response surprised me: science educators want very much to know about science studies. The problem is not that the history of science is uninteresting, but that from a distance it looks like an insider’s game, a strange beast. Practically, this means that historians of science (and STS sorts in general) have much to do to make their work friendly to a broader public. Science journalism is a vibrant field; historians of science have privileged access to knowledge that matters in science education and society at large. When we show our wares, people will come to look. But we must take opportunities to do so.

Every teacher enthusiastically agreed that we need to establish future ways of working together, and we brainstormed everything from read-alouds indexed to lexile levels (yes, Google it) to history of science tablet apps (contact us if

you want to fund that one). The challenge will be to match local action with global ambition. Several of us raised the long-term, global goal of a meta-database of resources that would help select available lesson plans, units, texts, apparatuses, Youtube videos, and so on; such a database should gather and categorize current online resources.

Our next series of steps will be small, so as to be attentive to local needs and to build incrementally. In South Bend, Indiana, where Notre Dame is located, we will organize Saturday workshops that bring together graduate students and historians of science with local educators focused on producing useable lesson plans and materials that integrate the history of science into K-12 science. As we begin the first of these workshops this fall, our goal is collaboration. It’s been some time since the clean distinction between theory and application worked in the history of science, and there is no reason to think it will work in education either. While we can bring plenty of ideas to the table, we need to rely on the experience and expertise of classroom practitioners to ensure our efforts are not fruitless. Working together, perhaps in a few years—I dare to hope—my university students won’t be shocked to find that even *science* has a *history*, and that history is an important avenue to understanding science.

Report on Data Management and Data-Management Plans for the History of Science Society Committee on Research and the Profession (September 6, 2013)

Task Force Members*

- Daniel Goldstein (chair and principal author), *University of California, Davis*
- Rafael Burgos-Mirabal, *University of Massachusetts, Amherst*
- Cathryn Carson, *University of California, Berkeley*
- David Caruso, *Chemical Heritage Society*
- Matthew K. Chew, *Arizona State University*
- Hamilton Cravens, *Iowa State University*
- Julia Damerow, *Arizona State University*
- Stephen DeRose, *Westminster Seminary*
- David Grier, *George Washington University*
- Manfred Laubichler, *Arizona State University*
- Sarah Lowengard, *The Cooper Union*
- Erika Milam, *Princeton University*
- Erick Peirson, *Arizona State University*
- James Skee, *University of California, Berkeley*
- Virginia Trimble, *University of California, Irvine*
- Brant Vogel, *Independent Scholar*

*Affiliation provided for identification purposes only.

Charge

“The Committee on Research and the Profession (CoRP) is forming an ad hoc task force to address the U.S. federal government’s recent requirements concerning data management and data-management plans. Because federal agencies, particularly the National Science Foundation,

define data by the standards of a given discipline, it is important that the History of Science Society have a sustained discussion both about what constitutes data for historians, and how best to share federally funded data with the broader public. This short-term committee will draft a report for the profession’s use that summarizes the problem, provides some examples of what might constitute data in various fields (including our own), and discusses advantages and disadvantages of various approaches to making federally funded data available to the public.”

Introduction

The Task Force was formed primarily in response to the National Science Foundation’s requirement that grant applications present data-management plans. But it was understood from the start that the NSF requirement was only one example of a broader trend calling for scholars to “manage” their data. Implicitly, the questions raised were about digital objects and so this report explicitly only considers digital not physical objects. “Manage” in this context is understood to comprise 5 elements:

- organize data in a way that is useful for the purpose of the project
- identify data that should be preserved
- identify data that should be made accessible to other scholars
- ensure that data that are identified for

preservation and sharing be suitably organized

- determine how those data will be preserved and shared.

The Task Force’s charge is to draft a statement that would serve as a starting point for a discussion of how historians of science should address data management. Its purpose was not to develop formal guidelines for history of science scholars applying for grants.

To begin, it is important to articulate how this new mandate differs from existing practice. Whereas historians of science are not generally engaged in data preservation, they routinely share and expose data. They publish a great deal of data in the text and tables of their work; the notes and bibliographies in their publications are designed to permit other scholars to understand and evaluate their sources and to review and replicate their research if necessary. In addition, historians of science routinely share unpublished data among colleagues through informal research networks. Two traits distinguish the current subjects of discussion from existing practices. First, there is a much greater emphasis on scholars’ responsibility to expose the actual data, not just citations to that data. Second, traditional forms of data-sharing among scholars are essentially private and personal transactions where the owner of the data retains

Report on Data Management, *cont.*

some influence and control over the ways in which they are understood and used. In contrast, this report examines public and impersonal processes of making data available. The potential use of the data is wholly independent of and subsequent to the acts of preservation and exposure as conceived here.

The growing attention paid to data management by funding agencies reflects two additional trends. First is the idea that agencies that fund research ought to have some say in how that research is disseminated. Second is a growing trend in academia toward the increased sharing and broader dissemination of research data. In addition to these contexts, our report is also informed by the recognition that some historians of science are employing computational methods in their research for which the accumulation of and shared access to data is increasingly central. This report therefore considers what data mean in the context of history of science, when they should and should not be shared, and what mechanisms exist or could be developed for their access and preservation. In the process, the report raises pertinent questions that should be considered and, perhaps, addressed by applicants for NSF grants, but it does not provide a template for grant application plans. This report is intended to serve as a starting point for discussion, to identify issues and suggest possibilities.

What Are Data?

The NSF defines data as follows:

“the recorded factual material commonly accepted in the scientific community as necessary to validate research findings. This includes original data, but also “metadata” (e.g. experimental protocols, code written for statistical analyses, etc.).

It is acknowledged that there are many variables governing what constitutes “data,” and the management of data, and each area of science has its own culture regarding data. (www.nsf.gov/sbe/SBE_DataMgmtPlanPolicy.pdf)”

This definition, written with an eye toward scientific research, needs to be adapted to the diverse practices of history of science research. Historians use and create countless kinds of materials that fall under the definition of “material...necessary to validate research findings.” Not only do historians work with a variety of material types, but the rights that historians have in respect to that material are also far from uniform. The NSF definition implicitly assumes that the user of this “recorded factual material” has full (or at least a standard set of) rights to preserve and disseminate that material. In contrast, the historian of science may be constrained in what he or she can do with the material beyond using it for the intended research purpose.

In order to explore the management requirements of the data used by historians of science, it is necessary first to articulate a categorization scheme that enables us to distinguish among types of data. The Task Force found that the following origin-based categories provided a useful way to think about data-management issues for historians and has employed them throughout this report.

1. **OWNED DATA:** These data are material owned by someone else. Usually, this material is found in libraries, archives, or other institutional repositories, but it may be in private hands. This is classic historical research material; it already exists and is generally findable by and accessible to the scholarly community (unless privately held).
2. **COLLECTED DATA:** These are original materials collected by the historian or associates. Examples of such materials include new oral histories or original photographs.
3. **ANALYTICAL OR CREATED DATA:** This category includes material (e.g. research notes, tables, databases, statistical analyses) created by the historian through the analysis or manipulation of other, pre-existing materials (e.g. inventories, census data, maps, texts [including underlying files]). Generally these data provide evidence for conclusions that

Report on Data Management, *cont.*

could not be readily derived from the source material prior to manipulation.

Why Preserve Data?

These encompassing definitions of data might lead to the conclusion that every item, every annotation, every passing notion needs to be kept and preserved for the ages. Such an approach is neither feasible nor desirable. Instead, historians of science need to be selective in determining which of their data merit preservation. In an academic research context, there are many reasons to preserve data, but in the end those reasons can all be encompassed in a single one. Data are preserved because of their potential future research value. That research could be further work by the scholar who originally collected or created the data, or it might be the work of scholars seeking to replicate or assess the research for which the data were originally collected; or the data might be used in projects that are entirely unrelated to the questions which they were originally collected to answer—questions that the original scholar might have never anticipated. A scholar should therefore preserve data with a perceived or imaginable research value.

What Data Need Not Be Preserved?

As historians it is difficult for us to judge whether or not a given item will be used for future

research. However, in terms of the obligation to the research community, it is reasonable to say that material that does not directly and substantively contribute to the conclusions of a research project need not be preserved. Another way of thinking about it is to say that if the data are more revealing about the author of the research than the topic of the research they need not be preserved.

Why Share/Expose Data?

There are many reasons to share data, including but not limited to the following:

1. It is a longstanding academic practice that data which serve as evidence to support published research are made available so that the validity of that published work may be assessed. Often this is done within the publications themselves.
2. There is an emerging practice in portions of the academic community that scholars have an obligation to make data available in freely accessible locations for others to use for their own research. This practice is gaining in strength but is by no means universally accepted within the history of science at this time.
3. Funding agencies or employers may require it. The NSF, for example expects scholars to release their data in a “timely and rapid

fashion.” In this context it is important to recall that sharing data does not necessarily entail unrestricted access or use by others. Exposed data are governed by the terms (license) under which they are made available. (See also the following Web site for a relevant statement on data-sharing from the NIH. http://grants.nih.gov/grants/policy/data_sharing/data_sharing_faqs.htm#898)

What Data Does Not Need To Be Shared?

The NSF’s expectation is that grantees will release their data in a “timely and rapid” fashion. But it does not define those terms since each academic discipline has its own norms. Here are a few reasons why historians of science might choose not to share data. This is not an exhaustive list.

1. Data do not need to be exposed before a scholar is done with them. That is, if sharing them might provide advantage to others in the field to the detriment of the scholar’s own research program and career.
2. Data do not need to be exposed if they are more revealing about the scholar’s practices (e.g. early drafts, annotations) than they are about the research topic.
3. Data do not need to be exposed if the historian believes that they can only be properly

Report on Data Management, *cont.*

understood by someone who has undertaken the task of gathering/creating them in the first place. That is, if historical insight depends as much or more on process as it does on results.

4. Data may not be exposed if the historian lacks the legal right to do so.
5. Ethical considerations may also prevent the sharing of certain types of data.

Of course, the weight of these reasons changes over time, and so, the question may be asked in a slightly different way. Once the determination has been made that a given set of data ought to be preserved, what are the conditions under which it is “timely” to make it widely available? This formulation emphasizes that it is not possible to create generalized schedules for the release of data. Timeliness is contingent on the specific research and career circumstances of the scholar who has amassed the data.

How Do These Considerations Apply To The Categories Of History Of Science Data?

OWNED DATA: Historians using this material are typically selecting and duplicating specific items of interest. Much of this material is formally published, generally available either on paper or in electronic form. Historians do not need to “manage” these data because existing practices of

citation and representation are sufficient to meet the goals. But rare, unique or hard-to-access items in this category should be considered candidates for management and there may be a role for scholars in their long-term preservation and exposure. However, these materials are owned by another entity and use of copied material is constrained by that institution’s or individual’s rules. Many scholars assume that once they have made a copy of archival material they can do whatever they like with that copy. But, in fact, such is rarely the case. Archives typically grant permission to copy materials for personal, scholarly use, not for widespread dissemination. Any actions to preserve and expose data (as opposed to citations of data) in this category must be done with the explicit (documented) consent of and in accordance with the rules of the owning institution or individual.

COLLECTED DATA: The salient characteristic of this category is that it consists of new material owned by the historian. Because it is unique material of potentially high research value, there is a premium on long-term preservation and access. However, the historian’s ability to expose this material may be constrained by others’ rights associated with it. For example, unless explicitly waived, an interviewee has rights associated with the disposition of an oral history; similarly, owners of a photographed object (or, if a person, the subject

of the photograph, him/herself) may have legal rights that constrain the use of the photograph—even if the historian took the picture. In addition to such legal issues, there may be ethical factors to take into consideration as well.

ANALYTICAL OR CREATED DATA: Historians produce large quantities of material during the course of a research project that potentially falls into this category. Much of it is simply work product that need not be formally managed, preserved or exposed. If data in this category are not clearly relevant to the conclusions reached in the research—if, for example, they reveal more about the historian than about the research—they do not need to be formally managed, preserved, or exposed. But if they directly enable the historian’s inquiry or if they could be utilized to answer other questions, then they should be preserved and exposed.

Organization Of Data

Once it has been determined that data fall into a category where they need to be preserved and ultimately shared, then they need to be handled with these goals in mind. There are two relevant components of the organization of data that need to be considered in this context. First is the file format in which the data exists. Second is the metadata scheme used to describe the data. For both components, historians should look for and

Report on Data Management, *cont.*

adopt existing standards and best practices rather than seeking to develop their own.

There are many potential sources of such standards and best practices including:

1. The historian's institution
2. The repository where the data will reside
3. Professional societies such as the Society of American Archivists (for manuscript material, <http://www2.archivists.org/standards>) or the Visual Resources Association, creator of the VRA Core for images (<http://www.loc.gov/standards/vracore/>).

The Task Force does not think it necessary or advisable for the Society to develop its own standards. It could, however, identify and recommend a set of existing standards that meet the needs of its members. These standards would be accepted as the norm for history of science data in much the same way that the profession has adopted Chicago style as the norm for its bibliographic citations.

Data Preservation And Access

Long-term preservation of and access to data is neither a trivial task nor without cost. Sites need to be maintained, data need to be refreshed and compatibility assured with whatever applications are currently dominant. There should be some sort of legacy or succession plan to ensure that the

data are maintained in the event that the primary hosting site were to fail. Hence, preservation and access are tasks that are beyond the ability of the individual scholar to ensure; instead, historians must identify institutional repositories to house and preserve their data. Additionally, the diverse nature of historians' research data means that historians may need to work with multiple repositories and that exposure of the data in an intellectually coherent fashion may of necessity occur independently from their preservation.

OWNED DATA: If the historian has created/or intends to create digital copies of owned materials that do not already exist in digital formats, he or she should offer to contribute those copies to the owning institution's digitization program, if such exists. In this scenario, the format and metadata would need to comply with the institution's program requirements. The historian should request permission to preserve and expose the data through a different repository if the owning institution does not have a digitizing program, declines the offer, or if the historian believes that the material should be joined with data from other sources at a single site.

COLLECTED DATA and ANALYTICAL OR CREATED DATA: Assuming the historian has obtained permission to do so from all rights holders, the historian should identify a suitable

repository for the data. The first choice would be a repository that already has a programmatic emphasis into which the collected data fit. Second choice would be the repository (if such exists) of the scholar's home institution (if the historian is not an independent scholar). Again, data format and metadata would have to comply with the repositories' standards.

Funding

Preservation and access as described above are not free. Grants are time-limited, but the cost of preservation and access are ongoing, calling into question the sustainability of long-term preservation of and access to grant-funded research. Some institutions will absorb ongoing costs as part of their mission, but increasingly, institutional archives look to the donors of material to provide some money in support of the processing and maintenance of their donations. Such potential costs should be identified, if possible and factored into grant applications when appropriate.

Two Potential Initiatives For The History Of Science Society

Existing standards and institutions will likely satisfy most but not all of historians' of science requirements for the management, preservation and exposure of their data. There are two key functions that are not currently available and

Report on Data Management, *cont.*

which provide opportunities for the History of Science Society to provide significant new services to its members. The Task Force believes that the following ideas illustrate gaps in the options available to historians of science for the management of their data. It is not putting these specific initiatives forward as necessarily the best way to address these gaps. Instead, we believe they merit further assessment by the Society for their feasibility and utility.

1. **PROJECT-BASED BIBLIOGRAPHIES:** The model of distributed data preservation and exposure described here is less than fully satisfying intellectually. It means that many related resources (from the historian's perspective) would be dispersed among repositories and not linked. It would be a service to the community to make the connections among these resources visible in some way. To a large measure, historians do so already in the notes and references to their published work. But historians frequently gather far more data than they actually cite in their work so a comprehensive project-based bibliography of relevant citations with links to wherever they are located would be a new and valuable tool for scholars. The planned re-creation of the online, open-access version of the Isis CB (what bibliographer Stephen Weldon refers to as CB 2.0) could readily

accommodate such project bibliographies, classify them according to existing schema and so make them available to researchers in an intellectually organized and relevant fashion.

2. **AN HSS DATA REPOSITORY:** The existing system of repositories has gaps in it of two types. First, many historians of science, especially, but not exclusively independent scholars, may not have access to suitable institutional repositories for their data. Second, for all historians there are unresolved questions how the cost of long-term preservation and exposure of data will be met.

The centenary of *Isis* and the *Current Bibliography* is an appropriate occasion at which to consider whether the History of Science Society ought to add its own open-access data repository to the suite of services it offers the history of science community. Academia is increasingly embracing an ethic of providing unfettered access to data and there is growing attention among historians of science to computational research based on very large shared data sets. It may well be, therefore, that such a repository shall be an essential component of history of science research in the future. Such a repository would bring together (if not necessarily uniquely hold)

data sets that could be constructed according to accepted standards but with the added features needed to make them particularly useful for historians of science. Indeed the society could establish a set of best practices; data models that could specify preferred file format and metadata schema for each class of data that it accepted. In so doing, it would become, ideally, a site where data sets created for one purpose could be merged and manipulated to address new questions. It might even be designed to incorporate private workspaces and tools for scholars who, when ready to do so, could expose the data simply by changing a privacy setting. Such a fully developed repository could streamline data management for historians of science and be a model for other learned societies.

There are several ways in which the Society could potentially fund a repository; it could apply for grant funding directly; it could require that scholars who place materials in the repository request funds to do so as part of their own grant applications; it could offer institutional memberships (comparable to one of the ways PLoS generates funds) permitting free use by that institution's affiliates. Additionally, it could seek funding to offer grants of its own to independent scholars and others who lack institutional or grant-based support for their research. Other funding models could be explored as well.

Report on Data Management, *cont.*

Conclusion

Trends both internal and external to the history of science profession make it timely to consider the management of data, its preservation and exposure, by the Society. In order to stimulate discussion within the history of science community, this report has attempted to delineate the principal characteristics of history of science data and the issues associated therewith. In so doing, it offers guidance on the formation of data-management plans for historians of science, but it does not attempt to define or model such plans.

We welcome comments. Please direct them to Jay Malone (jay@hssonline.org).

Hey there early careerist, network thyself!



Graduate and Early Career Caucus

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As always, you'll find us online.

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Engage

Find us in the lobby ahead of Saturday's reception or at the business meeting, **Saturday from 12-1pm**, and signup to help out with future GECC events. Let us know what we are doing right. Let us know what you would like to see. Meet your fellow scholars and talk about future events for GECC. We're looking for session ideas, new officers, and any thoughts on how the HSS can support graduate students and early career scholars.

Broaden Your Audience

This year the GECC is pleased to sponsor the session, **"Teaching History of Science Outside the Discipline"** organized by Rebecca Kinraide on **Friday from 12-1:15pm**. This discussion session explores teaching the History of Science in new contexts for new communities.

Results of the Survey of the Use of the *Isis CB*, Print versus Online

By Stephen P. Weldon, University of Oklahoma/HSS Bibliographer

Most readers of this newsletter will recall that last spring, with the help of two graduate students at the University of Oklahoma, I surveyed HSS members as well as other historians of science with a 10-minute, online questionnaire that asked people about the research tools they use. There were a few topics, but I was especially interested in those that dealt with the use of the *Isis CB* and if there were perceived differences between the digital and print versions.

A total of 665 people took the survey, and it reached a great variety of scholars, ranging in age from 22 to 95. People from 115 countries were represented as were professionals of all kinds, from curators and archivists to professors and full-time researchers. The typical survey respondent was a 50-year-old, North American, History of Science Society member with a PhD. He or she typically worked at least partly as a teacher or researcher or both.

Three-quarters of the responses came from members of the History of Science Society. Only 15% of the respondents were students—nearly all of them graduate students, though we did have four undergraduate student responses. Eighty percent of the respondents held PhDs, while nearly everyone else had at least a master's degree.

Not surprisingly, most of the respondents (70%) described their subject area as history of science.

Other fields that people marked as subject areas were history of technology, history of medicine, science studies, history, and natural or social science (all below 20%).

There are distinct patterns of use for the different versions of the *CB*.¹ Regional differences are clear. These are due in large part to the limited availability of the bibliography outside of North America. Whereas 72% of North American respondents used the bibliography, the percentage drops to only 66% in Western Europe and 61% everywhere else.

The use of the bibliography varies with age in some instances, but the data are mixed. On the one hand, regardless of format (print or digital), younger scholars are less likely to use the bibliography than older scholars. Those who do not use the bibliography are finding other resources that seem to work better for them, and most of them are digital.² Among those who do use the bibliography, younger scholars are less likely to value the hardcopy and more likely to value the database than their older peers. These two findings seem to indicate a shift toward the use of digital resources among younger scholars.

On the other hand, age is less of a factor when we look at the way that people talk about how they use and value print. For instance, when asked if

they would simply opt out of the print volume altogether if they had the choice, over half of respondents wanted to keep it, and age was not a factor in their response.³

Most revealing, respondents explained that they used the print bibliography and the online database differently. People found the database best for research projects where they were doing targeted searching and they needed a discovery tool that would allow them to cover a lot of data quickly. Often the same people who use the online database for targeted research, will turn to print when they are interested in a broad overview of research in the field. The print version, they said, can be scanned much more easily than the database. Moreover it can be marked up: some users place sticky notes in their copy, some write in it, and some even tear out pages and file them in folders in their filing cabinet.

One 30-year-old researcher explained the significance of print as follows: “When I use the print version, I feel more relaxed. I [can sit] back, drink a cup of coffee and have [the] feeling that I'm not ‘really’ working [yet] doing something relevant to work. [Sometimes I even] re-spot things that I underestimated before.” In the end this researcher explained that he or she used the two versions “complementarily.”⁴

Isis CB, Print versus Online, cont.

If you are interested in other results from this survey, you can find a spreadsheet with the answers for each question listed and charted at the following URL: <https://ou-lib-hos.atlassian.net/wiki/download/attachments/4161606/Public%20Survey%20Answers.xls?version=2&modificationDate=1373659426338&api=v2>. I will also be talking about it in my new blog, Citations: <http://isiscurrentbibliography.weebly.com/blog.html>. If anyone would like the raw data, please contact me.

Endnotes

1. Just over two-thirds of respondents claimed to use the *Isis Bibliography* in any form (print or database) for their research. Of those that did not use it, about half of them (roughly 15% of the total number of respondents) said that they did not have access to it or did not know if they did, whereas the other 15% said that it did not fit their research needs. These numbers are based on questions 14 and 15.
2. We find that older scholars are using the bibliography much more than younger scholars. About 80% of respondents over 70 state that they use the bibliography, whereas only about 60% of those in their 30s do so, and it declines further for people in their 20s. Also, 23 respondents stated that they used

other resources that worked better, and most were online.

3. Over half of the people in question 19 answered that they would like to keep the print version. There was no statistical difference among the group age 20-39 and the group age 40-59.
4. This was a 30-year-old graduate student from Greece.



MARK YOUR CALENDARS
HSS & PSA in Chicago
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NEWS FROM THE PROFESSION

Ada Lovelace Day: Celebrating Women in Science

Ada Lovelace Day aims to raise the profile of women in science, technology, engineering and math (STEM) by encouraging people around the world to talk about the women whose work they admire. This international day of celebration helps people learn about the achievements of women in STEM, inspiring others and creating new role models for young and old alike.

The inspiration for Ada Lovelace Day came from psychologist Penelope Lockwood, who carried out a study that found that women need to see female role models more than men need to see male role models. “Outstanding women can function as inspirational examples of success,” she said, “illustrating the kinds of achievements that are possible for women around them. They demonstrate that it is possible to overcome traditional gender barriers, indicating to other women that high levels of success are indeed attainable.” 15 October marks the 2013 celebration of Ada Lovelace Day. Further information may be found at <http://findingada.com/>.

New History of Science Society in Morocco

A society for the history of science was founded on November 2012 in Rabat, Morocco; it is called “Association Marocaine de l’Histoire des Sciences (AMHS).” The founders elected a bureau for two years, and the new association seeks encouragement from other history of science societies.

The officers of the AMHS are:

Bennacer EL BOUAZZATI, Président; Abdelmajid BAAKRI, Vice-Président; Ibrahim MACHROUH, Secrétaire Général; Ahmed MOSLIH, Vice-Secrétaire Général; Ahmed ALAMI, Trésorier; Mohammed NAIM, Vice-Trésorier.

Conseillers: Mohammed SARROU, Mohammed MOURSLI, Driss LAMRABET, Ezzaim LAABID and Said EL BOUSKLAOUI.

Collections of the Smithsonian Institution are Available Online

A slowly increasing proportion of the collections of the Smithsonian Institution are available online. The Institution-wide EDAN database lists objects, documents and archival collections. The web address is: <http://collections.si.edu/search/>. A

variety of physical science apparatuses from the National Museum of American History, including geodetic and surveying equipment, geomagnetic instruments, telescopes, and diverse meters are among objects listed here. Dozens of objects from the biology and chemistry collections are also included. These records can serve as the basis for online exhibitions and encyclopedia-like “object groups.” Object groups now exist for adders, adding machines, patent medicines, cash and credit registers, counters, dividers and compasses, mathematical charts and tables, mathematical paintings, protractors, sectors, slide rules, the abacus and numeral frame, and objects associated with women mathematicians. These may be found by searching: <http://americanhistory.si.edu/collections/object-groups>.

Historical and Methodological Myths in Science Texts

Ron Numbers, a historian of science and medicine at the University of Wisconsin, and Kostas Kampourakis, a science educator at the University of Geneva, will be editing a book about historical myths currently found in science education. It will be modeled after Numbers’ *Galileo Goes to Jail and Other Myths about Science and Religion*, published a few years ago by Harvard University Press (<http://www.hup.harvard.edu/catalog.php?isbn=9780674033276>).

NEWS FROM THE PROFESSION, CONT.

The anticipated book will comprise a collection of pithy essays (roughly 2,500 words each) by experts that focus on historical errors in science textbooks. As with *Galileo Goes to Jail*, the editors plan to open each chapter with offending epigraphs. The aim of this book is to debunk popular myths often reproduced in science texts and provide an accurate account of particular episodes from the history of science as well as an authentic picture of how science has been done.

This project is in the planning stages, and the editors would value your input regarding any myths in science texts that need exposure. For more information and further queries please contact: Kostas Kampourakis (kostas.kampourakis@unige.ch) or Ronald L. Numbers (rnumbers@wisc.edu).

Exhibition: Extraordinary Women in Science & Medicine: Four Centuries of Achievement

Ronald K. Smeltzer has organized a major public exhibition that opened this past September, “*Extraordinary Women in Science & Medicine: Four Centuries of Achievement*” at the Grolier Club, an organization in New York devoted to the study and appreciation of books and works on paper. This exhibition explores the legacy of thirty-two remarkable women whose

extraordinary scientific accomplishments in physics, chemistry, astronomy, mathematics, computing, and medicine changed science. *Extraordinary Women in Science & Medicine: Four Centuries of Achievement* will illuminate the often little-known careers and accomplishments of these female scientists, examining their work and lives over four centuries. With more than 170 original books, manuscripts, serials, separates, and artifacts, the exhibition examines the careers of thirty-two women and focuses on women’s recognition—or lack thereof—in the sciences since the early 17th century.

Smeltzer also announces a symposium for October 26 and that curator-hosted visits to the exhibition are possible. The exhibition closing date will be 23 November 2013.

University of Notre Dame’s Reilly Center receives NSF grant

By Jessica Baron, Reilly Center Outreach Coordinator

The Reilly Center has announced that the NSF will fund its \$300,000 proposal to the EESE Program (Ethics Education in Science and Engineering).

The proposal, entitled “Citizen-Scientists as Agents of Change: Training the Trainer in the Ethics of Science and Technology” aims

to produce science and engineering graduate students who will be models of the ethically engaged citizen-scientist. A select group of fifteen students per year will have the opportunity for advanced training in the ethics of science and technology with a focus on “big picture” or “macro-ethics” issues.

The training will start with an intensive, one-week citizen-scientist ethics boot camp, and will be reinforced with in-service projects. The students who participate in this train-the-trainer program will take what they learn back into their laboratories, classrooms, professional associations, and on into their own later careers, and through their actions will serve as models.

The overarching goal of this project is to create “Agents of Change” who will serve as trainers themselves. Graduate students in the program will convey what they have learned to their colleagues, students, and professional, local, and national communities. They will also have ample opportunities to disseminate their learning both on- and off-campus.

Director Don Howard and Assistant Director for Research Melinda Gormley are the PI and co-PI on this grant. The Reilly Center will hire a post-doc in conjunction with this grant. Visit <http://reilly.nd.edu/news-and-events/news/42890-reilly-center-seeks-a-postdoctoral-fellow/> to learn more.

NEWS FROM THE PROFESSION, CONT.

Online Catalogue for the George Shepherd Pharmaceutical Collection

The Aberdeen Museums and Art Galleries are currently working to complete the online catalogue for the George Shepherd Pharmaceutical Collection, and as part of their most recent funding (from Museums Galleries Scotland) are trying to broaden awareness of the collection amongst members of the research community.

They are particularly interested in hearing from people who may be able to utilize the archival and microfilm material for academic research. Much of the growing catalogue can also be searched at: www.aagm.co.uk

IEEE History Center Twitter Account

The IEEE History Center invites scholars and researchers interested in news relevant to the history of electrical engineering and its allied fields; the history of engineering in general; and the history of technology in general to sign on to its Twitter account at <https://twitter.com/IEEEHistory>.

@IEEEHistory highlights first notices of conferences, grants, awards, promotions, job opportunities, publications, useful websites, and historic anniversaries.

New Collections at Hagley Museum and Library

Hagley announces the addition of four new collections in the history of technology, covering the rise of shooting sports, computer developments at the Radio Corporation of America (RCA), the formative years at Singer Manufacturing Company, and a landmark gender equality battle at AT&T.

The papers of the Wilmington [Delaware] Trapshooting Association, founded in 1916, include board minutes, financial ledgers, and photographs that outline the history of the club. These papers arrived along with a collection of records associated with the Grand American Handicap Tournament and the Delaware State Trapshooting Tournament. Together, these collections document gun clubs and shooting sports in the United States and augment collections already at Hagley, including the scrapbook of Harriet Hammond, founder of the Nemours Gun Club, the first gun club exclusively for women in the United States.

Neu-Whitrow Bibliography Prize Winner

Jennifer M. Rampling is the winner of the first Neu-Whitrow Bibliography Prize in 2013 for her work *The Catalogue of the Ripley Corpus (CRC)*. The prize is named for John Neu and Magda Whitrow, long-time editors of the *Isis Bibliography*.



Jennifer Rampling (right) receives the prize from Birute Railiene, President of the Commission on Bibliography and Documentation of the Division of History of Science and Technology.

(Image courtesy of Helen Morgan)

NEWS FROM THE PROFESSION, CONT.

Connaught Laboratories Centenary (Sanofi Pasteur Canada) Facebook Page Launched

May 1, 2014, will mark the 100th anniversary of the founding of the Antitoxin Laboratory in the University of Toronto, later known as Connaught Laboratories, and today the Canadian component of the global Sanofi Pasteur vaccine company.

To celebrate and document the rich history of this unique Canadian organization and its contributions to the evolution of numerous vaccines and other essential biological health products, a new Facebook page has recently been launched.

“Rethinking the Overview Effect” named winner of 2013 Sacknoff Prize for Space History

“Rethinking the Overview Effect,” has earned York University (Toronto, Canada) graduate student, Jordan Bimm, the 2013 Sacknoff Prize for Space History.

The winning paper from Mr. Bimm, a third year PhD student in Science and Technology Studies, focuses on how historical perspectives can offer insights into why we think what we think about space and how this matters. His paper takes

a look at the 1987 book *The Overview Effect* by American author Frank White who coined the term to describe a collection of positive mental experiences reported by astronauts and cosmonauts returning from outerspace. The idea that viewing the Earth from space fundamentally changes people “for the better” has resonated with a number of important groups, including space psychologists, space industry advocates, politicians, members of environmental and peace movements, and most recently, members of the public with an interest in space. However, looking at the historical data, Mr. Bimm’s research suggests the overview effect is only one possibility among many for the human experience of viewing the earth from outerspace.

France Córdova, Former President of Purdue University, is Named to Lead NSF

As noted in an article appearing in *The Chronicle of Higher Education* on 31 July 2013, President Obama announced his nomination of France A. Córdova, a former president of Purdue University, to serve as the new director of the National Science Foundation.

Ms. Córdova, an astrophysicist, is now chair of the Smithsonian Regents, the governing board of the Smithsonian Institution. She was appointed

to that post in January, six months after ending a five-year term as Purdue’s president as she neared the mandatory retirement age of 65.

If confirmed by the Senate, Ms. Córdova would replace Cora B. Marrett, an NSF career official who has been serving as the agency’s acting director since March, when Subra Suresh left to become president of Carnegie Mellon University.

Ms. Córdova’s nomination extends a series of top-level connections between the NSF and Purdue, which has been regularly ranked in the top 50 universities nationwide in total federal spending on research and development.

Anne Burnett Named Director of Education of the Life Sciences Foundation

Anne Burnett joined the Life Sciences Foundation (LSF) as the director of education on July 24. LSF is a nonprofit organization dedicated to capturing the history, preserving the heritage, and sharing the stories of biotechnology.

As director of education, Burnett is responsible for developing programs that effectively introduce the story of biotechnology to diverse, national audiences through education partnerships, outreach efforts, and virtual engagement opportunities.

HOPOS

The International Society for the History of Philosophy of Science

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KEYNOTE SPEAKERS:

Cristina Chimisso (The Open University, UK)
Dennis DesChene (Washington University, St Louis, USA)

PROPOSALS FOR INDIVIDUAL PAPERS should include:

- Title and abstract of the paper (maximum 500 words)
- Address of the participant, including email, phone, and affiliation

PROPOSALS FOR SYMPOSIA should include:

- Title of symposium
- Symposium summary statement (maximum 500 words)
- Titles and abstracts of papers (maximum 500 words for each paper)
- Address of each participant, including email, phone, and affiliation
- Identification of symposium organizer (who will serve as contact person)

Submissions (preferably in Word) should be attached to an email and sent to hopos2014.submissions@univie.ac.at by November 1, 2013. Decisions will be announced by December 15, 2013.

PROGRAM COMMITTEE:

Co-chairs: Helen Hattab (University of Houston), Elisabeth Nemeth (University of Vienna)

Members: Emily Carson (McGill University), Steffen Ducheyne (Vrije Universiteit Brussel), George Gale (University of Missouri-Kansas City), Jim Lennox (University of Pittsburgh), Lydia Patton (Virginia Tech), Erich H. Reck (University of California, Riverside), Alan Richardson (University of British Columbia), Eric Schliesser (Ghent University), Thomas E. Uebel (University of Manchester), Maarten Van Dyck (Ghent University)

HOPOS promotes scholarly research on the history of the philosophy of science, construed broadly to include topics in the history of related disciplines and in all historical periods, studied through diverse methodologies. HOPOS promotes historical work in a variety of ways, but especially through encouraging exchange among scholars through meetings, publications, and electronic media. For more information, visit hopos.org.

NEWS FROM THE PROFESSION, CONT.

“Globalizing Histories of Science, Technology, and Medicine: Conceptual and Methodological Problems”

On May 19-21 the NYU Abu Dhabi Institute hosted an international conference on “Globalizing Histories of Science, Technology, and Medicine: Conceptual and Methodological Problems.” Organized by NYUAD historians Lauren Minsky and Justin Stearns and Hugh Slotten of the University of Otago, the conference brought together over two dozen scholars from the U.K., the U.S., France, Turkey, Zambia, New Zealand, and the United Arab Emirates. Ekmeleddin İhsanoğlu, Secretary General of Organization of Islamic Cooperation, delivered a public lecture on “Modern Islam and Science.”

As the organizers noted, the History of Science, Technology, and Medicine (HSTM) field, since its inception, has been dominated by studies written in a national, colonial, or area-studies frame. This remains the case today, although recent scholarship has increasingly drawn attention to the significance of global transmission and exchanges of technical knowledge, materials, and experts in shaping the process of scientific, technological, and medical change in regions around the world. Yet, as historians have moved towards writing



Photo of the participants at the Sheikh Zayed Grand Mosque in Abu Dhabi. Image courtesy of Sujit Sivasundaram.

global histories, significant conceptual and methodological challenges have arisen. The workshop provided a forum for leading HSTM scholars collectively to develop new approaches and paradigms addressing key problems concerning categories of analysis, spatial units, chronological frameworks, and social power and agency. Additionally, the workshop considered how global histories of science, technology, and medicine could inform present-day policy making in the fields of public health, cultural heritage, and science education and research.

United Nations Basic Space Science Initiative (UNBSSI) 1988-2012

This year (2013) the United Nations is making available all material used and produced in the past 25 years in the so-called United Nations Basic Space Science Initiative (UNBSSI) 1988-2012.

The basic space science initiative was a long-term effort for the development of astronomy and space science through regional and international cooperation in this field on a worldwide basis, particularly in developing nations. Basic space science workshops were co-sponsored and co-organized by the National Aeronautics and Space Administration (NASA) of the United States, the Japan Aerospace Exploration Agency (JAXA), and the European Space Agency (ESA). The Committee on Space Research (COSPAR) and the International Astronomical Union (IAU) acted as co-organizers of UNBSSI.

A series of workshops on basic space science was held from 1991 to 2004 (India 1991, Costa Rica and Colombia 1992, Nigeria 1993, Egypt 1994, Sri Lanka 1995, Germany 1996, Honduras 1997, Jordan 1999, France 2000, Mauritius 2001, Argentina 2002, and China 2004; <http://neutrino.aquaphoenix.com/un-esa/>) and addressed the status of astronomy in Asia and the Pacific, Latin America and the Caribbean, Africa, and Western Asia.

NEWS FROM THE PROFESSION, CONT.

Pursuant to resolutions of the Committee on the Peaceful Uses of Outer Space of the United Nations (COPUOS) and its Scientific and Technical Subcommittee, since 2005, these workshops focused on the preparations for, and the follow-ups to, the International Heliophysical Year 2007 (UAE 2005, India 2006, Japan 2007, Bulgaria 2008, South Korea 2009; <http://www.unoosa.org/oosa/SAP/bss/ihy2007/index.html>).

Starting in 2010, the workshops focused on the International Space Weather Initiative (ISWI) as mandated in a three-year-work plan as part of the deliberations of COPUOS. Workshops on ISWI were scheduled for Egypt in 2010 for Western Asia, Nigeria in 2011 for Africa, and Ecuador in 2012 for Latin America and the Caribbean.

More detailed information on the above is contained in the UN document available at http://www.unoosa.org/pdf/limited/l/AC105_2013_CRP11E.pdf

Dissertations in the History of Science

You can view the latest batch of recent doctoral dissertations harvested from the September, 2011 issues of *Dissertation Abstracts* pertaining to the history of science at the following URL: <http://www.hsls.pitt.edu/histmed/dissertations>. Our thanks to Jonathan Erlen for accumulating this list.

Pedagogical Innovations in Teaching Pre-Modern Medicine

An innovative course in pre-modern medicine was taught at Seattle University in Spring 2013. Designed by Theresa Earenfight and Monica Green, the course was designed to immerse students in questions at the intersection of medical and political history by having them transcribe, translate, and interpret a hitherto unstudied text written in the mid-fifteenth century. Called the *Pomum aureum* (“Golden Apple”), this Latin work was written in 1444 by a physician from Perpignan named Pierre André and was dedicated to Count Gaston IV of Foix. The work addresses fertility, childbirth, and care of the newborn. Study of the text allowed scholars to explore not simply late medieval ideas about generation, but also the political context that intensely scrutinized the fertility of nobles, especially in a context where royal women could inherit in their own right. The course was also meant to find new ways for medievalists to exploit the wealth of manuscript materials that are now coming online from European libraries and develop techniques to allow students to have a more immediate engagement with evidence from the past. Earenfight and Green have blogged about this pedagogical experiment in a five-part series called “Royal Mothers”: <http://theresaearenfight.com/2013/06/24/royal-mothers-part-1-a-text-comes-to-life/>.

PSA Call For Paper and Symposium Proposals 2014

The PSA has issued its Call for Papers and Symposium Proposals for the Twenty-Fourth Biennial Meeting, to be held in Chicago on November 6-9, 2014.

The **Symposia** may be on any topic in the philosophy of science. The PSA 2014 Program Committee will strive for quality, variety, innovation and diversity on the program. Members of the PSA 2014 Program Committee are listed at <http://www.philsci.org/>. The deadline for Symposium proposals is **January 6, 2014**. Symposium organizers will be informed of the Program Committee’s decision prior to the deadline for submitting contributed papers (**March 1, 2014**).

The **Contributed papers** may be on any topic in the philosophy of science. Some papers will be accepted for both presentation at the PSA 2014 meeting and publication in a supplementary issue of *Philosophy of Science*; other papers will be accepted for presentation only. Both types of accepted paper may be posted as a PSA 2014 Conference Paper at philsci-archive.pitt.edu (a publicly accessible digital archive) prior to the meeting.

NEWS FROM THE PROFESSION, CONT.

Joanne Tornow Now Acting Assistant Director for SBE at NSF

(Reprinted from COSSA Washington Update, **September 9, 2013**
Volume 32, Issue 15)

With Myron Gutmann's departure from the National Science Foundation (NSF) on August 16, Joanne Tornow, who served as his deputy, has been named the Acting Assistant Director (AD) for the Social, Behavioral, and Economic Sciences (SBE) directorate.

Tornow, who joined NSF in 1999 as a program director in the Division of Molecular and Cellular Biosciences, has served in a number of capacities at the Foundation. She was the senior adviser for strategic planning, policy and analysis in office of the Assistant Director for the Biological Sciences, a Division Director of the Molecular and Cellular Biosciences Division, and the Executive Officer for the Biological Sciences Directorate, before coming to SBE.

She served on NSF's Merit Review Task Force, which the National Science Board convened to examine its policies regarding the criteria used to award its grants, especially the "Broader Impact" principle. The Task Force produced the 2012 report *Merit Review Criteria: Review and Revisions*. Despite significant criticism from the physical science community, the Report reasserted the importance of both the Intellectual Merit and Broader Impact criteria.

Tornow received her B.A. in biology from Rutgers University and her Ph.D. in human genetics from Yale University. Her research training is in the area of molecular biology and genetics, focusing on the regulation of gene expression in eukaryotic systems. After completing postdoctoral training at the University of California, she served on the faculty at Portland State University and the University of Southern Mississippi.

Carsten Reinhardt appointed new President and CEO of Chemical Heritage Foundation, Philadelphia.



Photo taken August 13th at a welcoming reception includes Reinhardt (left); Arnold Thackray (right), who founded CHF and served as its president for 25 years; and Neale Watson of Science History Publications/USA, who maintained the original subscribers list on a cassette-loaded NCR computer in NYC.

NEWS FROM THE PROFESSION, CONT.

NSF and NOAA Provide Opportunity for Social and Behavioral Scientists

(Reprinted from COSSA Washington Update, **September 9, 2013 Volume 32, Issue 15**)

The National Science Foundation's (NSF) Social, Behavioral, and Economic Sciences (SBE) directorate has issued a Dear Colleague letter alerting scientists in these disciplines to an opportunity "to broaden their core expertise through residence at a National Oceanic and Atmospheric Administration (NOAA) facility."

According to Acting Assistant Director for SBE, Joanne Tornow, "this Fellowship provides a unique opportunity for interdisciplinary research collaboration between SBE scientists and NOAA scientists and decision makers." It is part of NSF's Science, Engineering, and Education for Sustainability (SEES) activities that support interdisciplinary research and education that will help achieve a sustainable future "in the face of gradual and abrupt global change."

NOAA has indicated it would welcome SBE scientists to be based in any of their program offices, centers and laboratories through the NSF Program on Science, Engineering, and Education for Sustainability Fellows (SEES Fellows: http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=504673).

Accordingly, NSF is soliciting proposals that require applicants to develop a plan for a research partnership. NSF and NOAA believe that NOAA program offices, centers, and laboratories, which are based throughout the country, provide an opportunity for such partnerships between SBE scientists and NOAA staff.

Although there is no set-aside, as proposals to reside at NOAA facilities must compete with all the other proposals, the willingness of NOAA administrators to work with SBE scientists should enable these scholars to develop strong proposals. This opportunity is open to early-career scholars. Awards provide salary support, research expenses and travel support for a maximum of 3 years. **Proposals are due November 21, 2013.**

Potentially interested applicants are urged to first review the NSF solicitation on Science, Engineering and Education for Sustainability Fellows (SEES Fellows: http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=504673). For more information contact Leah Bunce Karrer, Deputy Chief Economist (leah.karrer@noaa.gov) at NOAA, in order to identify potential opportunities at NOAA.

Scholars should submit their proposals to the SEES Fellows competition at the NSF. Questions about this Dear Colleague Letter or other NSF-specific issues can be addressed to Dr. Robert O'Connor (roconnor@nsf.gov).



Postdoctoral Fellowship in Ethics Education in Science and Engineering

The Reilly Center for Science, Technology, and Values at the University of Notre Dame seeks to appoint a Postdoctoral Fellow for three years beginning July 1, 2014. Applicants must have completed all requirements for the doctoral degree by summer 2014.

Applications are welcome from scholars working in any area of the ethics of science and engineering, with preference given to applicants with a strong educational background in a field of science or engineering.

The Reilly Center is home to the History and Philosophy of Science (HPS) graduate program and an undergraduate minor in Science, Technology, and Values (STV). For further information about the Reilly Center and its educational programs please visit <http://reilly.nd.edu/>.

The post-doctoral fellow will contribute to a National Science Foundation (NSF) Ethics Education in Science and Engineering (EASE) project (award 1338652), teach courses in the HPS and STV programs, and perform original research, in roughly the following manner:

NEWS FROM THE PROFESSION, CONT.

- 30% to the NSF-EESE project: The postdoctoral fellow has direct responsibility for the final design, implementation, coordination, and supervision of the project, including recruitment of graduate students for the program, developing the program's educational content, and overseeing the students in the program. An understanding of virtue ethics is desired.
- 25% to teaching courses: The courses taught will directly relate to the specific needs of the EESE program's graduate students. The load is two courses per year (one per semester), on topics concerning the ethics and/or policy of science and technology. It is expected that each course will be new to either the HPS graduate program or STV undergraduate minor program and will be taught on a yearly basis.
- 45% to research: The postdoctoral fellow will continue his/her ongoing research program, which should primarily engage issues in the ethics of science and technology.

The annual stipend is \$40,000. The fellowship package also includes health insurance and \$6,000 over three years towards research expenses and conference travel.

Applicants should send the following materials in electronic form only, in PDF format by email attachment, to reilly@nd.edu including (if possible) "EESE post-doc" and your last name in the subject line:

1. Cover letter giving a brief summary of your primary field of expertise and specific qualifications for the fellowship.
2. Summary of your dissertation (two page maximum).
3. Plan of research to be undertaken during the three-year fellowship period (three page maximum).
4. Writing sample (30 page maximum).
5. Proposal for an undergraduate STV course (one page maximum).
6. Proposal for a graduate HPS seminar in your area of specialization (one page maximum).
7. Full curriculum vitae.

Names and affiliations of three referees whom you have asked to write to us directly.

The deadline for receipt of application materials is January 30, 2014. *Please note: applications which are printed and received via mail or courier will not be accepted and processed.* In addition, three letters of reference should be sent separately, either electronically (reilly@nd.edu) or by mail (Reilly Center, 453 Geddes Hall, University of Notre Dame, Notre Dame, IN 46556), to arrive by the application deadline. Candidates are responsible for ensuring that their letters of reference arrive by the deadline.

Inquiries may be directed to Melinda Gormley (Assistant Director for Research at the Reilly Center and co-PI of NSF award 1338652): gormley.6@nd.edu.

The University of Notre Dame is an equal opportunity, affirmative action educator and employer with strong institutional and academic commitments to racial, cultural, and gender diversity. Women, minorities, and those attracted to a university with a Catholic identity are encouraged to apply. Information about Notre Dame, including our mission statement, is available at <http://www.nd.edu>.



JOHN J. REILLY CENTER
SCIENCE • TECHNOLOGY • VALUES



NEWS FROM THE PROFESSION, CONT.



Boston University Center for Philosophy and History of Science Fall Events

The Robert S. Cohen Forum

Time in Cosmology

Friday, October 18, 2013

The Castle, 225 Bay State Rd

1pm – 5pm

Lee Smolin, “Time and Law in Cosmology,”
Lee Smolin, Perimeter Institute for Theoretical
Physics

“Realism without Reification: How to Believe
in Becoming,” Jenann Ismael, Philosophy,
University of Arizona

“A Universe in which Everything Changes Sooner
or Later,” Roberto Mangabeira, Unger Law
School, Harvard University

“Cosmological Laws without Real Time,” Chris
Smeenk, Philosophy, University of Western
Ontario

SCIENCE IN THE STREETS: PUBLIC ENGAGEMENT THEN AND NOW

Joint Meeting with History of Science Society

Thursday, November 21, 2013

Westin Waterfront Hotel, Harbor Ballroom III

425 Summer St., Boston

3 – 6pm

This session will consist of two panel discussions exploring innovative ways of connecting ordinary citizens with science, and how the history of science can inform and enrich these efforts.

Panel I: Science and Spectacle

“Science Festivals and the Changing Culture of
Science Engagement,” John Durant, Director of
the MIT Museum and Executive Director of the
Cambridge Science Festival

“History of Science Through Comedy,” David
Kaiser, MIT

Panel discussion on current initiatives such as
Story Collider as well as historical cases such
as the “shocking” public spectacles of itinerant
electrical showmen and Benjamin Franklin, the
history of automata and court entertainment, and
showmanship and dinosaur bones in the history
of American paleontology.

Panel II: Crowdsourcing Science: Science by the People?

“Crowdsourcing at the Smithsonian: From 1849
Weather Observers to Today's Encyclopedia
of Life,” Pamela Henson, Director of the
Institutional History Division, Smithsonian
Institution Archives

“Life, Liberty, and the Pursuit of Data: From
Whewell's 'Subordinate Labourers' to Maury's
Seafarers,” Caren Cooper, Cornell Lab of
Ornithology

Panel discussion on current initiatives such as
Zooniverse and Foldit as well as historical cases
such as networks of human earthquake observers
and crowdsourcing in the history of astronomy.

Revisiting the Foundations of Statistics in the Era of Big Data: Scaling Up to Meet the Challenge

Friday, February 21, 2014

Photonics Center, 9th Floor Colloquium Room
8 St. Mary's Street, Room 906

10am -12pm

“Computational Challenges in Genomic
Medicine,” Jill Mesirov, Computational Biology
and Bioinformatics, Broad Institute

NEWS FROM THE PROFESSION, CONT.

“Selection, Significance, and Signification: Issues in High Energy Physics,”
Kent Staley, Philosophy, Saint Louis University

1:30pm – 5:30pm

“Multi-Resolution Inference: An Engineering (Engineered?) Foundation of
Statistical Inference,” Xiao-Li Meng, Statistics, Harvard University

“Is the Philosophy of Probabilism an Obstacle to Statistical Fraud Busting?”
Deborah Mayo, Philosophy, Virginia Tech

“Targeted Learning from Big Data,” Mark van der Laan, Biostatistics and
Statistics, UC Berkeley

Panel Discussion

Epistemic Injustice in Science

Friday, April 4, 2014

Center for Student Services, Room 545

100 Bay State Road

1-5pm

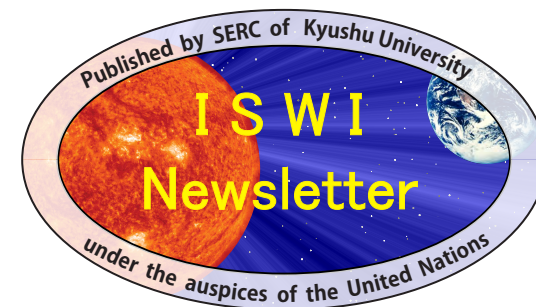
“Varieties of Testimonial Injustice,” Miranda Fricker, Philosophy, University
of Sheffield

“Epistemic Injustice and Responsible Trust in Science,” Heidi Grasswick,
Philosophy, Middlebury College

“Hermeneutical Injustice and Agnotology in Science,” Miriam Solomon,
Philosophy, Temple University

“Race, Gender and Neutral Science,” Evelyn Hammonds, History of
Science and African-American Studies, Harvard University

For further information and updates, visit our website: www.bu.edu/cphs



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