



Collection of Historical
Scientific Instruments
HARVARD UNIVERSITY

Strategic Plan 2014 - 2019

CHSI is a proud member of:

HMSC HARVARD MUSEUMS of
SCIENCE & CULTURE



Embracing Material Culture in Teaching,
Research, and Outreach

Approved by the Department of the History of Science Faculty in March 2014





“A laboratory of laboratories”

Since its inception in 1948, the primary mission of the **Collection of Historical Scientific Instruments** has been to promote understanding of the place of science in society by integrating material culture into research, teaching, and wider educational and public programs.

STRATEGIC PLAN, 2014-2019

Embracing Material Culture in Teaching, Research, and Outreach

Following in the footsteps of David P. Wheatland the Collection of Historical Scientific Instruments (CHSI) is successfully continuing a collection management policy aimed at safeguarding the past, present, and future of Harvard’s thriving scientific heritage. In recent years, enormous efforts dedicated to creating a fully documented inventory have born substantial fruits. Our collection management system has radically enhanced daily collection activities, and owing to Waywiser, our newly redesigned online database, 60% of the collection is now accessible on the Web. More instruments are coming online every month.

Moreover, we have embarked over the last several years on an ambitious exhibition and pedagogical program. We strongly believe our collection of scientific instruments offers one-of-a-kind learning opportunities to a variety of people: faculty, undergraduate and graduate students, postdoctoral fellows, visiting scholars, critical media artists, and the wider public. Our renewed ambition is to create a dynamic learning space — *a laboratory of laboratories* — that will inspire and cultivate object-based knowledge. We envision the end results to go beyond exhibitions to include art performances, critical film studies, hands-on sessions, and public lectures. Our recent ventures into the burgeoning field of digital media encourage us to explore what augmented reality and virtual components, such as Google Glass, can bring to the museum experience.

To build on and reinforce our past achievements we have identified four essential areas of effort for our strategic plan: to *acquire* new instruments in

keeping with well-considered acquisition policies; to *care* for the collection within the rubric of professional conservation and security practice; to *engage* an increasing number of creative minds, centered on FAS and broadening out to the wider Harvard community and beyond; and to *cultivate* a thoughtful, innovative, and critical understanding of the material culture of science. Taken together, these core activities have long been fundamental to the CHSI.

The intention behind this five-year strategic plan is to maintain the long-term growth of our Collection, while simultaneously helping to support and enrich the academic programs of the Department of the History of Science and the campus-wide public programs of the Harvard Museums of Science & Culture. We strongly believe the time is ripe to demonstrate what a unique Harvard pedagogical experience the CHSI has to offer.

Peter L. Galison
Joseph Pellegrino University Professor
Faculty Director, CHSI

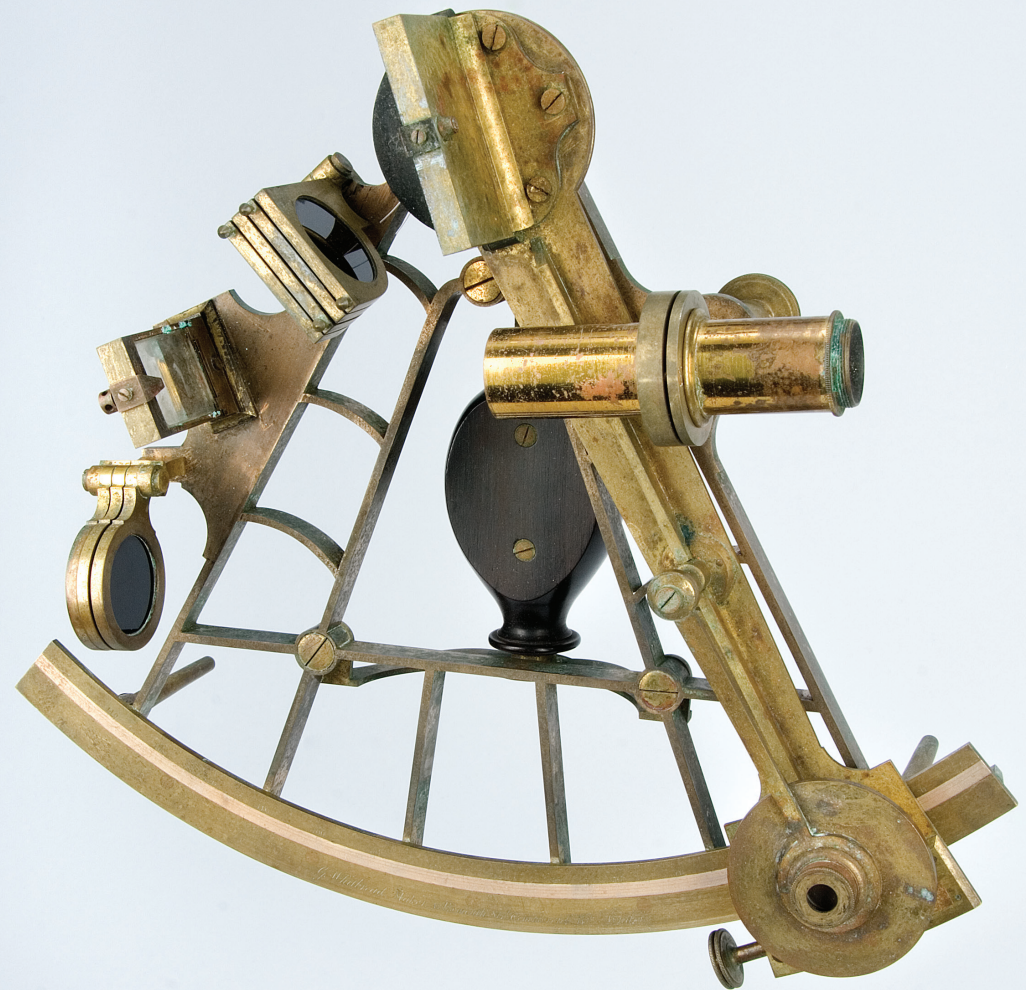




The core mission of the Collection of Historical Scientific Instruments (CHSI) is to acquire, preserve, document, and care for over 20,000 instruments portraying the history of science teaching and research at Harvard from the Colonial period to the 21st century. Through its lively exhibit and teaching programs, web presence, and increasing involvement in critical media practices, the CHSI's research activities and cultural initiatives intersect and bring together a multiplicity of academic disciplines and areas of professional museum expertise. The CHSI is both a specialized institution and an experimental space, where Harvard faculty and students, instrument scholars and museum experts meet in the production of object-based knowledge.

Under the Harvard Museums of Science & Culture (HMSC) consortium, the CHSI is connecting with the wider Harvard community and the general public. Our ambition is to continue and enhance our participation with all Faculty of Arts and Sciences museums and collections in producing exhibits, lecture series, public events, and projects that clearly emphasize to a broad audience the interdisciplinary nature of the material culture of science and society.

OUR MISSION





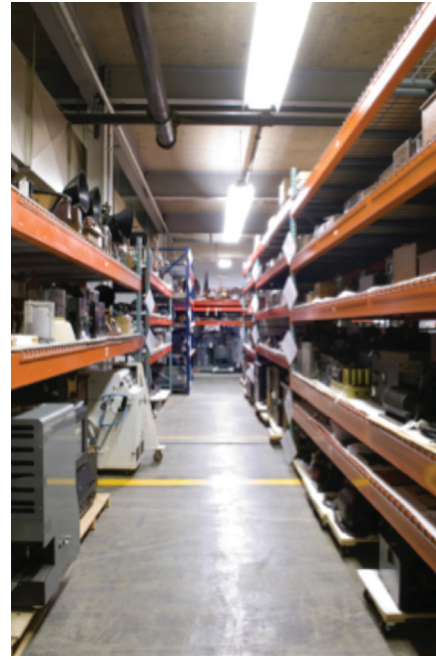
CORE VALUES

- **A commitment to innovation and excellence**
We do our best work when we are looking at the material culture of science in novel ways, linking objects to text, performances, and digital media.
- **A commitment to creative teaching and collaboration**
We are continually exploring new methods for the dissemination of knowledge and ways to bring Harvard colleagues from all academic units and schools toward a common goal.
- **A commitment to integrity and accountability**
We value above all else our high standards of professionalism toward collection management, academic & public programs, and publications.
- **A commitment to openness and communication**
We strive to connect with communities within and beyond Harvard to exchange information about our ongoing activities and new projects.

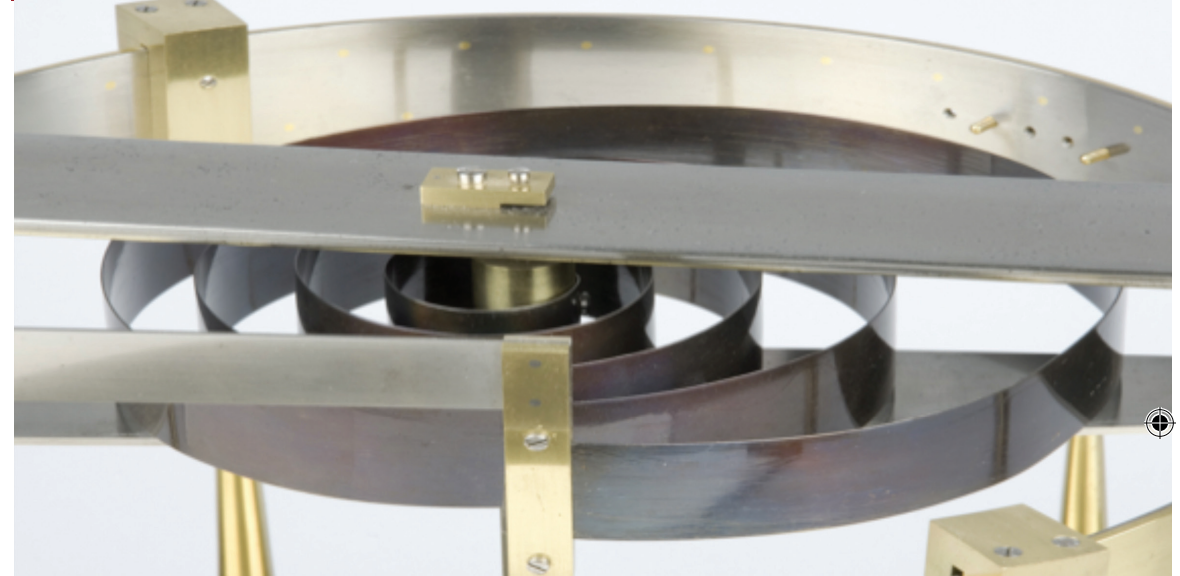
CORE STRENGTHS

- **People**
We are fortunate to have a well-trained staff that is wholly dedicated to our core mission and values. We are also privileged to work with some of the best minds in the world, whether they are students, professors or museum professionals.
- **Collections**
Our collection of scientific instruments is one of the largest and best documented in North America. It provides limitless opportunities for research, teaching, and public outreach.
- **Location**
At the heart of the Harvard campus in Cambridge, MA, we see ourselves becoming in the near future a natural gateway to the world-class consortium of museums known as the Harvard Museums of Science & Culture (HMSC).
- **Partnerships**
Our collaborative projects know no frontier, locally and globally, from the rich resources found right here at Harvard to our museum and university partners in Europe and elsewhere.





OUR PLAN



GOAL 1. Develop and Assess Our Collection

With over 20,000 objects in our care, 60% of which are already accessible online, we continue to acquire and care for Harvard's material culture of science. Used for teaching, research, and exhibitions, our objects date from the early modern period and Colonial America to the Cold War and the development of modern computing. Already the best university collection of the genre in the country, we never miss an opportunity to improve our holdings. At the same time we are faced with limited storage space. Solving these counterpoised issues is necessary for the future of the CHSI as a relevant and operational learning institution.

Strategies:

1.1 Determine Where Harvard Science Is Heading

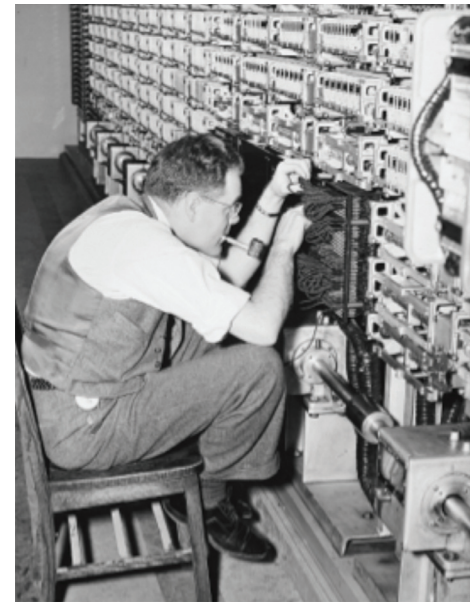
- Identify recent key innovations in science and technology, and consider fitting and diverse collecting strategies, whether material or digital.
- Reach out to professors and lab directors to let them know what the CHSI does with their significant though obsolete instruments.
- Introduce a new section on our website clearly stating what we wish to acquire and the sorts of instruments that would fill holes in our Collection.

1.2 Evaluate What Should Be Kept

- Start assessing the strengths and weaknesses of our collection now that the first phase of the online inventory is coming to a close.
- Evaluate one collection type per year and decide what to do with duplicates and objects collected but never fully accessioned.

1.3 Ascertain Our Future Needs for Storage Spaces

- Once 1.1 and 1.2 are met, evaluate the future amount of on-site and off-site space the CHSI will require to preserve its core mission of safeguarding Harvard's ever-growing scientific heritage.



GOAL 2. Encourage Object-Based Teaching

Teaching has always been a high priority for the CHSI. Every year hundreds of students experience first-hand the historical scientific treasures, generally guided by our curator—who received in 2008 the prestigious Joseph H. Hazen Education Prize, awarded by the History of Science Society. We now cherish the opportunity to integrate this experience fully into the curriculum of the Department of the History of Science. We believe that a formal inclusion will reinforce and demonstrate the leadership for which the Collection and the Department have long been recognized by Harvard and their peers.

Strategies:

2.1 At the Undergraduate Level

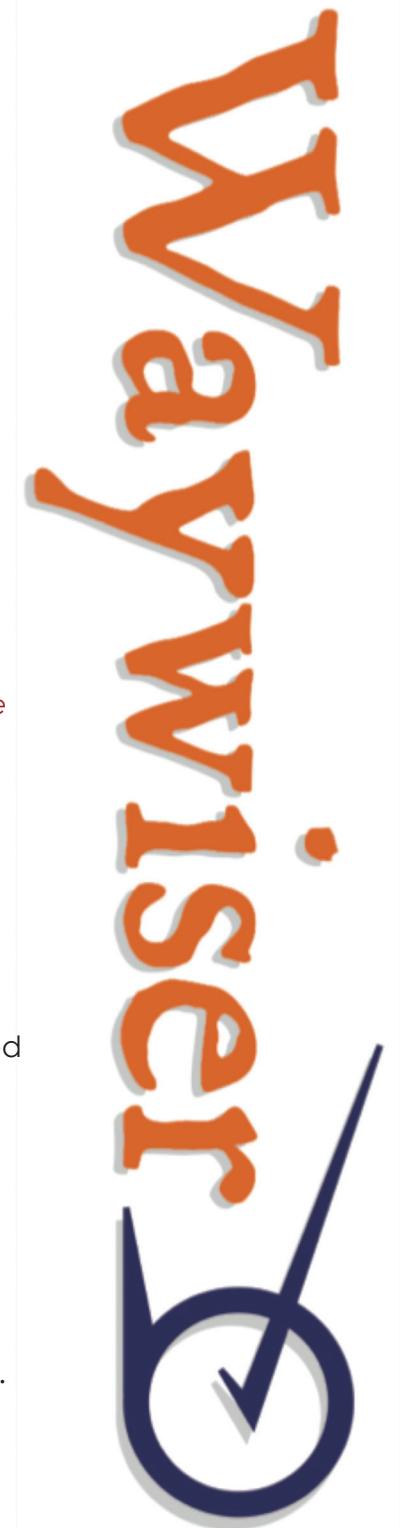
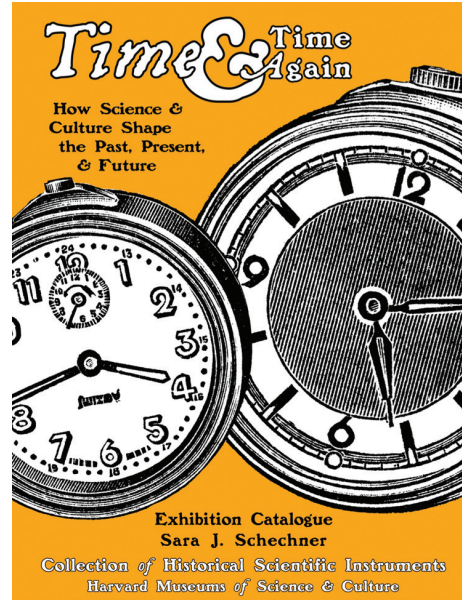
- Anchor in the Sophomore Tutorial a unit that would take advantage of the CHSI's collection, both on an epistemological and practical level.
- Embed in the Junior Tutorial a session that would inspire students to write a senior thesis on an instrument-related topic.
- Create a new independent study program for up to three seniors per year, who would enjoy working in the museum during their final semester in college. This could be considered as a museum studies internship.

2.2 At the Graduate Level

- Anchor in the G1 "Salon" seminar a unit that would take advantage of the CHSI's collection, both on an epistemological and practical level.
- Establish a museum studies secondary field within the History of Science Department. With the Critical Media Practice secondary field already in place, the CHSI would become a training ground for innovative approaches to material culture, on the theoretical, practical, and new media fronts.
- Transform the current Wheatland Curatorial Fellow program into an official TF position. Besides working on exhibits, these Fellows (G3s and up) would be working with the faculty responsible for teaching in the museum studies secondary field mentioned above.

2.3 Reach Out to the Harvard and Greater Boston Teaching Communities

- Advertise to Harvard faculty (online and in print) the CHSI policy on the use of the instrument collection in courses.
- Organize small, private informational events that would bring faculty from various Harvard Schools and Divisions to the CHSI twice a year.
- Work with the HMSC Education Department to create special Teacher Programs (middle-school and high-school level) adapted to our exhibitions and historical field.



GOAL 3. Foster Collection-Based Academic Research

A museum is relevant for object-based teaching and public programs only when its staff's level of collection knowledge and expertise is extensive. Fortunately, the CHSI's staff has proven over the years that it was among the best in the field. Students, faculty, curators, and collections managers have all contributed to increase the CHSI's scholarship in material culture studies. To carry on a high level of scholarship and to expand its know-how, the CHSI's staff needs more flexible time to work with the collection. It is that in-depth work that will later lead to novel exhibit ideas and the eventual completion of the Waywiser online database.

Strategies:

3.1 Hire Students to Work on Instrument and Research Topics

- Train graduate students to work with the collection, especially to build up the instrument files and associated bibliographical resources.
- Gather and digitize archival material related to the collection (e.g. all the papers related to Benjamin Franklin and our instruments).
- Increase the searchable content of Waywiser, our online database.

3.2 Secure Flexible Time to Fulfill Specific Three-Month Projects

- Establish a special three-month flexible time program in order for the CHSI staff to work on collection-based research projects (historical, conservation, design, etc.).
- Expand our partnerships with European and American museums sharing our interest in scientific instruments.

3.3 Promote a Multiplatform Publication Strategy Centered on Our Collections

- In print, especially in the form of journal articles and books.
- On the web, in the form of interactive webpages and downloadable eBooks.



GOAL 4. Maintain a Vibrant Exhibition Program

Between 2011 and 2014 the CHSI has produced six highly-regarded temporary exhibitions on a variety of topics, from Cold War pedagogy to the history of anatomy. Each time we used the opportunity to engage in a dialogue with faculty and students and to develop more robust web and digital media. With the establishment of the Harvard Museums of Science & Culture (HMSC), the CHSI is now ready to advance an even more ambitious exhibition program, which would further the HMSC's campus-wide mission.

Strategies:

4.1 Develop Shared Public Programming with the HMSC

- Work with the Executive Director and the Director of Public Programs on a multi-year, exhibition schedule.
- Ensure that the CHSI's exhibitions are well publicized before and after they are inaugurated.
- Plan relevant, exhibit-related public events, such as film festivals, public lectures, art performances, and receptions.
- Find financial and administrative solutions to make the CHSI accessible to the Harvard community and the public on weekdays and weekends.

4.2 Grant the HMSC the Use of Our Special Exhibition Gallery

- Share every other year the CHSI's 2nd-floor Special Exhibition Gallery in order to expand the HMSC's public venues.
- Reallocate the CHSI's staff time during the leap year to focus on research and collection management activities in preparation for the next exhibit.



4.3 Intensify Our Partnership with the HMSC Exhibition Department

- Plan well-researched thematic exhibits that will take advantage of all the Harvard museum, library, and archive resources.
- Develop common design strategies tuned to the special requirements and opportunities of the CHSI's 2nd-floor Special Exhibition Gallery.
- Transform the 2nd-floor gallery into a critical media laboratory, where pioneering technologies and displays are tried and tested.

4.4 Engage Inventive and Creative People from All Disciplines

- Continue to enroll in the planning of each exhibit students and faculty from the Graduate School of Design, the Art History Department, the School of Engineering and Applied Sciences, the Graduate School of Education, or from any other School and Department who so desire to foster and extend the CHSI's pedagogical and academic creative potential.



GOAL 5. Strengthen Our Financial Resources

Since its inception, the CHSI has benefited financially and materially from the generous gifts of patrons and friends. These gifts have helped the Collection grow and have enabled the accomplishment of crucial projects, such as the recent inventory and development of our online database, Waywiser. As part of the HMSC, we are further involved in public events, especially those connected to our exhibition program. In order to maintain the vitality of our curatorial and pedagogical activities, it is essential to strengthen and diversify the CHSI's financial resources.

Strategies:

5.1 Increase the Endowment to Expand Curatorial Staffing

- Involve the Harvard Development Office and FAS Deans to formulate a comprehensive and appropriate multi-year fund raising strategy.
- Identify new funding sources and cultivate existing contacts.
- Create naming opportunities for our Special Exhibition Gallery and Library.

5.2 Diversify Funding Sources to Support Short-Term Projects

- Develop a well-executed publicity initiative aimed at describing and promoting the CHSI and all its achievements.
- Seek appropriate federal sources and private-sector sponsorships (\$5,000 to \$50,000) to fund museum-based experiments involving object-teaching and innovative displays (e.g. using 3D printing and Google Glass).
- Create a CHSI LinkedIn page to draw attention to our activities and develop a dynamic corporate network of sponsors.
- Identify friends in the public and private sectors who can speak on our behalf.
- Work with the Science Center to develop the CHSI as an original and attractive venue to host Harvard and corporate receptions and dinners.



COLLECTION OF HISTORICAL SCIENTIFIC INSTRUMENTS

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Photo captions by page

1. *Time & Time Again* exhibition. Photo by Samantha van Gerbig.
3. Quintant, 1828-1844. Photo by Samantha van Gerbig.
5. *Left and center*: Off-site storage. Photos by Sara Frankel.
Right: Chronometer escapement model, ca. 1820.
 Photo by Samantha van Gerbig.
6. *Left*: Dr. Sara Schechner with a student in the CHSI library.
 Photo by Michael Kelley. *Center*: David Wheatland and
 I. Bernard Cohen looking into the Joseph Pope orrery, 1950s.
Right: Robert Hawkins working on the Mark I computer, 1944.
7. *Left*: *Ivory Diptych Sundials* publication. *Center*: *Time & Time
 Again* catalog. *Right*: Waywiser logo. Design by Michael Kelley.
8. *Left*: Banner for the Go Ask A.L.I.C.E. exhibit. Design by Samantha
 van Gerbig. *Right*: Entrance view of the *X-Rays of the Soul*
 exhibit. Photo by Matthew Longchamps.
9. Armillary ring dial, ca. 1780. Photo by Samantha van Gerbig.
10. View of the Putnam Gallery. Photo by Samantha van Gerbig.