Communiqué

SOCIÉTÉ CANADIENNE D'HISTOIRE ET DE PHILOSOPHIE DES SCIENCES

CANADIAN SOCIETY FOR THE HISTORY AND PHILOSOPHY OF SCIENCE

Nº 77 Autumn/Automne 2010

The Artefact Issue

Meeting an Eötvös Torsion Balance at the Canada Science and Technology Museum "Reading Artefacts" Summer Institute

By Elizabeth Neswald, Brock University

1. The Institute

In August of 2009 I had the good fortune to participate in the first of what is hopefully to become a regular summer institute held at the Canada Science and Technology Museum. The "Reading Artefacts" summer institute aimed to expose researchers and teachers to material culture approaches and artefact-based study in the history of science and technology. This week-long seminar was organised by David Pantalony and Randall Brooks with the assistance and cooperation of several additional museum curators and conservation staff and external scholars with experience in the use of scientific and technological objects in university teaching and research. For five days, a group of about 25 neophytes, including professors, graduate students, artists and museum curators, crawled

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Beginner's Mind: Rediscovering a National Museum Icon

By Garth Wilson, CSTM

Editors' note: As this issue was going to print, we were deeply saddened to learn of Garth's recent passing. An obituary will appear in the next issue of Communique.

It is a well-known tenet of the popular practice of Buddhism in the West that one ought to cultivate and maintain a particular state of awareness known as "Beginner's Mind". Far from being a forced erasure of all experience and knowledge, the value encompassed by the concept is one of seeing everything fresh, as if for the first time. Applied to the practice of curatorship "Beginner's Mind" offers a means of obtaining both fresh insight into object-based research (material culture), and of developing interpretive displays that will more fully engage the visiting public by presenting them with new ways of seeing and understanding the artifacts that constitute the foundation of the museum.

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Communiqué

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www.cshps.ca www.schps.ca

Please direct submissions and inquiries to Sofie Lachapelle or Aryn Martin, preferably by email (details below). Please note that submissions should be sent in both official languages. The editors are grateful to York University for assistance in printing and mailing costs, and to the University of Guelph for providing the necessary software.

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The Artefact Issue

This summer we decided to have a theme for the Autumn issue of Communiqué. We chose to organize the issue around artefacts, in part to promote greater collaboration between members of CSHPS and Canadian museums of science & technology. Thank you to all those who responded to our call for object-centred stories. We hope this will be an ongoing feature of our Autumn newsletter.

--The editors

Renew your membership for 2011!
SCHPS-CSHPS offers electronic membership and renewal for 2011. The payment site can be reached through the CSHPS website and accepts major credit cards through PayPal. We also continue to accept payment by cheque. Members will receive renewal notices with this information in December or early January.

Renouvelez votre adhésion pour 2011!
SCHPS-CSHPS offre l'ahdésion et le renouvellement électronique pour 2011. Le site de paiement est accessible par le site web de la SCHPS et accepte les cartes de crédit par le système PayPal. Nous continuons aussi d'accepter les paiements par chèque. Les membres recevront un avertissement avec cette information en décembre ou début janvier.

issue contents

CSHPS ANNUAL MEETING
FREDERICTON, NB

CALL FOR PAPERS

English follows
La Société canadienne d'histoire et de philosophie des sciences (SCHPS) tiendra son congrès annuel dans le cadre du Congrès des sciences humaines (FCSH) qui se déroulera à l'Université du Nouveau-Brunswick et l'Université St. Thomas du 29 au 31 mai 2011.

Le comité de programme invite les historiens et philosophes des sciences à soumettre un résumé pour une communication individuelle ou une proposition pour une séance ou une table ronde. Les propositions peuvent être en français ou en anglais. Les séances et tables rondes bilingues (avec certaines présentations en français et d'autres en anglais) sont aussi encouragées. Une personne ne peut proposer qu'une seule présentation. Les propositions de communication individuelle doivent comprendre un titre, un résumé de 150 à 250 mots et les coordonnées de l'auteur. Les propositions de séance ou de table ronde doivent comprendre le titre de la séance, les titres et résumés de chaque contribution, ainsi que les coordonnées de l'organisateur de la séance. Toutes les propositions seront évaluées à l'aveugle (toute les coordonnées personnelles doivent donc être soumises dans un document séparé). Seules les propositions soumises par courriel seront considérées.

Le congrès de la SCHPS se déroule en même temps que ceux de plusieurs autres societies membres de la FCSH, comme la Société historique du Canada, l'Association canadienne de philosophie, Société canadienne de sociologie, l'Association pour l'histoire de la science et de la technologie au Canada, l'Association canadienne des études sur les femmes, l'Association canadienne d'études environnementales, et la Société canadienne de philosophie continentale. Nous encourageons les propositions de séances conjointes avec ces sociétés. Cependant, aucune communication ne peut être présentée à plus d'une société.

L'adresse de courrier électronique pour la soumission de propositions:
program.cshps@gmail.com.
Date limite de soumission: 1er février 2011.
Annonce de la décision du comité de programme: 15 février 2011.

La SCHPS décerne un prix (le prix Richard Hadden) pour le meilleur texte d'étudiant ou d'étudiante présenté au congrès. Pour informations, visitez le site web : http://www.yorku.ca/cshps1/HaddenPrize.htm. Les candidats au concours devront envoyer par courriel une copie de leur article au moins 3 semaines avant le début du congrès.

Étant une société bilingue, des efforts pour encourager une participation diversifiée sont appréciées (par ex. une communication en français pourrait être accompagnée d'une présentation PowerPoint en anglais, ou vice-versa).

Il est nécessaire d'être membre de la SCHPS pour présenter une conférence au congrès. Les auteurs dont les soumissions seront acceptées devront devenir membre de la SCHPS pour un modeste frais d'adhésion.

Pour plus d'informations sur la SCHPS, consultez le site web: http://www.yorku.ca/cshps1/. Les informations concernant l'inscription et les possibilités d'hébergement pour le congrès setrouveront sur le site web de la FCSH: http://www.fedcan.ca/.

Comité de programme (2010-2011)
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The Canadian Society for the History and Philosophy of Science (CSHPS) is holding its annual conference as part of the Congress of the Humanities and Social Sciences (CFHSS) at the University of New Brunswick and St. Thomas University, 29–31 May 2011.

The program committee invites scholars working on the history and philosophy of science to submit abstracts for individual papers or proposals for sessions. Submissions may be in English or French.

Bilingual sessions (with some papers in French and others in English) are also welcome. Only one proposal per person may be submitted. Individual paper submissions should consist of a title, a brief abstract of 150-250 words, and contact information for the author. Session proposals should consist of a session title, titles and brief abstracts for each paper, and contact information for the session organizer. All submissions will be blind refereed (therefore, all contact information needs to be in a separate document). Proposals will be accepted by e-mail only.

The CSHPS meeting overlaps with the meeting dates of a number of other member societies of the CFHSS, including the Canadian Historical Association, the Canadian Philosophical Association, the Canadian Sociological Association, the Canadian Science and Technology Historical Association, the Canadian Women's Studies Association, the Envi-

ronmental Studies Association of Canada and the Canadian Society for Continental Philosophy. We welcome proposals for joint sessions with these and other societies. However, no talk will be accepted for presentation at more than once society.
E-mail address for submissions: program.cshps@gmail.com.
Deadline for submissions: February 1, 2011. Notification of results: February 15, 2011.

CSHPS offers a book prize (the Richard Hadden Award) for the best student paper presented at the meeting. Details of this prize can be found at: http://www.yorku.ca/cshps1/HaddenPrize.htm Those wishing to be considered should submit a copy of the paper by e-mail three weeks prior to the Congress.

As a bilingual society, efforts to broaden participation are appreciated (e.g. a presentation in English could be accompanied by a powerpoint in French, and vice-versa).

It is required to be a member of CSHPS in order to present a paper at the conference. Individuals whose papers have been accepted will be requested to join CSHPS for a modest membership fee. For more information about CSHPS, consult: http://www.yorku.ca/cshps1/.
Information about Congress registration and accommodation will be available at the CFHSS website: http://www.fedcan.ca/.
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Meeting an Eötvös Torsion Balance...
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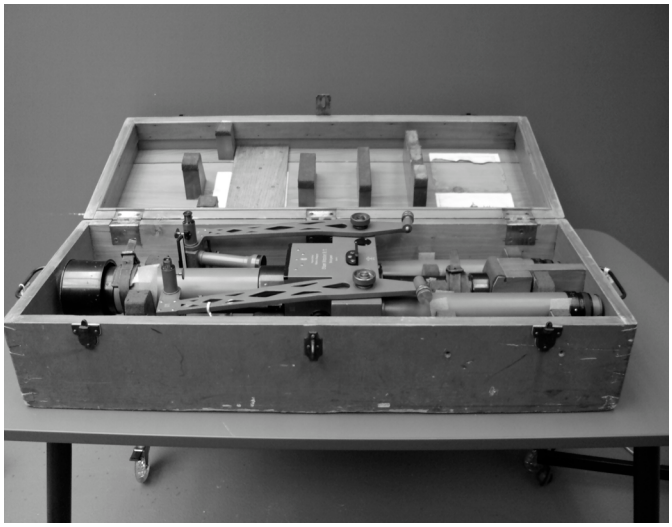
around early twentieth century streetcars, prowled storage rooms, watched historical instruments in action and listened to lectures on material culture, university collections, provenance research and the intricacies of conservation.

These lectures, demonstrations and collection tours provided the framework for the summer institute's most unique feature: participants were given the opportunity in groups to apply this knowledge to the study of a number of historical scientific and technological artefacts that had been brought out of storage for this purpose. On the first day of the institute, Richard Kremer, one of the institute's organisers, presented the "Winterthur method" as a possible approach to the study of scientific objects, but the organisers allowed participants to discover and investigate the artefacts on their own, offering their expertise when asked, but without undue intervention. Some of the objects, such as a vacuum cleaner, were easily identifiable, while others would have been known only to specialists and one, it turned out, had even been wrongly identified in the exhibit.

As part of the programme, participants built case studies of these instruments. Artefact study was spread over the week, with the first days devoted to investigating the material artefact itself, before the museum dossier and available provenance history were added. A layer of textual evidence came in the final days, with library and archival research into the objects.

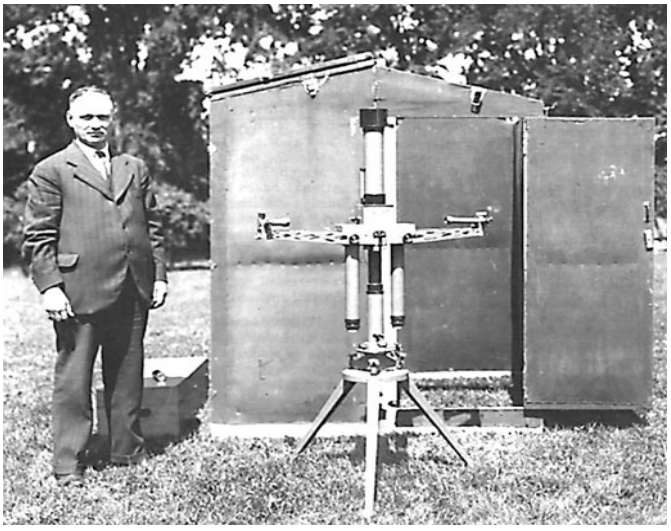
2. The Instrument
I was part of a group that gathered around a large, dull green set of three vertical metal tubes, and two adjustable horizontal tubes with telescopes on their ends,which was set on a long-legged tripod. It was accompanied by two large and two small wooden cases. The process of discovering this instrument was undertaken as a group, and the following description of this process, loosely based on the Winterthur method, is a product of our (Elizabeth Neswald, Katherine Anderson, Henry Trim, Melanie Frappier) collective investigation.

In keeping with the focus of the summer institute, we first faced our unknown object without the help of supporting textual material. Our first step was to characterise the artefact and, under the watchful eyes of the curators, unscrew protective caps, manipulate moveable parts and try to determine what this instrument did and how to use it. Two parts of this process warrant special mention, since they gave rise to insights that emerge through the specific confrontation



with objects. First, in our attempts to understand how to use the instrument and through that find out how it functioned, we were confronted with problems and improvised solutions. In this specific case, we looked through holes in the instrument body, shone a flashlight into them and discovered that, through a series of reflections, we could read a scale that was positioned opposite the hole and above the telescope through the telescope. The light source was necessary to use the instrument. When we later read descriptions of this instrument, however, there was no mention of a light source. For knowledgeable users of the instrument, the light source, so crucial for using this instrument that it could be considered a part of it, belonged to their tacit knowledge and no longer needed to be mentioned. Secondly, we were encouraged to regard the instrument as a material object in all its facets, not simply as a functional object. This raised questions of the interplay of functional and aesthetic aspects of instrument design: For example, the horizontal arms had holes. This made the arms lighter and the instrument more stable, but different models of this instrument achieved this in different ways. The pattern of the holes was an aesthetic choice, which in the case of our instrument, evoked early twentieth century steel-girder engineering architecture and, through that, gave it a concrete aesthetic connection to the city in which it was built.

This first meeting with the instrument was undertaken without recourse to external texts, but the artefact itself provided textual information. We were quickly able to identify it, for example, from the maker's label as an Eötvös torsion balance made by Nandor Süss in Budapest. Although this allowed us to find out about the history of this kind of instrument, essays on the torsion balance neither explained why our example differed from the standard model nor what its specific history was. Although the artefact dossier was slim, it, along with some labels and markings on the crates, did contain information that opened the doors to the next step of investigation.



On this basis, we were able – with additional post workshop research – to reconstruct this history of this particular instrument, trace its journey from Hungary to Canada, and place it firmly within the history of geological surveying, the Dominion Observatory, and geoprospecting in Canada. What had begun as an exercise in material culture approaches at the summer institute, ended as a genuine contribution to the history of geodesic research in Canada.

The excitement and enthusiasm that this summer institute generated among participants continues, and, hopefully, the summer institutes will as well. The museum's collection, as our tours revealed, is far broader than the exhibition suggests, and the summer institutes are not only a way to learn material culture methods in a unique environment, but also to explore the possibilities of future artefact research.

Beginner's Mind...
continued from page 1

In 2007, the International Association for the History of Transport, Traffic and Mobility (T2M for short) held its annual conference in Helmond, the Netherlands, in conjunction with the city of Eindhoven's famous design-week festival. The theme of the conference was "Design and Mobility." As a member of T2M, and someone whose past research has often been concerned with various aspects of technical design, I began thinking about writing a paper for the conference that would be centred around a single object from the transportation collection of the Canada Science and Technology Museum (CSTM). Although the options were almost unlimited within the collection, design being, as it is, such an integral part of modern technology, I was ultimately drawn to what is among the most prominent and popular of artifacts within the entire museum: Steam Locomotive CN6400 (see photo on page 1).

CN 6400 is Canada's best example of locomotive streamline design, our national equivalent to, among other examples, Henry Dreyfuss's famous J-3 Hudson locomotive, designed for the New York Central Railroad.[1] As an important chapter in the history of industrial design, streamlining is actually a much more complex and nuanced subject than its general popularity as a recognizable retro-style might suggest,

1 Technically speaking, CN6400 is formally classified as a "semi-streamlined" locomotive. On the other hand, that technical distinction was very often ignored by Canadian National in its expansive promotional and press coverage of the locomotive and its siblings; CN6400 is one of five such locomotives built by the company in 1936.

and the very fact that the steam locomotive was and remains arguably its best visual representative is indicative of that.[2] At the CSTM, CN6400 therefore has pride of place among a group of other 20th Century steam locomotives occupying what is known as the Locomotive Pavilion. It is a true icon of its time, one that came into the collection, as did most of the other locomotives, as transfers very early in the foundation of the collection. This also gives CN6400 an important seniority. In the forty-three years since the museum first opened, this locomotive has been a notable part of the visitor experience.

The Pavilion, as a space, is one of the most popular among visitors, a status confirmed by tracking studies and anecdotal evidence alike. As you approach the Pavilion from the lobby, the first locomotive you see is CN6400. Beyond that, so large is the artifact, that its presence and apparent permanence makes it and the others seem almost like architectural features. Although this speaks first to their imposing stature, it also suggests a notable irony; after all, these locomotives are symbols of significant technical advancements in human mobility and yet, as displayed, they could hardly be more immobile.

These observations arose to mind as I reflected carefully on CN6400 as a possible candidate for my research. Nevertheless, it was the artifact's technical biography that first brought it to mind. CN6400 was designed by the National Research Council in 1931 using what was then its brand new nine-foot diameter wind-tunnel laboratory. The museum also holds within its collection the wooden wind-tunnel model that was the expression of the final laboratory design. While the locomotive itself, along with its related artifacts and images, would certainly constitute a story of mobility and design in Canada, it was not yet obvious to me where the central issue that would drive the research and analysis might be found. I therefore decided to try to see and understand the locomotive with something of the "Beginner's Mind" described earlier, minus, I hoped, the burden of any pretentious mysticism. The simple question was: what, in my regular curatorial encounters, formal and informal, with this locomotive might I not be seeing? Such an exercise is both important and instructive for curators as a counter to complacency; it is all too easy, with the passage of time, to allow one's professional senses to become jaded.

A key to achieving the capacity to see the very familiar with new eyes within the museum proved to be the most fundamental of curatorial questions, one that ought always to be part of any object-based research project, whatever the focus or intention: that is, what does the object mean? Indeed, the search for meaning in the artifacts we collect and display is ultimately what sets good curatorial practice and research apart from antiquarianism or didactic classification. Here, it is worth noting that in pursuing this question in the context of the T2M conference theme it became obvious to me that material culture studies—whether seen as a discipline, a set of methodologies, or a subject matter—have much in common with the study and practice of design, being a sort of forensic version of the same visual and analytical practice. There is much students of both areas can learn from each other that will ultimately enrich their respective fields.

In reflecting on the meaning of this artifact, my thoughts about CN6400 were largely focused on two things: the striking irony of its basic immobility and its persistent popular appeal, over the years, even among generations that had never known or seen a steam locomotive outside of a museum. From the latter, I determined that even amongst those who possessed some idea or image of steam traction based on popular culture (arguably a fairly plentiful resource even if one thinks only of the influence of cinema), this artifact represented something beyond the basic array of technical facts and historical data provided in the single interpretive panel presently provided for the locomotive within the Pavilion. More importantly, from the former, the observation of ironic immobility, I thought I might well have found a key element in its larger meaning, a meaning ultimately more cultural, than technical, in nature. This meaning, as I began to understand it, was, in fact, also closely related to its design history—that is, its identity as an important reflection of streamlining in Canada. Moreover, within my own curatorial frame of reference I began to see how the experience of the locomotive might well be somewhat akin to the constructed experience of another unrelated artifact, René Magritte's famous painting of a pipe, containing the phrase: "Ceci n'est pas une pipe." The point here is that Magritte's painting of a pipe is, of course, a pipe only in the abstract sense of being a visual signifier for one, much as, it then occurred to me, that CN6400 might best be understood as an exceptional locomotive largely in the sense that it signified exceptional locomotion.

With these observations in mind, I turned my attention to the archival records which, happily, proved to be exceptionally rich, beginning with the comprehensive research reports of the National Research Council itself. I also began to question the distance between the time of the design work (1931) and the year in which the locomotive was finally constructed, albeit in a somewhat altered form (1936). Here, again, a

2 Terry Smith, Making the Modern: Industry, Art, and Design in America, University of Chicago Press, Chicago, 1993, p. 383.

willingness to consider the issue beyond the well-known facts and influence of the Great Depression (which very certainly constituted part of the story of the delay), proved the virtue of cultivating a "Beginner's Mind". Pursuing the question further led to a particularly rich file in the holdings of the Library and Archives Canada, a file of correspondence regarding CN6400's design and the technical reception of the published results.

Read in the context of the already well-known NRC reports, the contents of this file illuminated the striking extent to which, following the publication of the wind tunnel tests and the final design, the technical discussion was quickly transformed. For, in fact, the original design brief had not been concerned with the design of a faster, more efficient locomotive, per se, as might be expected, but rather to study and improve airflow across the form to eliminate the very serious problem of smoke clearance from the cab. For large mainline locomotives the obstruction of the crew's vision by smoke build-up in certain circumstances (notably, slowly entering a station) posed a serious safety problem. Even so, with the publication of the research results, the possible gains in speed and aerodynamic efficiency calculated from the form quickly dominated the technical discussion, despite the principle aim of the design brief. This transformation spoke to an ardent interest in streamlining that was technical but, perhaps more importantly, also contained an underlying social and cultural dimension. For the fact remained that while the design of CN6400 represented a good potential improvement in performance, at least on paper, it was equally well-known among the technical experts at CN that in actual operations, hauling regular CN passenger cars, these improvements could never be realized to any net benefit—apart, of course, from the superiour smoke-clearing capacity. Understanding all this proved to be essential to understanding Canadian National's subsequent decision to build the 6400 series when they did.

Having discovered this much, I directed my research at the social-cultural history of the artifact following its construction and realized that the narrative I found fully supported the fact that, whatever its technical qualities, it was ultimately the symbolic power and influence of the aesthetic form of CN6400 that was of utmost importance in the working life of the locomotive, something that CN both understood and cultivated. The capacity to represent, if only visually, exceptional locomotion, was vigoursly and deliberately exploited by the company in its various efforts to uphold the long-standing place and influence of the railway in Canada. This was done against a number of emerging market forces that were then seriously threatening the power and place of all railways, both here and in the U.S.: the growing popularity of the private automobile, emerging networks of better roads and good highways—many the product of government make-work initiatives--ascendant commercial trucking, and, last but not least, the beginnings of transcontinental civil aviation. While the evidence shows that CN actively promoted 6400's streamlined identity on a regular basis, its strategic intentions were especially apparent during the celebration of the 100th anniversary of railways in Canada (1936), the 1939 Royal Tour, and the New York World's Fair of that same year.

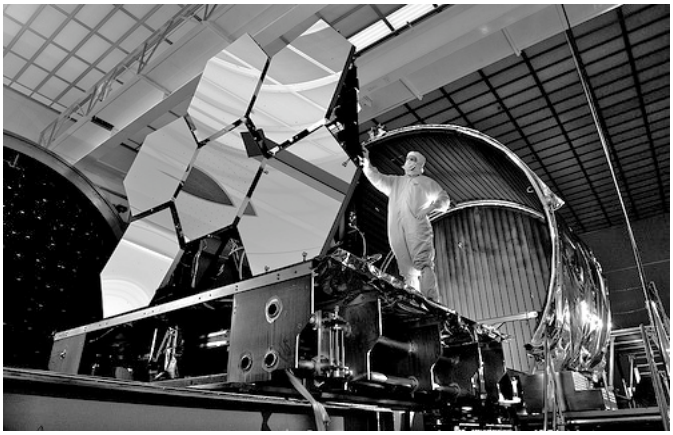
From this research a much richer meaning emerged for this artifact, one with a significant cultural dimension. Ultimately, the role of CN6400 in the museum as a powerful symbol of exceptional locomotive design-- a role manifest in its capacity to impress visitors through generations, its ability to touch a deeper cultural memory and consciousness independent of the technical narrative presented in the formal display, and its ironic immobility-- has proved to be much less an overt contradiction of this artifact's original social function, and much more a natural extension, even perhaps a proper completion, of it. What remains now is for the museum to make this larger cultural meaning a prominent part of the locomotive's next interpretive plan. Done well, such a revision of the Pavilion display will serve as an invitation for the visitor to view CN6400 with fresh eyes and a "Beginner's mind."

Note: This item is an account of research and analysis that was subsequently published as an article in the Journal of Design History (JDH). See, Garth Wilson, "Designing Meaning: Streamlining, National Identity and the Case of Locomotive CN6400", JDH, Vol. 21, No. 3, 2008, pp. 237-257.

Bio: Garth Wilson was Curator of Transportation at the Canada Science and Technology Museum in Ottawa, where he worked since 1989. He was Vice-President for the International Association for the History of Transport, Traffic and Mobility (T2M) and a member of the editorial board of the Journal of Transport History.

Artifact Profile: The James Webb Space Telescope

Robert Smith (University of Alberta) is engaged on a long term project to write a study of an artifact currently under construction, the James Webb Space Telescope (JWST), an international collaboration between NASA, the European Space Agency and the Canadian Space Agency. The Telescope will have a primary mirror over 6 m in diameter (that is, over twice the diameter of the Hubble Space Telescope's primary



mirror) and, if all works to plan, it will be positioned beyond the Moon and over a million miles from the Earth. JWST will likely have cost over $6 Billion when eventually launched into space (projected at present for 2015), and it will have involved many thousands of scientists and engineers and hundreds of companies over the 25 years it will have taken to reach launch. It therefore represents the biggest sort of `machine centred' Big Science. Robert is researching both the earlier history of the telescope, as well as following its building in real time, through a combination of examining project documents and emails, participant observation at numerous meetings, and doing interviews (with people at all levels of the project from patrons in the U.S. Congress and White House to working level scientists and engineers, as well as people outside the project, some of whom have been very critical of JWST). For interpretive resources, he draws on the history of science and technology as well as science and technology studies.

Artifact Profile: Samson steam locomotive
Nova Scotia Museum of Industry, Stellarton, Nova Scotia

Imagine in a bucolic world of horse-drawn wagons and water-powered mills, seeing for the first time a mass of iron, steam, smoke and noise hurtling down an unfamiliar track toward you. Such was the scene with the introduction of steam locomotives to Nova Scotia in 1839, harbingers of the arrival of the Industrial Revolution in the colony. At least one witness to the event is said to have been run down on the tracks, when, mesmerized by the sight, he failed to step aside and the engineer could not stop a locomotive that had no brakes.

The General Mining Association, who at that time owned the rights to Nova Scotia's coal deposits, brought the technology, skilled labour, and capital to establish coal mining as an industry here. They were able to more effectively dig, ventilate and safely remove coal from deep subterranean deposits than their predecessors and found ready markets in New England. They built the first iron railroad and initially brought from England three steam locomotives to haul tubs of coal to the loading grounds several miles away to be dumped into ocean-going vessels. Samson, one of these three, today can be found on display at the Museum of Industry in Nova Scotia.

Now one of the oldest surviving steam locomotives in the world, Samson represents a stage in the evolution of British goods locomotive technology. Built by Timothy Hackworth at his Soho Works in Durham, vertical cylinders directly driving rear wheels and an over-hanging boiler with a rear tail were Hackworth experiments with Samson to try to build a faster, stronger freight locomotive. Characteristics more typical of all his locomotives were the wheel arrangements, boiler type, and the use of vertical cylinders.

Samson served the coal operations at Albion Mines (now Stellarton) for thirty years before being semi-retired. By 1883 it was considered an "antique" and was shown at a number of American expositions, including the Chicago World's Fair of 1893. Afterwards, it was put on display in the B&O Railway Museum in Baltimore, until it returned to Nova Scotia in 1927 at the request of the Province. It came to Pictou County in 1950 and became part of the collection of the Nova Scotia Museum in 1990. The Museum of Industry lovingly disassembled, documented, and conserved its hundreds of components, researched its completeness, re-assembled it, and now interprets its technology and history for Museum visitors. It is one of 34,000 artifacts collected by the Museum of Industry to preserve and interpret Nova Scotia's industrial heritage. Find out more about the Museum of Industry at: www.industry.museum.gov.ns.ca

Photo reproduced with permission of the Nova Scotia Museum of Industry

Artifact Profile: Fingerprints of Violence
Science North, Sudbury

If the power of an artifact is in the story it tells, then the palm sized, fan-shaped stress fractures in the rock tunnel of Science North are among the most powerful on the planet. They are the telltale fingerprints of super high energy shockwaves that rattled Sudbury, shattering the bedrock, nearly two billion years ago when an asteroid the size of a quarter of a million Toronto SkyDomes smashed into the Earth. After hundreds of millions of years of erosion the Sudbury Basin, still over 60 km from east to west, is all that is left of a crater once 200 km across. A small patch of "shatter cones", as the fan shaped shock fractures are known, are right beside the walkway into the main exhibit building of the science centre - unobtrusive but eloquent evidence of unimaginable violence.

Shatter cones are only one of several natural artifacts in the bedrock of Science North. Just a little further into the building is an important geological fault, scoured out along part of its length by Ice Age glaciers that left a 5 metre deep slot in the bedrock. The fault cuts through the exhibit building and forms the back wall of the theatre. Unlike the San Andreas Fault that devastated San Francisco a hundred years ago, Sudbury's Creighton Fault has not moved for at least several hundred million years. Alongside the fault and also cutting through the building, is a wall of once molten rock, known as a dyke from the Old English word for a ditch. The dyke might well have fed long since eroded volcanoes on the surface over a billion years ago.

Natural geological artifacts in the bedrock of our building are priceless reminders that "we are merely players" as Shakespeare said, on a stage created by forces science can describe but only our emotions can put into perspective. They connect us to our planet in a way that specimens in a museum never can.
Very few geologists ever see a shatter cone. They are found

at only a handful of places, all of them around the edges of meteorite or asteroid craters. Signs of the typical striated, half cone shapes have apparently been seen in the shattered rock around the sites of underground nuclear test explosions. The nuclear shock waves were apparently as powerful as those from suddenly stopping a 10 km diameter asteroid traveling at 8 km a second.

There are excellent and larger shatter cones in rock outcrops near Science North, and they were a hint that some might be found during the blasting of the foundation for the centre in 1981. The construction workers at the time were invited to a slide presentation about the bedrock geology that included pictures of shatter cones and were asked to keep an eye out for them. When a few were revealed as the entrance tunnel was being blasted, they were quickly protected by straw and plywood. Today the largest one has been polished by the hands of visitors like the toe of Timothy Eaton's bronze statue was rubbed for good luck by customers in his Toronto store. But no earthly sculptor shaped the shatter cone and perhaps the luck it passes on is equal to the power of its origin.

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UPDATES ON STS-HPS IN CANADA

1. Institutional Updates

Situating the SSHRC "Situating Science" Cluster
The SSHRC-funded Strategic Knowledge Cluster, Situating Science: Cluster for the Humanist and Social Study of Science, has successfully reached the half way mark of our seven-year project.

Situating Science (or Situsci, for short) fosters contact and collaboration between scholars working in history, philosophy, and sociology of science and promotes linkages between those engaged in the academic study of these topics and those working on cognate topics in the news media, museums, policy development, and the arts.

Our Nodes in British Columbia, Alberta, Saskatchewan, Ontario, Quebec, and the Atlantic Provinces serve as organizational centres for their respective regions, initiating and facilitating STS-HPS activities, with a particular emphasis on interdisciplinarity, under the Cluster's four themes: "Historical Ontology and Epistemology;" "Science and Its Publics;" "Material Culture and Scientific/Technological Practices;" and "Geography and Sites of Knowing." The nodes also serve as centres for information exchange with

other nodes and with the national and international STS-HPS communities through the means of the new Situating Science website (www.situsci.ca). Among its features are searchability, updated opportunities and resources, live stream and recorded videos of Situating Science events, plus a searchable database of STS-HPS scholars in Canada. We welcome your suggestions to improve this resource.

National Projects:
Nationally, the Cluster has been involved in several projects, including a series of workshops: "Scientific Models and Simulations (4)" (University of Toronto, May, 2010); "Thought Experiments" (Dalhousie University, June); and "The Makers' Universe: Science, Art and Instruments in Early Modern Europe" (McGill University, Sept.). Halifax and Vancouver also hosted two international conferences, the first of which was on the "Objectivity in Science" at the University of British Columbia in June, followed by the "Circulating Knowledge, East and West" at King's in July. The latter conference brought scholars from India, Singapore, China, Europe and North America to Halifax to explore the circulation of science and natural philosophy in the colonial and post-colonial period, and was coordinated with the launch of the online edition of the "James Dinwiddie Papers" at the Dalhousie Archives. "Circulating Knowledge" was also supported by the International Opportunity Fund of SSHRC and is the first in a multilevel project to create scholar exchange and growth in the humanities and social studies of science between Canada and Asia.

In 2011-12, the Cluster will support the successful applicants to the annual Workshop proposal competition: "Intersections: New Approaches to Science and Technology in 20th C. China and India" (York), "Scientific Authority within Democratic Societies"(UBC), and "The Politics of Care in Technoscience" (York).

National Lecture Series: Science and its Publics
Following on the success of the 2009-10 Trust in the New Sciences national series (videos online), the Canadian Centre for Ethics and Public Affairs (CCEPA) and the Cluster have launched a new national lecture series, on "Science and Its Publics", with the first of the series coinciding with the Atlantic launch of the Science and Media Centre of Canada and sponsorship and partnerships from Genome Atlantic, Nova Scotia Health Research Foundation, and a host of local public and institutional groups at King's in November 2010. The series collaborates with the Making Publics Project in Montreal Nov. 25th for Dr. Golinski's "Frankenstein in the Public Sphere" and continues to Toronto for an investigation of the public's role in the latest Multiple Sclerosis treatment. The Series moves to Halifax and Ottawa in early March for Dr. Pantalony's exploration of "Provenance and the Role of the Public Museum", and Dr. Lock caps the Series with her latest work, "Facing Uncertainty: Who is Destined for Alzheimer's Disease?" in Saskatchewan and Alberta at the end of that month. All events are recorded and streamed live.

Students and Research:
This year we welcomed MA students Dani Hallet (UBC) and Megan Dean (King's) and Postdoctoral fellows Alex Choby (UAlberta) and Melinda Baldwin (York). Other students at each Node have been invaluable in assisting with project activities.

For the remainder of the project, the Situating Science Cluster will move forward with plans to sustain STS/HPS networks beyond its seven years and construct a permanent Centre or Institute for Science Studies in Canada. It will also continue to cultivate international partnerships with Asian and Southeast Asian countries.

For more information, and to keep up-to-date with activities and resources as they develop, please visit www.situsci.ca, or contact the Situating Science Project Coordinator, Emily Tector (situsci@dal.ca, 902 422-1271, ex. 200).

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The Institute for the History and Philosophy of Science & Technology, University of Toronto
Another action-packed schedule in the IHPST kicked off in earnest with our contribution to the year of Darwin – Origin of Species at 150, a massive celebratory conference – followed by a number of stimulating workshops: 'How Much Does Religion Tolerate Science?'; 'Chaos'; 'Challenges to Evolutionary Theory'; and 'Textbooks in Science'. We were delighted to host one of a national series of lectures on Trust in the New Sciences, featuring Colin Milburn (UC Davis) on 'Nanomorphosis: The Future of the Body in the Age of Nanotechnology'. We capped the year with our

annual graduate student society (HAPSAT) conference, 'Instruments: Mental and Material', including a keynote address by Jacalyn Duffin (Queen's), and a major international conference on 'Models and Simulations'. Our excellent graduate-run journal, Spontaneous Generations, published its latest issue on 'Scientific Instruments: Knowledge, Practice, and Culture'. (For more news: http://www.hps.utoronto.ca.)

The Institute of Science and Technology Studies, York University

The Institute opened its doors this past July. Professor Naomi Oreskes gave the inaugural lecture on her new book, Merchants of Doubt, to a large crowd on September 30th. She talked about the group behind the campaign to deny well-established scientific knowledge about global warming. A few hours later, a conference on "Earth Science/ Global Science" began that had been organized by Professor Katharine Anderson and Professor Ernst Hamm. Participants included Deborah Coen, Gregory Good, Michael S. Reidy, Helen Rozwadowski, Alistair Sponsel, Andre Wakefield, Zouyue Wang, and Andrea Westermann. In the works are two workshops for the spring. One, organized by Professor Grace Shen, will focus on "New Approaches to Science and Technology in 20th Century China and India." The second, to take place May 6th-7th, 2011, will deal with evolutionary naturalism in the second half of the nineteenth century.

2. Members' Updates

Sara Scharf is teaching research methods to medical market analysts in a private company, translating academic articles from French and Italian to English for publication, and helping out with assorted projects in the history of biology.

Leslie Tomory has published an article on William Brownrigg's work in pneumatic chemistry: 'William Brownrigg's papers on fire-damps', Notes and Records of the Royal Society, 64, no. 3, (2010), 261–70. His revised PhD thesis on the origins of the gaslight industry 1780–1820 has been accepted for publication by MIT Press, and should be appearing in 2012 in the Transformations series edited by Jed Buchwald.

BROCK UNIVERSITY

Last year **Elizabeth Neswald** received a meetings grant from the CIHR Institute of Nutrition, Metabolism and Diabetes. The symposium, "Setting Standards: The History and Politics of Nutritional Theories and Practices, 1890-1930" took place at Brock University in August. She has continued her participation in the John Tyndall Correspondence Project and has two funded research assistants for the project this year. She completed an article on "Asserting Medical Identities in mid-nineteenth-century provincial Ireland: The Case of the Water-Cure in Cork" for an edited volume, to be published in 2011, published a journal article, "Ansätze zu einer Kulturgeschichte der Entropie" and gave talks in Maastricht and Aberdeen, where she organised a session at the BSHS meeting, as well as at the Brock symposium. Along with Katherine Anderson, Melanie Frappie and Henry Trim, she wrote a collective article based on our work at the summer institite "Reading Artifacts" on the Eötvös torison balance in the collection of the Canada Museum of Science and Technology. She is currently spending six months as Visiting Scholar at the Max-Planck Institute for the History of Science in Berlin, where she is working on the Foreign Laboratory Visits of Francis Gano Benedict.

CAPE BRETON UNIVERSITY

In 2010, **Andrew Reynolds** published " The Redoubtable Cell" in the Studies in History and Philosophy of the Biological and Biomedical Sciences and K.L. White, S.M. Townsend, A.S. Reynolds, E.B. Barrington, "Intertidal Invertebrates of Scaterie Island: Preliminary Habitat Description and Species Inventory in the Proceedings of the Nova Scotian Institute of Science. His book review of Hannah Landecker, Culturing Life: How Cells Became Technologies (Cambridge, MA: Harvard University Press, 2010) is in press with Isis. In 2010 he gave several talks on metaphors in cell communication and cell signaling research: "How Individuals Make Societies and Vice Versa: Emergentism, Downward Causation, and Cell Sociology" at the Atlantic Region Philosophers Association annual meeting; "Can We Talk? Metaphors and Models of Cell Communication and Signaling," an invited talk to the Halifax node of the SSHRC-Sponsored Situating Science (Science in Human Context) National Cluster Grant ('Work in Progress Series"); and "Metaphors and Values in Cell Biology" at the workshop on "Science, Facts, and Values." In 2009, he gave an invited talk on "Darwin and the Origin of Species: Reception and Reactions in 19th Century Nova Scotia" in celebration of the sesquicentennial of the publication of the Origin of Species to a joint meeting of the Old Sydney Society and the Cape Breton Naturalists Society. He also gave an invited talk titled "The Redoubtable Cell" at a workshop on "The Life of the Cell: Philosophy & History of Cell Research", at the Egenis Centre at University of Exeter, UK. He also provided a commentary on Thomas Cavalier-Smith (Zoology Oxford), who spoke on the "Evolution of the Cell".

MCMASTER UNIVERSITY

Richard Arthur is currently working on a book on The 'Now' in Physics, co-authored with Steve Savitt of UBC and Dennis Dieks of Utrecht, for the Springer Frontiers of Science series, intended for a wide readership. His introductory logic book, Natural Deduction, is forthcoming with Broadview Press. Another book project, a Leibniz for Polity Press's Classic Thinkers series, has recently been accepted for publication. In 2010 he gave four talks at various venues: (1) "Beeckman's Discrete Moments and Descartes's Disdain" at the APA (Central Division) in Chicago in February, (2) "Leibniz's Actual Infinite and his Analysis of Matter" at a workshop on mathematics and philosophy in Leibniz's thought at the CNRS and Université de Paris-Denis Diderot in Paris in March, (3) "Can Thought Experiments be Resolved by Experiment? the Case of Aristotle's Wheel" at a workshop "Science without Data? The Role of Thought Experiments in Empirical Investigations" in Halifax, Nova Scotia in June, and (4) "On the mathematization of motion before instantaneous velocity: Galileo and Descartes" at a workshop he co-organized with Niccolò Guicciardini, "On the Contested Expanding Rôle of Applied Mathematics from the Renaissance to the Enlightenment", in Pisa in September. He also attended the CSHPS/SCHPS at Concordia, Montreal, in May, where Kathleen Okruhlik was elected to succeed him as President, and where he gave an appreciation of Mario Bunge in honour of his career and accomplishments on the occasion of his retirement at the age of 90.

QUEEN'S UNIVERSITY

Donald Forsdyke has completed the second edition of his textbook Evolutionary Bioinformatics, that will be released by Springer (New York) early in 2011. Despite its daunting title, the subject has a history dating back to Samual Butler (1835-1902) and builds on the earlier text of Cock and Forsdyke entitled "Treasure Your Exceptions." The Science and Life of William Bateson (Springer 2008).

Daryn Lehoux is still trying to finish 'What Did the Romans Know?' for the University of Chicago Press. In the past year he has given talks at McGill and Johns Hopkins as well as a conference paper in Amsterdam. He was promoted to full professor in July.

RYERSON UNIVERSITY

Conor Burns currently teaches in the History Department at Ryerson University and is Assistant Book Review Editor for Isis. His ongoing research looks at case studies within the history of 19th-20th century North American archaeology and explores ways in which science is deployed to construct deep historical narratives. His immediate project examines the creation of idealized archaeological "type sites" that serve as material and chronological benchmarks of specific ancient cultures.

UNIVERSITY OF ALBERTA

Ingo Brigandt runs a collaborative SSHRC project, which attempts to understand how interdisciplinary research in biology works. The focus is on ongoing attempts to account for the evolutionary origin of novel structures, as a solution to this important biological problem requires intellectual coordination across several biological disciplines. In November 2009, a discussion workshop took place at the University of Alberta, bringing together philosophers and biologists (for a report see Evolutionary Biology 37: 93-99). A follow-up workshop is to take place in November 2010 at McGill University. The papers are to be published in a special issue of the Journal of Experimental Biology: Molecular and Developmental Evolution, and a symposium is planned for the 2011 meeting of the International Society for the History, Philosophy, and Social Studies of Biology.

Robert Smith ended his three year term as director of the University's STS Program in June. He has given talks in the last year on various topics in the history of astronomy at New York University, the Smithsonian Institution in Washington DC, the headquarters of the Canadian Space Agency in Montreal, and the Royal Observatory, Edinburgh. As well as publishing papers in the year on the history of space astronomy, the first English language paperback edition of his The Expanding Universe: Astronomy's `Great Debate' 1900-1931 was published by Cambridge University Press.

UNIVERSITY OF GUELPH

Maya Goldenberg's recent research investigates epistemological and ethical considerations and concerns regarding the evidence-based movement in biomedicine. Her analysis has been informed by feminist research, particularly the contributions to philosophy and epistemology of science, and embodiment studies. Her teaching at the University of Guelph covers these areas of philosophical interest as part of the Department of Philosophy. She is also cross-appointed with the Bachelor of Arts and Science Program, where she teaches interdisciplinary science studies.

Along with Jenna Healey, **Sofie Lachapelle** published "On Hans, Zou and the Others: Wonder Animals and the Question of Animal Intelligence in Early Twentieth-Century France" in the Studies in History and Philosophy of Science Part C. Her manuscript Investigating the Supernatural:

From Spiritism and Occultism to Psychical Research and Metapsychics in France, 1853-1931 will be coming out with Johns Hopkins University Press in 2011. She continues with her project "Science on Stage: Recreational Physics, White Magic and Scientific Wonder in Nineteenth-Century France" and has begun work on the history of scientific toys in France between 1830 and 2000.

UNIVERSITY OF KING'S COLLEGE

Stephen D. Snobelen, Assistant Professor, History of Science and Technology, University of King's College, Halifax. Stephen recently edited a special issue of _Enlightenment and Dissent_ on Isaac Newton in the Eighteenth Century (2009) and is currently working on various aspects of Newton's theology and the relationship of his theology to his natural philosophy. His paper "The theology of Isaac Newton's Principia mathematica: a preliminary survey" is currently in press with Neue Zeitschrift für Systematische Theologie und Religionsphilosophie. His (partly) tongue-in-cheek article "Dan Brown, The Lost Symbol and Isaac Newton's 2060 A.D. manuscript" was released in early 2010 and is a reply to Brown's misuse of his research (available at www.isaacnewton.ca). He is director of the Newton Project Canada and a member of the Editorial Board of the Newton Project (UK).

UNIVERSITY OF MANITOBA

Martin Clutton-Brock's paper "The Plausibility of Galileo's Tidal Theory" has been accepted for publication by Centaurus. M. C-B. is now working on a book with the tentative title "A Cartoon Guide to Cosmology." After some false starts, he has settled on a historical approach, going from Herschel through Hubble and on to the present.

UNIVERSITÉ DE MONTRÉAL

Yvon Gauthier annonce la publication de deux articles "Hilbert Programme and Applied Proof Theory" à paraître dans "Logique et Analyse" et "Hilbert's Idea of a Physical Axiomatics: The Analytical Apparatus of Quantum Mechanics" à paraître dans Journal of Physical Mathematics. Il prépare aussi un ouvrage sur " L'idée d'une logique physique. La question de la physique mathématique" destiné à la collection Logique de la science qu'il dirige aux Presses de l'Université Laval où il a publié son dernier ouvrage Logique arithmétique. L'arithmétisation de la logique.

UNIVERSITY OF TORONTO

John Court, Assistant Professor in the University of Toronto Faculty of Medicine and Archivist for the Centre for Addiction and Mental Health (CAMH), had an article published in Historical Studies in Education (Spring 2010), "Recruiting a Scientific Enigma: Ramsay Wright at the University of Toronto and its Reconstituted Medical School, 1874 to 1912." During October he presented a paper to the Wilson Centre Research Day (University Health Network and Faculty of Medicine) on the theme, "Initial Steps for Research in Medical Education to Overcome the Influence of Stigma."

In 2010, **Joseph Berkovitz** worked on the foundations of the propensity and subjective interpretations of probability, and on explanations in quantum mechanics. His paper 'On Explanation in Retro-causal Interpretations of Quantum Mechanics' is now in press in M. Suárez (ed.), Probabilities, Causes, and Propensities in Physics, Synthese Library, Springer, pp. 114-155. He presented a paper on explanation in quantum mechanics in February at the Causality and Explanation in Physics, Biology and Economics workshop at the University of Barcelona and in April at the 37th Dubrovnik Philosophy of Science conference; a paper on randomness in classical physical systems in March at the Chaos workshop, IHPST, University of Toronto, and in April at the Modes, levels, and orders of description in the physical sciences seminar, Rehseis, Paris; and a paper on de Finetti's theory of probability at CSHPS.

Anjan Chakravartty assumed the helm as Director of the IHPST, and while riding the learning curve through the many delights of a five-year planning exercise at the University, did manage to crack on with a few other things. His article 'Truth and Representation in Science: Two Inspirations from Art' was published in a volume of Boston Studies in the Philosophy of Science entitled Beyond Mimesis and Convention, and his latest thoughts on the relationship between metaphysics and science featured in New Waves in Philosophy of Science (Palgrave Macmillan). Reviews of Alexander Bird's Nature's Metaphysics (in Metascience) and Brian Ellis' The Metaphysics of Scientific Realism (Notre Dame Philosophical Reviews) were no doubt enjoyed by their authors. Highlights of travel included talks at the annual conferences of the BSPS in Dublin, CSHPS in Montreal, visits to McMaster and the University of Victoria, and a lecture to the Bay Area Philosophy of Science Group in San Francisco. (For the papers, see http://individual.utoronto.ca/anjan.)

Lucia Dacome published 'The Anatomy of the Pope', in M.P. Donato and J. Kraye (eds.), Conflicting Duties. Science, Medicine and Religion in Rome, 1550-1750 (London, the Warburg Institute, 2009), 353–374. She presented her

work at the workshops 'Assimilating Knowledge: Food and Nutrition in Early Modern Physiologies' in Basel (February) and 'The Makers' Universe: Science, Art and Instruments in Early Modern Europe' at McGill University (September) as well as the annual meeting of The Renaissance Society of America in Venice (April), the GTA meeting in Toronto (May), the CSHPS and the CSHM annual meetings (May) and the HSS annual meeting (November) in Montreal. She continues to work on the project Models of Trust: Crafting the Body in Eighteenth-Century Italy.

Yiftach Fehige made some considerable progress towards the completion of his second Ph.D. thesis at the University of Tübingen. He published on thought experiments and transsexuality (see http://individual.utoronto.ca/fehige). Highlights of enjoyable travels included talks on thought experiments in Halifax, Oldenburg (Germany), and Paris (France), and a talk on transsexuality at the annual meeting of the APA's Eastern Division in New York. His working group on Michel Foucault continues to receive support from the Jackman Humanities Institute. He organized two workshops in the area of Christianity and science. Some of the presented papers were accepted for publication in two special issues on 'Theology and Science' in the Toronto Journal of Theology. Yiftach was happy to accept the invitation to be the guest-editor of one of them.

Craig Fraser organized (with Sloan Despeaux and Deborah Kent) four special sessions on the history of mathematics at the Joint Meeting of the American Mathematical Society and the Mathematical Association of America in January of 2010 in San Francisco. His article 'Sufficient conditions, fields and the calculus of variations' appeared at the end of 2009 in the journal Historia Mathematica 36, pp. 420-427. He has an article in press, co-authored with Sandro Caparrini, on the history of mechanics in the eighteenth century for the Oxford Companion to the History of Physics, edited by Jed Buchwald and Robert Fox. He delivered a paper on the historiography of mathematics at Concordia University in May at a meeting of the Canadian Society for the History and Philosophy of Mathematics. This meeting was held as part of the Congress of Humanities and Social Sciences. Craig's review of The Princeton Companion to Mathematics (2008) appeared in Historia Mathematica 37 (2010), pp. 110-112, and his review of Infinitesimal Differences: Controversies between Leibniz and his Contemporaries (2008) appeared in Isis 100 (2009), pp. 654-655. Craig has been invited to deliver a lecture at the Pohle Colloquium on the History of Mathematics at Adelphi University in March of 2011. The title of his talk is "Abraham de Moivre and de Moivre's Identity".

In the past year **Nikolai Krementsov** has published three articles: 'Eugenics in Russia and the Soviet Union', in Alison Bashford and Philippa Levine, eds., The Oxford Handbook of the History of Eugenics (New York: Oxford University Press, 2010), pp. 413-429; 'Marxism, Darwinism, and Genetics in Soviet Union', in Denis Alexander and Ron Numbers, eds., Biology and Ideology: From Descartes to Dawkins (Chicago: Chicago University Press, 2010), pp. 215-246; and 'Dialectical materialism and Soviet science in the 1920s and 1930s', in William Leatherbarrow and Derek Oxford, eds., A History of Russian Thought (Cambridge University Press, 2010), pp. 340-367 (with Daniel P. Todes). He finished a book manuscript: A Martian Stranded on Earth: Alexander Bogdanov, Blood Transfusions, and Proletarian Science (Chicago: University of Chicago Press, 2011), which will come out in June of the next year.

Janis Langins has put his research on Ontario Hydro on a back burner and is currently researching the transfer of technological education to Eastern Europe in the 19th century using the particular case study of the port city of Riga, a major trading city of the Russian Empire with a dominant German merchant patriciate. He is looking at technical journals, societies, and the Polytechnical Institute founded in the city in mid-century.

Over the past year, **David Orenstein** has been concentrating on connecting Science Studies with the Toronto District School Board where he teaches high school mathematics. He has been attempting this at all levels, from his daily lessons through to creating professional development opportunities for all his colleagues. It's met with mixed success, but the effort continues this year.

Bruce Petrie is a fourth-year PhD student at the IHPST at the University of Toronto. He researches the origin and development of transcendental number theory during the 18th and 19th centuries. He has recently presented "Leonhard Euler's Use and Understanding of Mathematical Transcendence" at the Canadian Society for History and Philosophy of Mathematics Annual Meeting which he is planning to submit for publication. His presentation "Euler, Lambert, and the Irrationality of e and pi" has appeared in print from in the 22nd (2009) volume of the Proceedings of the Canadian Society for History and Philosophy of Mathematics. He plans to present "Johann Lambert's Use and Understanding of Mathematical Transcendence" at the Joint Mathematics Meetings of the American Mathematical Society and the Mathematical Association of America in New Orleans in January 2011.

Mark Solovey and co-author Jefferson Pooley have an article 'Marginal to the Revolution: The Curious Relationship between Economics and the Behavioral Sciences Movement in Mid-Twentieth-Century America' in History of Political Economy 2010 Annual Supplement, pp. 199-233. Mark's essay 'Project Camelot and the 1960s Epistemological Revolution: Rethinking the Politics-Patronage-Social Science Nexus', which was first published in 2001, has been republished in Howard Lune, Enrique S. Pumar & Ross Koppel, eds., Perspectives in Social Research Methods and Analysis: A Reader for Sociology (Thousand Oaks, CA: Sage, 2010), pp. 166-194. Together with Edward Jones-Imhotep and Marga Vicedo Mark organized a workshop on 'The Construction of Cold War Social Science' (held at the University of Toronto). A dozen speakers from Canada, the U.S. and England presented papers, while another fifteen scholars and graduate students from the Toronto area participated. Mark presented invited papers at a Workshop on The History of the National Science Foundation (held at NSF headquarters in Arlington, Virginia), and a Workshop on The History of Economics as History of Science (held at Cachan et Institut Universitaire de France, Paris.)

Paul Thompson had five articles published: 'Science, Technology and the Future of Food', African Journal of Food, Agriculture, Nutrition and Development 9 (2009); 'Causality, Mathematical Models and Statistical Association: Dismantling Evidence-Based Medicine', Journal of Evaluation in Clinical Practice (2010) 16; 'History of Scientific Agriculture: Animals', in Encyclopedia of Life Sciences, John Wiley& Sons, Ltd: Chichester (2009); 'Theories and Models in Medicine' in Handbook of the Philosophy of Science, Volume 4, Philosophy of Medicine edited by Frederick Gifford, New York: Elsevier (2010); and 'Causality, Theories and Medicine', in Causality in the Sciences edited by Phyllis McKay Illari, Federico Russo and Jon Williamson, Oxford: Oxford University Press (2010). He has a book in press, Agro-technology, with Cambridge University Press. He has given four conference papers and written four book reviews. He served on an expert panel of the Council of Canadian Academies on "Biodiversity Science in Canada" (report to be released mid-November), as well as the Standing Committee on Ethics and the Research Integrity Committees of CIHR (Canadian Institutes of Health Research). He has a first draft of an article, 'The Brilliant Theoretician: The Logical Structure of Darwin's Theory in The Origin'.

Marga Vicedo published 'The Evolution of Harry Harlow: From the Nature to the Nurture of Love' in History of Psychiatry 21 (2), June 2010. She was elected to the editorial board of Theoria (history and philosophy of science journal). She hosted a workshop on 'Textbooks in Science'. She did a 30-minute TV interview for the Today Show at the Oregon Humanities Center. She gave talks at the University of Oregon, and the Dibner series in the history of science at the Huntington Library. Most importantly, she is the chair of the program committee for the CSHPS 2011 meeting and she is looking forward to reading all the abstracts she will be receiving from you.

Denis Walsh was promoted to Full Professor in the Department of Philosophy and IHPST. His Canada Research Chair in the Philosophy of Biology was renewed for five years. He continues to work on various aspects arising from explanation in evolutionary biology. In the last year he completed a number of articles on this issue, including: 'Teleological Emergence', forthcoming in Synthese; 'Variance, Invariance and Statistical Explanation', forthcoming in Erkenntnis; 'Two Neo-Darwinisms', (2010) History and Philosophy of the Life Sciences 32: 317-340; 'Not A Sure Thing: Fitness, Probability and Causation', Philosophy of Science 77:147–171. He has been invited to contribute a 'state of the debate' paper for the online journal Philosophy and Theory in Biology on the so-called 'statistical interpretation' of evolutionary theory. Along with Mohan Matthen, he is editing a collection of pivotal papers in the debate, to be submitted to Oxford University Press. He has also begun work on the concept of adaptation in biology. He is developing an 'enactive' or 'ecological' approach toward the understanding of adaptation. He continues to co-edit (with Michael Ruse) the new Cambridge University Press series in the philosophy of biology. He organised conferences (with Philippe Huneman, IHPST Paris) in Paris and Toronto in the 'Challenges to Evolutionary Theory' series, and gave invited presentations at Toronto, Lethbridge, Bradford, Paris, Dubrovnik, Brisbane, and Pullman Wa.

Chen-Pang Yeang has given five conference presentations since January 2010: 'Mechanical objectivity or instrumentalizing theory? Introducing automatic recorders in radio ionospheric sounding, 1930-39', History of Science Society (HSS) Annual Meeting, Montréal, November 4-7, 2010; 'Dense transmit and receive phased arrays', 2010 IEEE International Symposium on Phased Array Systems and Technology (IEEE Array), Waltham, MA, October 12-15, 2010 (with G. W. Wornell, L. Zheng, and J. Krieger); 'Transforming a Humboldtian science into a military technology: Developing ionospheric forecasting during World War II', Society of History of Technology (SHOT) Annual Meeting, Tacoma, WA, September 30-October 3,

2010; 'Dense transmit and receive antenna arrays', 2010 IEEE International Symposium on Antennas and Propagation (AP-S), Toronto, July 11-17, 2010 (with G. W. Wornell, L. Zheng, and J. Krieger); 'Oversampling transmit and receive antenna arrays', 2010 IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP), Dallas, March 14-19, 2010 (with G. W. Wornell and L. Zheng). He has also written a book review of Shaul Katzir, The Beginning of Piezoelectricity: A Study in Mundane Physics (Dordrecht: Springer, 2006, forthcoming in Isis.

UNIVERSITY OF WESTERN ONTARIO

Kathleen Okruhlik is Senior Co-Chair of the PSA Women's Caucus as well as the President of CSHPS. Her most recent publication is a Critical Notice of Scientific Representation: Paradoxes of Perspective by Bas C. van Fraassen. It appeared in the Canadian Journal of Philosophy vol.39, no.4 (December 2009), pp. 673-696. Her most recent talk was "Risk Assessment: Science, Values, and Science Policy", which was delivered as a symposium paper at the recent Philosophy of Science Association meeting in Montreal (November 4-6, 2010).

Martin Vezér is a PhD candidate at the University of Western Ontario. The broad aim of his research is to identify and analyze intersections among scientific, political and philosophical investigations with respect to climate change. His main focus concentrates on epistemological issues of scientific methodology deployed in climate analysis. Philosophical topics he has been studying include: antirealist arguments deployed in debates about anthropogenic climate change, Bayesian expressions of uncertainty utilized in the Intergovernmental Panel on Climate Change Fourth Assessment Report, the significance of historical methodology in the science of paleoclimatology, the epistemology of computer simulation studies, particularly with respect to climate modelling, game-theoretic accounts of international negotiations on anthropogenic climate change, interactions between science and policy in the context of the Canadian Arctic and climate change, and the role of focusing events vis-à-vis anthropogenic climate change.

YORK UNIVERSITY

Christopher Green finishes his term as Past-President of the Society for the History of Psychology (APA, Div 26) at the end of 2010. He is working on a book about the effects that New York, Boston, Baltimore, and Chicago had on the particular "schools" of psychology that developed in those locations. He is also using the historical publication database for psychology as a means of re-examining who the most prolific and influential psychologists and institutions were around the turn of the 20th century. Finally, he continues his investigation of J. Mark Baldwin's "organic selection" (a.k.a. the "Baldwin Effect") and its connection with the immigration and education "crises" of the 1890s.

Ernie Hamm recently (September 29-October 1) co-organized with Katharine Anderson a workshop entitled "Earth science-Global Science," under the auspices of theYork University node of the Situating Science cluster. Among the participants were Andre Wakefield, Debbie Coen, Naomi Oreskes, Zuoyue Wang, Alistair Sponsel, Greg Good, Helen Rozwadowski, Michael Reidy, Andre Westermann and Grace Shen.

Kenton Kroker has recently returned from a year's sabbatical in Paris as invited researcher at the Centre de recherche, médecine, sciences, santé, santé mentale, société (Cermes3), where he continued his archival research on encephalitis lethargica, a pandemic from the 1920s. He is currently the Director of the Graduate Program in Science & Technology Studies at York University.

Currently, **Bernard Lightman** is working on a biography of John Tyndall, and is co-director of an international collaborative project to obtain, transcribe, and publish Tyndall's correspondence. His article on "Darwin and the Popularization of Evolution" was published in the March 2010 issue of Notes and Records of the Royal Society, and his book chapter on "Science and Culture" was published last spring in the Cambridge Companion to Victorian Culture, edited by Francis O'Gorman.

Aryn Martin continues to be book reviews editor for Social Studies of Science, as well as co-editor of this newsletter. Her paper about the history of the placental barrier was presented this summer by co-author Kelly Holloway at the SSHM conference in Durham, UK. Her article "Microchimerism in the Mother(land): Blurring the Borders of Body and Nation" appeared in Body & Society's September 2010 issue. This summer she was promoted to Associate Professor in York's Sociology department.

NATIONAL INSTITUTES OF HEALTH, Maryland

Judith Friedman began the year as a contract instructor for the Department of History and Classics at the University of Alberta where she taught classes in the History of Science, Technology, and Medicine and in the History of Technology. This summer she was a postdoctoral fellow at the Max Planck Institute for the History of Science in Berlin where she worked on a project that examined professional and geographic variations in the acceptance of the theory of anticipation in

hereditary disease. This fall she became a DeWitt Stetten Postdoctoral Fellow at the National Institutes of Health in Bethesda Maryland where she continues her research into non-Mendelian forms of heredity. She presented talks on her research at the Medical Genetics Seminar Series at the University of Alberta in Edmonton, at the International Workshop on the Early History of Human Genetics in Gothenburg, and at the Workshop on Human Heredity in the Twentieth Century at Exeter. She has also become the editor of the Genetics and Medicine Historical Newsletter.

UNIVERSITY OF KONSTANZ

Jeff Kochan is now in the Zukunftskolleg at the University of Konstanz, where he is working on the role of emotion in scientific decision-making. Two of his papers recently appeared in Social Studies_of Science: "Contrastive Explanation and the 'Strong Programme' in the Sociology of Scientific Knowledge (vol. 40/1), and "Latour's Heidegger" (vol. 40/4). Two more papers were recently accepted for publication: "Getting Real with Rouse and Heidegger," forthcoming in_Perspectives on Science, and "Philosophy of Science" (with Hans Bernhard Schmid), forthcoming in The Routledge Companion to Phenomenology (eds. S. Luft & S. Overgaard).

UNIVERSITY OF PRINCETON

Alan C. Bowen (PhD, University of Toronto, 1977) is the Director of the Institute for Research in Classical Philosophy and Science (Princeton). His most recent books are Astronomy and Astrology from the Babylonians to Kepler (2004, with Peter Barker and others), Cleomedes' Lectures on Astronomy: A Translation of The Heavens with Introduction and Commentary (2004),with Robert B. Todd), and New Perspectives on Aristotle's De caelo (2009, with Christian Wildberg). He has written numerous articles on the history of Greco-Latin astronomy and harmonic science, and is currently writing a monograph on Simplicius' commentary on Aristotle's De caelo and another on Hellenistic astronomy. He is also editor of Aestimatio: Critical Reviews in the History of Science and Interpretatio: Sources and Studies in the History and Philosophy of Classical Science.

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ANNOUNCEMENTS

The **Bubble Chamber** is a new blog written by historians and philosophers of science for discussing contemporary issues of science and society through the lens of historical context and critical analysis.

Founded by the University of Toronto's Science Policy Working Group, *The Bubble Chamber* is a forum for those interested in a critical assessment of science in society and the development, regulation, and trajectory of
science.
http://thebubblechamber.org/

New interdisciplinary philosophy of science research group at the University of Guelph

The Philosophy of Science Research Group is a network of researchers at the University of Guelph who investigate theoretical, ethical and historical questions in science and medicine. It is composed of faculty and graduate students from the departments of Philosophy, Integrative Biology, Physics, Psychology, History, Environmental Sciences and Geography. Their aim is to promote the kind of cross-fertilization that advances both science and humanities.
Learn more about participating faculty, research and graduate training at: http://www.uoguelph.ca/philosophy/philsci.

York STS now accepting applications for 2011-12

The Graduate Program in Science & Technology Studies at York University, Toronto, is now accepting applications for its MA and PhD programs. We are a small and personable program with enthusiastic faculty, excellent facilities, diverse and innovative courses, and an abundance of academic and extra-curricular opportunities for students. Our STS seminar series, now in its 17th year, brings in scholars from around the world. Our program houses the flagship History of Science journal, Isis. York's Keele Campus is home to the Archives of Ontario (one of the largest archives in North America). And Toronto's central location and status as a major North American transportation hub puts a vast array of research sites and conferences within easy reach. And yes, our new mayor is indeed Rob Ford.

Find out more at www.sts.yorku.ca, or contact our Program Director, Kenton Kroker, at kkroker@yorku.ca

Science Communication Graduate program, offered jointly by Laurentian University and Science North

Does the label "organic" on a bunch of bananas in the supermarket mean anything? Will genomics find treatment solutions for cancer? Should I get the flu shot this year? What in the world is "dark matter" and why should we study it? How can the public be engaged in making policy on climate change ? Science is at the root of many personal questions and public policy decisions as well as much that we simply marvel at and wonder about.

We all take science classes of one kind or another at school and yet public science literacy, by any definition, is low. Politicians are more often lawyers than scientists and need to be extensively briefed when science-based decisions are on their plate. Science communicators transform scientific data and jargon

into accessible, understandable information around meeting room tables for decision makers and everywhere from museums to television for the public. And finding plain language is only part of the challenge.

When people make meaning out of new information their beliefs and values create the framework along with what they might remember from school, saw on television, or enjoyed on youtube. Good communication, whether it's with words in a presentation or on a sign beside an artifact in a museum, involves a great deal more than simplifying concepts and translating jargon.

All this is grist for the mill of the Science Communication Graduate program, offered jointly by Laurentian University and Science North in Sudbury. It is the only university - science centre collaboration of its kind in North America and goes well beyond the variety of individual courses and groups of courses included in other programs such as journalism, writing, and technical communication. You will find it at www.sciencecommunication.ca

CONFERENCES

Metaphysics & The Philosophy Of Science Conference
Presented by the Institute for the History and Philosophy of Science and Technology, University of Toronto and the Fishbein Center for the History of Science and Medicine, University of Chicago
13-15 May 2011, University of Toronto

The philosophy of science has an illustrious history of attraction and antipathy towards metaphysics. The latter was famously exemplified in the Logical Positivist contention that metaphysical questions are meaningless, but in the wake of the demise of Positivism, metaphysics has found its way back into the philosophy of science. Increasingly, questions about the nature of natural laws, kinds, dispositions, and so on have taken a metaphysical cast. The metaphysics of science commands significant attention in contemporary philosophy.

While many philosophers embrace the increased contact between metaphysics and the philosophy of science, others are wary. Should science (and its philosophical study) lead us into doing metaphysics? If so, which metaphysical issues are genuine and which are illusory, and how might we tell? Such questions dovetail with similar soul-searching in metaphysics proper (sometimes under the banner of "meta-metaphysics", sometimes simply as methodology).

This conference will examine ground-level debates about metaphysics within the philosophy of physics and the philosophy of biology, and broader methodological questions about the role of metaphysics in the philosophy of science. Participation is open and welcome from all parties to these questions: from those who hold that metaphysics must have a place within the philosophy of science, to those who hold it should not.

Plenary Speakers
Craig Callender (University of California, San Diego)
Anjan Chakravartty (University of Toronto)
Katherine Hawley (University of St. Andrews)
Jenann Ismael (University of Arizona)
James Ladyman (University of Bristol)
Kyle Stanford (University of California, Irvine)
Michael Strevens (New York University)
Robert Wilson (University of Alberta)
C. Kenneth Waters (University of Minnesota)

Call for Papers:
Essays of 4,000-5,000 words (30 minutes allotted for presentations) concerning any aspect of metaphysics and the natural or social sciences will be accepted for review until January 10, 2011. Please include a short abstract (200 words or so), a few keywords, prepare your essayfor blind review (do not include your name or other identifying references in the document), and submit it in PDF format here:
http://www.easychair.org/conferences/?conf=mpsc2011
Notification by early February 2011.

If you are planning to attend the conference and would like to identify yourself as a potential chair, please email the conference address <mpsc2011@gmail.com>.

Organizers:
Chris Haufe (University of Chicago)
Matthew H. Slater (Bucknell University)
Zanja Yudell (California State University, Chico)

Conference email: mpsc2011@gmail.com
Additional information concerning travel and accommodation will be posted to the conference website: http://www.facstaff.bucknell.edu/mhs016/MPSC2011/index.html

Nineteenth Annual Conference of the Society for The History of Authorship, Reading & Publishing (SHARP)
Sponsored by the Smithsonian Institution Libraries, the Library of Congress, the Corcoran College of Art + Design, and the Folger Shakespeare Library and Institute, the nineteenth annual conference of the Society for the History of Authorship, Reading & Publishing (SHARP), "The Book in Art & Science," will be held in Washington, DC, Thursday, 14 July through Sunday, 17 July 2011. Evoking Washington's status as an artistic and scientific center, "The Book in Art & Science" is a theme open to multiple interpretations. Besides prompting considerations of the book as a force in either art or science or the two fields working in tandem, it also encourages examinations of the scientific text; the book as a work of

art; the art and science of manuscript, print, or digital textual production; the role of censorship and politics in the creation, production, distribution, or reception of particular scientific or artistic texts; the relationship between the verbal and the visual in works of art or science; art and science titles from the standpoint of publishing history or the histories of specific publishers; and much more. Such topics raise a host of possible questions:
-What tensions exist between the book in art and the book in science?
-What collaborations emerge? How do these tensions or collaborations differ according to time or place?
-What roles have material forms—manuscript, print or digital embodiments or books, periodicals, journals, editions—played in the histories of artistic and scientific works?
-How does the lens of art or science inform histories of reading and readers?
-What does this lens reveal about histories of authorship?
-How have commercial factors or economics influenced the production or distribution of scientific or artistic works?
-What roles have states or institutions played in the history of the book in art and science?

The conference hopes to welcome many longstanding SHARP members but also aims to attract new members. The conference's address of art and science in its title invites those working on the illustrated book, book arts, the history of science, technology, knowledge production, or the scientific book, to join us. Similarly, it is hoped that the stellar holdings in Russian, Eastern European, Iberian, Latin American, Caribbean, Middle-Eastern and Asian written and visual texts held in Washington libraries and museums will encourage both scholars from these parts of the world and those who are working in the media histories of these cultures to attend. As always, proposals dealing with any aspect of book history are welcome.

Sessions will be 90 minutes in length, including three twenty-minute papers and a discussion period. In addition, the program committee will consider proposals for sessions using other formats—for example, roundtables or demonstrations of resources and methods. We encourage proposals for fully constituted panels but also welcome proposals for individual papers. While SHARP membership is not required to submit a proposal, all presenters must be members of SHARP before the registration deadline for the conference.

The deadline for both panels and individual proposals is 30 November 2010. Proposals for panels should list the session chair and names of participants along with abstracts for each talk. All abstracts should be no more than 400 words. The program committee will determine which proposals to accept and will notify proposers about its decision. SHARP has allotted $5,000 to fund 7 to 10 travel grants to help scholars with limited funds attend the conference. Grants typically will not exceed $500, although one or two awards may be slightly higher if circumstances warrant. Scholars interested in being considered for such grants should complete the appropriate section of the proposal form.

For proposal questions, please email SHARP2011proposal@gmail.com (program committee). For all other questions, email SHARP2011@gmail.com.
The link to the electronic form for both session and individual-paper proposals is available now at www.sharpweb.org and will be posted on the conference website.
If you want to propose a session with an alternative format, please email the program committee at the address above to obtain a special form for such submissions.

GRANTS

Hewton and Griffin Bursaries for Archival Research
The Friends of the Archives at the Centre for Addiction and Mental Health (CAMH), devoted to the history of Canadian psychiatry, mental health and addictions, have established two endowment funds. These funds annually provide bursaries in memory of their late colleagues, Ms. E.M. (Lil) Hewton and Dr. J.D.M. (Jack) Griffin, O.C.

The main purpose of the bursaries is to provide financial assistance to students, and others not necessarily associated with an academic institution, who propose to undertake archival research on an aspect of the history of mental health or addictions in Canada. The FOA board at its discretion may approve bursaries to a maximum of $2,500.

There is no application form. Candidates are invited to submit a letter of intent not exceeding 300 words, together with a budget and résumé, not later than November 30, 2010. These awards are conditional on the bursary holders agreeing to submit progress reports within one year, and a final report including a financial synopsis within two years of receiving the bursary.

Please submit an application for the year 2011 by the November 30th, 2010 deadline to:
Vivienne Gibbs, President – Friends of the Archives
Centre for Addiction and Mental Health
1001 Queen Street West
Toronto, Ontario M6J 1H4
Or by e-mail: John_Court@camh.net

WORKSHOPS AND CONFERENCES

Extending Expertise? Experts and Amateurs in Communication and Culture
30 April-1st May 2011, University of Ottawa

In their widely debated paper, Collins and Evans (2002) describe the 'Problem of Extension' as the most pressing intellectual problem of our age: with the increasing scepticism towards experts and expertise, to what extent should decision-making in science and technology be open to public involvement? Now, major developments in communication technology and practice strongly suggest the need to expand debates around experience and expertise beyond hard science and into fields of media, communication and culture – where public involvement has comfortably reached the point of no-return and distinctions between expert and amateur are being tested, stretched or relegated to irrelevance. Such developments afford a fresh opportunity to explore an enduring question: who is a legitimate participant in cultural production and scientific decision-making, and on what grounds? This conference seeks to address how distinctions between expert and layperson, professional and amateur, are playing out in the following fields:

1. Mass media and journalism
2. Cultural production
3. Health
4. Work and the Workplace

Confirmed guest speakers:
Harry Collins, Distinguished Research Professor, Cardiff University (UK);
Pierre Lévy, Canada Research Chair in Collective Intelligence, U. of Ottawa;
Henrik Örnebring, Senior Research Fellow, U. of Oxford (UK);
Rukhsana Ahmed, Assistant Professor, Dept. of Communication, U. of Ottawa.

Visual Representation in Science Multidisciplinary Workshop
December 10, 2010, Victoria College Rm. 304, 9 a.m. — 4:30 p.m. presented by the IHPST at the University of Toronto. As Norton Wise wrote "much of the history of science could be written in terms of making new things visible—or familiar things visible in a new way." Despite this, the vast majority of science studies concentrate on the textual. Visual scientific representations offer a focus for multidisciplinary conversations about visual cultures, the boundaries of art and science, the epistemology of pictures, and how scientific representations change across time, media, and space. The workshop will explore the role of scientific visual representation from a range of disciplinary perspectives; presenters represent anthropology, art history, history, and philosophy. Each talk will be addressed to non-specialists. The workshop will introduce participants to a diverse selection of ongoing work on this theme in Toronto. It will exhibit the breadth (and the limits) of visual representation as a thematic focus for studies of science.

The speakers and titles of papers are:
Brian Baigrie, "Picturability in Scientific Practice: Philosophical Perspectives."
Bernard Lightman, "Modelling the Planet: James Wyld's Great Globe."
Natasha Myers, "Excitable Tissues and Elastic Temporalities: Visualizing Life through Time-lapse Media."
Alison Syme, "Scientific Images and the History of Taste."
Aaron Wright, "Visual Reasoning and the 'Renaissance' of General Relativity."

All are welcome, but please r.s.v.p. to aaron.wright@utoronto.ca to aid planning, and to inform us of any special accommodations you may require. Victoria College is building "VC," near Museum Station, on this map: http://www.osm.utoronto.ca/map/

EMPLOYMENT OPPORTUNITIES

The University of Pittsburgh. Tenure stream assistant professor in the Department of History and Philosophy of Science, pending budgetary approval. Area of Specialization: History and philosophy of science and related areas that naturally complement departmental strengths. We have interest in strengthening areas of history and philosophy of neuroscience, physics, and general methodology. Rank: Assistant professor. Responsibilities: Undergraduate and graduate teaching; regular departmental duties. Applicants must submit the following materials, which will not be returned: A curriculum vitae, at least three confidential letters of reference, relevant academic transcripts, evidence of teaching ability, and samples of recent writing. The department regrets that it cannot solicit missing materials from applicants, or return any materials. Please direct all inquiries and application materials regarding this position to:
The Appointment Committee Department of History and Philosophy of Science
1017 Cathedral of Learning University of Pittsburgh Pittsburgh, PA 15260.
New Deadline for Applications: December 1, 2010

MIT Postdoctoral Fellowship in the History of Modern Physical Sciences
MIT's Program in Science, Technology, and Society expects to fill a post-doctoral fellowship for the 2011-2012 academic year. The purpose of this fellowship is to foster research on the history of modern physical sciences by a recent recipient of the Ph.D. degree. The physical sciences may be interpreted broadly to encompass such disciplines as physics, astronomy, chemistry, mathematics, and earth sciences, as well as border fields between these disciplines. Projects should focus on topics dating since the beginning of the nineteenth century. Although projects may focus on any geographical region, comparative studies or projects that focus on non-European

and non-American topics are particularly encouraged. The fellowship is open to all candidates regardless of citizenship, who have earned a Ph.D. in the history of science or cognate field. The candidate must be eligible for visa sponsorship.

To apply for the fellowship, the candidate must have the Ph.D. in hand by the time the fellowship would begin, and must have obtained the Ph.D. no more than three years prior to beginning the fellowship. Primary responsibilities include (1) residence in the Boston / Cambridge area during the term of the appointment; (2) presentation of research in a colloquium or seminar in MIT's Program in Science, Technology, and Society; (3) participation in area workshops on the history of physical sciences; and (4) participation in the teaching of a one-semester undergraduate course. The fellowship provides a salary of $44,304 plus health insurance. The one-year, 12-month position begins July 2011. There is a possibility for an additional one-year renewal.

For more information, contact Prof. David Kaiser at dikaiser@mit.edu.

In addition to a c.v. and two recommendation letters, applicants should submit a proposal for research to be conducted during the fellowship year; a writing sample (a published article or section from the dissertation); and a proposed course syllabus. Please do not send electronic copies. Application materials should be sent by 1 February 2011 to:

Paree Pinkney
Program in Science, Technology, and Society
Massachusetts Institute of Technology
77 Massachusetts Avenue
E51-185
Cambridge, MA 02139 USA

MIT is an equal opportunity, affirmative action employer and strongly encourages applications from women and minority candidates.

CALL FOR PAPERS

Spontaneous Generations Online Journal
Spontaneous Generations is an open, online, peer-reviewed academic journal published by graduate students at the Institute for the History and Philosophy of Science and Technology at the University of Toronto.

Spontaneous Generations publishes high quality, peer-reviewed articles on any topic in the history and philosophy of science. For our general peer-reviewed section, we welcome submissions of full-length research papers on all HPS-related subjects. Scholars in all disciplines, including but not limited to HPS, STS, History, Philosophy, Women's Studies, Sociology, Anthropology, and Religious Studies are welcome to submit to our fifth (2011) issue. Papers from all historical periods are welcome.

In addition to full-length peer-reviewed research papers, Spontaneous Generations publishes opinion essays, book reviews, and a focused discussion section consisting of short peer-reviewed and invited articles devoted to a particular theme. This year's focus is "Science and Public Controversy."

Submission Guidelines
The journal consists of four sections:
The focused discussion section, this year devoted to "Science and Public Controversy" (see below). (1000-3000 words recommended.)
A peer-reviewed section of research papers on any topics in the fields of HPS and STS. (5000-8000 words recommended.)
A book review section for books published in the last 5 years. (Up to 1000 words.)
An opinions section that may include a commentary on or a response to current concerns, trends, and issues in HPS. (Up to 500 words.)
Submissions should be sent no later than 25 February 2011 in order to be considered for the 2011 issue. For more details, please visit the journal homepage at http://spontaneousgenerations.library.utoronto.ca/

Focused Discussion Topic: Science and Public Controversy

The relationship between science and the public is often framed in terms of controversy. From early modern arguments over the age of the Earth and its place in the cosmos, through twentieth century discussions of the biological credibility of racial categories, to contemporary debates over the production of genetically modified foods and the anthropogenic nature of global climate change, science has served to both create and resolve controversy. Science, in turn, has been shaped by political and social controversies.

The variegated interactions throughout history between science and the public raise a host of questions, particularly concerning the appropriate and inappropriate roles of science in public life. Historical episodes of scientists engaging in public controversies offer historians and philosophers of science an ideal starting point for investigating the complicated interrelations between scientific research and public life.

In this issue of Spontaneous Generations, we invite papers for a focused discussion that will explore and give new perspectives on the relationship between science and public controversy from antiquity to the present.

Margaret J ("Maggie") Osler
(1942-2010)

Margaret J. Osler, Full Professor in the Department of History and Adjunct Professor in the Department of Philosophy at the University of Calgary, as well as Adjunct Professor in the Department of History and Classics at the University of Alberta, Edmonton, died on September 15, 2010 following an acute illness due to a late-diagnosed cancer. Dr. Osler was sixty-eight years old and for everyone in her vicinity her passing happened all too soon. "I wish I could continue to write my books until I'm ninety-five and then suddenly fall out the door of my car or off my bicycle" (MJO; March, 2010) she said to a group of colleagues in the corridors of the History Department. In fact, this exchange happened only months before her cancer was diagnosed. The tragedy of her death is a great loss both to the local community as well as to the field world-wide. Osler's erudite, revisionary and stimulating work counts amongst the best of scholarship in her field. Moving the picture of the scientific revolution further towards the underlying irrational, metaphysical and even mystical presuppositions which clamp the Renaissance, the Early Modern and the Modern Period in non-negligible forms, Osler's erudite revisions represent a most important step with regard to the bigger picture of the advancement of science.

These obituary remarks are not meant as a biographical article on Dr. Osler, nor are they a concise list of her extensive bibliography. Rather, I would like to outline to the readers of this newsletter some personal recollections being a direct and close colleague of hers at the UofC and to give some ideas as to what she meant to us in Calgary and beyond. Although I knew Maggie personally for only three-and-a-half years, I owe her an incredible amount for her inspiration, intellectual support and many wonderful moments of friendship. The conversations we had here in Calgary will probably reside among the most satisfying and richer moments of my life as an intellectual Wahlverwandtschaft – a profound German word about which she often used to laugh and then tried to find a Yiddish word that would mean the very same thing!

Dr. Osler was a very productive scholar and highly effective teacher. Born in New York, she attended the private Swarthmore College in Pennsylvania where she received her B.A. in Philosophy in 1963. For her graduate studies she then moved to Indiana University where she earned her M.A. in History and Philosophy of Science in 1966. There, in the midst of the stimulation offered by the faculty and graduate students, Osler perfected her developing historical skills. Probably the most decisive period for her future career was marked by her PhD work on "John Locke and Some Philosophical Problems in the Science of Boyle and Newton" with Richard S. Westfall (1924-1996). While living in Calgary, she still had a photograph of her mentor hanging over her home writing desk and said "his stern eyes are a continuous source of stimulation for me and they always remind me to follow the scholarly pursuit." (MJO; Oct., 2009). At Bloomington, the interest of her research had already turned away from what she saw as "pure philosophy of science" or "old fashioned history of ideas". Even when tackling the problem of the scientific revolution – which in her classes, articles and books she most often mentioned in the singular – one would see highly abstract and scholarly dense volumes lying upon her reading tables, accompanied by a penumbra of newspapers and the obligatory issue of "The New York Review of Books", which she once referred to as her "intellectual home country".

In an almost seamless transition, having received her PhD, Osler assumed a position in both History and Philosophy of Science at Oregon State University. In 1970, Osler took up a continuing position in History at Harvey Mudd College, California, and ever since has had her primary affiliation with departments of history, at Wake Forest University, NC (1974-1975) and the University of Calgary, AB (1975-2010). She stayed at UofC for thirty-five years, rising through the ranks of Assistant to Full Professor of History, and also assumed an Adjunct Professorship in the UofC Philosophy Department (1998) and the Departments of History and Classics at the UofA in Edmonton (2002).

Over the many decades of service to the UofC, Osler taught countless undergraduate students from very diverse fields such as History, Philosophy, Sociology, Science, and even Engineering and Medicine. She is remembered as a generous preceptor to undergraduates and a demanding supervisor to the graduate students both in her home department as well as in other university settings. Osler regretted that the number of her supervised graduates stayed relatively small, and the best PhD student she felt she ever had left the program due to poor health. Nevertheless, quite a number of her supervisees continued on at other colleges and even became academic teachers in History, Philosophy and HPS programs. Among her most outstanding local contributions is the launch of the History and Philosophy of Science Program (HPS) and the Program for Science, Technology and Society (STS). She took great pride in these, and we must hope that the UofC continues to support these programs in the future. The local

academic community knows how dear these intellectual activities had been to her. Her colleagues appreciate these just as highly as her Acting Headships for the Department and her service as the Chair of the Graduate Studies Committee.

Osler's research and teaching interests particularly comprised the history of the scientific revolution; magic, science and religion; science in the 17th century and the mechanical philosophy from the 17th to the early 19th century. In addition to her book on Divine Will and the Mechanical Philosophy: Gassendi and Descartes on Contingency and Necessity in the Created World (1994), Osler published as co-editor (with John Hedley Brooke) a themed-issue on Science in Theistic Contexts in Osiris, vol. 16 (2001). As a single editor, she produced: Rethinking the Scientific Revolution (2000), and quite recently another monograph with Johns Hopkins University Press: Reconfiguring the World: Nature, God, and Human Understanding from the Middle Ages to Early Modern Europe (2010). This book has been printed in Baltimore, MD, the city of her later childhood that she had loved so much. While visiting with her in the Foothills Hospital during her last weeks – and although it was very difficult for her to speak – she reflected upon her last book with the words: "Well, I just arrived there in good time, don't you think ...?" (MJO; Aug., 2010) and she seemed to be very content about this final great accomplishment.

Dr. Osler, amongst her many other distinctions, received the "Science and Religion Course Prize" from the Center for Theology and the Natural Sciences at the University of Berkeley (1999) and was invited to give the "Stillman Drake Lecture" of the Canadian Society for the History and Philosophy of Science (1996) and the "Richard S. Westfall Lecture" at Indiana University (1999). She served as the Secretary and a multiple Member of Council of the History of Science Society as well as on the advisory boards of the Journal of the History of Philosophy, Isis, and Science and Religion around the World (eds. John Headley Brooke & Ronald L. Numbers). Journal editors highly appreciated her views on recent books in the field and she was often called upon externally to write critical and constructive essay reviews.

In the same way, she was valued for her many contributions to scholarly organizations: Osler joined HSS early in her career, became a member of the Canadian Society for the History and Philosophy of Science, the International Society for Science and Religion, the British Society for the History of Science, and the American Society for Eighteenth-Century Studies, etc. and in many of these societies she fulfilled official roles. Although Osler acted in multiple academic functions, she eschewed the limelight and preferred to work behind the scenes, always very conscientiously and effectively.

Osler's numerous scholarly involvements in societies, programs and institutions throughout North America and Europe demonstrated her deep engagement in the field and a great capacity to make many scholarly friends worldwide. Over the past few years, she was closely involved with a group who were studying the history of early modern philosophy at the Dipartimento di Filosofia dell'Università di Lecce. After her return to Calgary, she continuously talked about the warm, friendly and studious atmosphere in Italy. It appeared that Lecce had become a highly valued place for her intellectual (re-)creation: "They like there what I do, and I really appreciate to be at the Lecce seminars, because faculty members and students are so erudite, have such an impressive love for learning, and the discussions never seem to end. I am always sad, when I have to leave Lecce, which has become a new scholarly home for me!" (MJO; April, 2010).

The foundations of Osler's thinking – though the relationship of science and religion is not in need of specific introduction since the "science wars" and in our times of "creationism" – were rarely exposed. Some historians of science have self-critically stated that the History of Science often appears as a kind of "prolonged autobiography". Given the sheer necessity of having a broad background in the humanities or cultural studies and a good exposure to the sciences themselves to enable one to do good work in the history of science, it is no coincidence that many ideas derive from the earlier experiences in scholars' lives. When explicitly asked – at a late-winter-dinner – about how she encountered the topic of science and religion, Osler wholeheartedly laughed and said: "Well, maybe it's just a way of working through the debates I had with my parents. They were both very successful professionals – my father a biomedical researcher and my mother a clinical psychologist – and for them nothing else in this world counted than the metaphysics-free endeavour of the scientific pursuit. As such, psychoanalysis, sociology and religion were stones of immense contention, views that they held, which I often found completely simplistic and flawed!" (MJO; Jan., 2010).

In the middle of the many plans which Osler had for the future was the idea to bring more international scholars and exchange students to Calgary and see a comprehensive graduate program emerge in the History and Philosophy of Science, Medicine and Technology. In concord with her local colleagues and friends, we hope that some of these plans will rise to life in future decades: "Maggie, we won't forget you: Your deep-rooted knowledge, your cunning wit, harsh but fair criticisms will always stay in our minds where you will continue to have an enduring place. All of us wish that your dream for an extended and productive work period had come true – giving us the chance to walk an even longer pathway of friendship and academic learning with you!" (FWS).

Frank W. Stahnisch,
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