Emily K. Brock, Ph.D, Max Planck Institute for the History of Science (beginning September 2014); Rachel Carson Center for Environment and Society (until August 2014); University of South Carolina (until August 2014).

Chris-Craft's "All-Mahogany Motor Boats," Tropical Trees, and the Power of a Name

Abstract (567 words):

This paper focuses on Chris-Craft motor boats, which were built not of mahogany as touted in advertisements, but of wood from tropical Asian trees in the *Shorea* genus. I trace the historical arc of relationship between commercially-logged tropical trees in the American-era Philippines and one of the most prominent manufactured items made from that wood, the celebrated Chris-Craft motor boats of the 1920s-1960s. The wooden Chris-Craft is an artefact that can illuminate connections between scientific naming practices, globalized resource use, corporate advertising, and American cultural attitudes towards the tropics. This focus also touches on the wider twentieth century environmental impact on tropical environments of United States' global political and economic agendas.

Late-colonial tropical resource use manifested itself in consumption of luxury goods in wealthy countries. Several species of tropical tree native to the Philippines were necessary for the 1930s-1960s success of the iconic American luxury leisure boats built by Chris-Craft and the era's other specialty boatmakers. Today, these vintage watercraft are heralded as representing a link to an idyllic past of upper-class American leisure activity. However, these boats also tell a less idyllic narrative, one of globalized lumber trade and the destruction of the biodiversity of Asian forestlands.

In advertising and marketing materials, Chris-Craft and its competitors touted their boats as being made of "Philippine mahogany." This term merged the domesticated exoticism of the Asian colonial tropics and the venerable luxury of traditional furniture-making. However, by scientific measures no such thing as a Philippine mahogany existed, as all true mahogany species grew in the Western Hemisphere. "Philippine mahogany" was instead a term created by lumber merchants, an invented name applied to the wood of several little-known tree species to make them saleable in American markets. The commercial success of such an intentionally misleadingly named wood was so worrisome that it even precipitated U.S. Federal Trade Commission inquiry.

One can no longer purchase a motor boat made with Philippine mahogany decking. As selective logging of those species increased, their prominence in the forest plummeted. Faced with rising wood prices and uncertain supply, Chris-Craft and other manufacturers turned to Fiberglas boat construction. The companies began the process of re-tuning consumer definitions of luxury fabrication- away from natural woods and towards precision and innovation.

Surviving examples of "Philippine mahogany" motor boats are regularly exhibited as nostalgic evidence of past leisure activities, but these boats also embody the process of globalized industrial deforestation of the tropical world and of an American mass-market romanticization of the Pacific world. While some Chris-Crafts are in maritime museums, others are still on the water, lovingly restored and painstakingly maintained by a community of enthusiasts. The dwindling availability of Philippine mahogany boards stymies contemporary restoration of these boats.

The Chris-Craft motor boat was a manufactured object reliant on tropical environmental degradation. While parallel stories might be told with other tropical-wood objects, few artifacts can parallel the Chris-Craft story for the speed and extent of devastation of the key species. The process of commodification and exhaustion embodied in the twentieth century trajectory of the "Philippine mahogany" reflects both the realities of twentieth century globalized commerce and the cultural lure of the tropical.

Such objects, already of interest to museumgoers for other reasons, can, and perhaps should, be reframed as contributions to our understanding of human projects to make sense of the environment and to profit from it. Simply put, these boats are artifacts of the Anthropocene era.

Jody Roberts, Director of the Center for Contemporary History and Policy, Chemical Heritage Foundation Dehlia Hannah, Visiting Assistant Professor, Department of Arts, Media and Engineering, Arizona State University

Sensing the Anthropocene

Abstract:

This panel examines two exhibitions that contemporary artworks into conversation with scientific artefacts and themes: "Sensing Change," which was on view at the Museum of the Chemical Heritage Foundation (CHF) from September 2013 until May 2014 and "Placing the Golden Spike: Landscapes of the Anthropocene," which will open in March 2015 at the University of Wisconsin-Milwaukee's INOVA Gallery. The central problematic that both of these exhibitions address is that of connecting everyday experiences with scientific descriptions of the climatic and geological changes associated with the Anthropocene. These changes unfold over geographical and temporal scales that are beyond the scope of the human senses or the individual observer to perceive, those of the global, of deep time and indeterminate futures. Our access to these processes is mediated by predictive models and simulations based on data collected via a global network of scientific instrumentation and proxy data derived from tree rings, ice cores and sedimentation patterns, yet the processes registered by this knowledge infrastructure are directly accessible only in the form of local effects. We propose that sensing the Anthropocene—if it is possible at all—begins with developing a heightened awareness of one's local environment, it social and natural history, the rhythms of life of its flora and fauna, weather patterns, water levels, and air quality.

The imperative to attend carefully to environments and reinterpret their patterns and properties has motivated productive exchanges between artists, scientists and scholars seeking to articulate how anthropogenic changes are detected, comprehended and imagined. Reporting on a conference convened by the presenters last winter ("Mapping the Climatic Imaginary through Art, Science and History"), this panel explores how the exhibition of artworks alongside artefacts from the CHFs historical collection promoted critical reflection on how images and indices of climate change are generated. Indeed, scientific instruments both contemporary and historical, both functional and fictional, play an increasingly prominent role in contemporary artistic practice. For example, media artist Andrea Polli deploys a nephelometer to detect and visualize fine particulate air pollution in urban space, while the photographer Steve Rowell has appropriates technologies of remote sensing to document the way that landscapes of fossil fuel extraction are monitored through security cameras and motion sensors. What we wish to foreground in discussing the traffic of artefacts across the institutional contexts of the art gallery and the history of science museum, the public art installation and the governmental or private industrial monitoring site is the manner in which artefacts mediate local awareness as well as abstract knowledge of the Anthropocene. By situating visitors materially within the scientific knowledge production process, we offer, exhibitions such as the ones discussed here facilitate the imaginative comprehension of global processes of environmental change and future scenarios at the local and individual level.

In his presentation Jody Roberts will analyze the implications of "Sensing Change" in the context of the CHF's mission to promoting public engagement with science and historical scholarship, considering in particular how artworks by Vaughn Bell, Diane Burko, Roderick Coover, Katie Holton,

Stacey Levy, Eve Mosher, Andrea Polli, Fernanda Viégas and Martin Wattenberg were put into conversation with the foundation's historical archives and the museum's permanent exhibition on the history of chemistry, "Making Modernity." Dehlia Hannah will discuss how the CHF exhibition and the research that it engendered informed her curatorial decisions in the conceptualizion of "Placing the Golden Spike," an exhibition which draws upon nine artists' practices of site specific inquiry and representation to address a major question under consideration by stratigraphers: when and where did human activities begin to leave an indelible mark upon the surface of Earth? The panel will include two presentations followed by a discussion between the panelists in which audience members will be welcome to participate.

Margrit Wettstein, Ph.D., senior curator and head of collections at the Nobel Museum in Stockholm.

How to display research on ozone depletion and the researchers behind it?

2015 is the 20th anniversary of the Chemistry Nobel Prize to Paul J. Crutzen, Mario J. Molina and F. Sherwood Rowland "for their work in atmospheric chemistry, particularly concerning the formation and decomposition of ozone". The Nobel Museum would like to highlight this in a smaller exhibition. How to display Ozone, Ozone holes and Ozone Depletion? On December 8th 1995, the three Nobel Laureates who shared the Prize equally gave their Nobel Lectures. The lecture of Professor Crutzen was entitled: "My Life with O3, NOx and Other YZOxs". Mario J. Molina gave a lecture on: "Polar Ozone Depletion" and the title of the lecture by F. Sherwood Rowland was: "Nobel Lecture in Chemistry". The Nobel Museum has decided to invite Paul J. Crutzen and Mario J. Molina to be involved in the preparations for the exhibition next year. We contacted them, told them that it will soon be 20 years ago since they got their Nobel Prize and that we would like to highlight this occasion. Since the museum does not have any objects by them we asked them kindly to donate something to the museum collections! The Nobel Museum would have liked to involve F. Sherwood Rowland as well, but unfortunately he is not alive anymore. In other words: This is an experiment. What kind of objects will they donate to the museum in order to highlight their own Nobel Prize?

Dr. Gloria Chan-Sook Kim, 2014-2015 Provost's Postdoctoral Fellow at the Centre for 21_{st} Century Studies at the University of Wisconsin-Milwaukee.

Managing the Microbiome: the Automated Antibacterial Hand Sanitizing Dispenser and the Ecologies of Emerging Infections.

An unremarakable, beige plastic box; a quiet whir; a clear, cool gel that we rub in the palms of our hands. Unheard of before the Severe Acute Respiratory Syndrome pandemic in 2003, the automated antibacterial hand sanitizer dispenser has today become seamlessly woven into the material ecologies of our everyday lives and experiences. Ubiquitous and yet utterly forgettable, these dispensers have become so common that today we use them in a state of rote-familiarity. Of course, it is precisely these habitual routines of disinfection that have irreversibly and dangerously transformed the microbiome – the ecologies of bacteria, viruses and fungi threaded throughout the biosphere. Indeed, amid mounting evidence that shows that hand sanitizers have encouraged the steady development of new, mutant superviruses that thread through the biosphere, in 2014 the U.S. Food and Drug Administration has ruled that such antibacterial products be removed from the

U.S. market by 2016. We tend to think of these dispensers as mere 'things' – both passive and inert in our midst. But in fact these objects have generated new forms of "life," leading to mutations in the genetic structure of the bacteria and viruses that constitute our biosphere. How, then, might a materialist approach to this object help to bring into relief the otherwise invisible thicket of forces (political, cultural and ideological) and practices that undergird anthropocenic change? What might a materialist approach to this object reveal about new modes of living, feeling and thinking in the era of the anthropocene? When read as artifact, how might these dispensers become potent symbols of the vexed role of technoscientific knowledge in governing the anthropocene?

This paper stems from a larger project in which I examine the relationship between the U.S. security state, global systemic risk and efforts to manage the microbiome. Discussions around the anthropocene tend to focus on supranational organizations and their role in both producing and managing the anthropocene. By focusing on the material cultures of these dispensers in the U.S. as a case study, however, this paper seeks to bring into relief how this seemingly simple artifact might bespeak the complex and fraught relationships between global and local governance in the anthropocenic era. I open by briefly locating the historical and political contexts under which such hand sanitizing dispensers first emerged. I situate the appearance of these artifacts in relation to the invention of a new disease concept by U.S. government scientists in 1989 – that of Emerging Infectious Diseases (EIDs), such as SARS swine flu and avian flu – a discourse that promises that humanity is but one gene mutation away from a catastrophic global pandemic. Within this context, this paper considers how these artifacts function, in two capacities, to tell a story of the anthropocene.

First, I analyze this artifact as a lively matter that has helped to cultivate new modes of living, acting and feeling in the anthropocenic era within the U.S. I draw on Anthony Giddens' theories of trust and Jane Bennett's theories of vital materialisms to read the materiality of these artifacts. As such, I fix on their portability, mundaneness, ubiquity, and the germ-fighting properties of the gel itself. In doing so, I show how these objects have transformed the psycho-social fabric of everyday life in the U.S. What do these objects (and our use of them) tell us about how everyday Americans have learned to live in the climates of uncertainty that attend the anthropocene? How has this artifact's utter unnoticability, ubiquity and mundaneness in our most quotidian spaces, transformed habits of thinking and feeling in the anthropocene? In fixing on their materiality, this paper coaxes these unnoticed, utterly forgettable artifacts into legibility. By doing so, I demonstrate that the material ecologies of public health constitute a national theatre in which Americans are meant to contemplate daily, if even mindlessly, the possibility of a biological catastrophe erupting at any given moment. If these dispensers neither manage nor mitigate risk, I argue that they nevertheless transform everyday Americans' lived relationship to risk so that they literally learn how to live with risk, thus revealing the ordinary uncertainty that sits at the heart of U.S. nation making today.

Second, drawing from Ulrich Beck's theories of risk, I consider how the automated hand sanitizer dispenser might function as a potent symbol of the vexing role of technoscientific knowledge in governing the anthropocene. Focussing specifically on the U.S. public health system's use of hand sanitizing dispensers (including the FDA's reverse ruling mentioned above), I ask: What might this artifact tell us about the role of expert systems in the anthropocene as both manufacturers and custodians of new climates of risk (the emergence of treatment-resistant superviruses)? How can this object reveal the radically fragile and contingent nature of technoscientific knowledge as it confronts the emergent challenges of the anthropocene? This paper argues that the inability to rely on expert systems is a large part of the reason for the deeply felt uncertainty. We are both aware of the fact that our lives are threaded through with deadly pathogens, while also realizing that these threats (in part the upshot of contemporary technoscience), cannot adequately be managed by the forms of knowledge that they offer.

Ad Maas, Museum Boerhaave

The story of the sniffer pole: how an air pollution monitor became a symbol

Recently, Museum Boerhaave in Leiden acquired a set of air pollution monitors for its collection. These monitors have been part of the Dutch national measurement network for air pollution, which was established in the 1970s. The instruments reveal in an intriguing manner the transition in analytical chemistry from traditional wet-chemical methods to electronically and automatically working detection methods. Even more interestingly, under their popular name *snuffelpaal* (sniffer pole) the air pollution monitors in the 1970s and 1980s became a widely known symbol for environmental worries and distrust against the political establishment, which we know consider particularly characteristic for that era. This historical significance makes these technical instruments also attractive to wider audiences in a museum context.

Bryan Dewalt, Canada Science and Technology Museum, Ottawa, Canada

Canoes in the Wilderness: Artefacts of the Films of Bill Mason

In their landmark 2000 paper, Paul J. Crutzen and Eugene F. Stoermer propose that we are living through an epoch in Earth's history in which humans operate as environmental forces on a global and geological scale. For Crutzen and Stoermer, "to develop a world-wide accepted strategy leading to sustainability of ecosystems against human induced stresses will be one of the great future tasks of mankind." Concern with the impact of human activities on the environment is as old as industrialization itself, and evolving concepts about the relationship between humans and nature can be traced through a number of movements, from romanticism, the wilderness movement and "scientific conservation," to the revival of interest in ecology after publication of Rachel Carson's *Silent Spring* in 1962. These movements largely entered popular consciousness through print media: Wordsworths's poetry, Thoreau's *Walden*, Aldo Leopold's *Sand County Almanac*, and Carson's landmark work being just a few examples. Canada in the mid-20th century was no exception, influenced as it was by British and American writers as well as by Canadians like Archibald Belaney (Grey Owl) and Ernest Thompson Seton.

To texts, however, must be added the new technologies of television and film. An important practitioner of the latter was Bill Mason. Between 1962 and 1984 Mason wrote, directed and appeared in a series of documentaries for the National Film Board of Canada that were largely devoted to promoting wilderness travel and teaching canoeing skills. Mason's film career coincided with the birth of modern environmentalism, but he was also profoundly influenced by the older wilderness tradition and by the "muscular Christianity" of his evangelical upbringing. For Mason, the canoe represented an ideal technology with which humans could enter into communion with nature. Film and photography were his chosen tools for sharing this insight.

Artefacts associated with Bill Mason's career can be found in a number of Canadian museums and archives. They range from his cherished canvas-covered canoes, to camping equipment, clothing, cameras and film editing equipment. This presentation to the Artefacts 2014 meeting will explore examples of the material objects that figured in the production of Mason's films. Among the themes to be explored are the on-camera importance Mason assigned to "natural" materials (wood, fabric, leather, metal), his respect for particular functional designs (the canoe itself,

the canvas Baker tent, the 16mm Ciné Kodak Special and Beaulieu cameras), and his willingness to devise his own modifications as circumstances required.

Environmentalism and environmental science is fundamentally concerned with the material: the ratio of gases in ice core samples, the presence or absence of certain pollen grains in sediment, the physical properties of eggshells, the existence of trace elements in the diets of honeybees. Ideas and images in environmentalist discourse also have material referents and are subject to manipulation by physical tools. Together they are critical to the construction of meaning. By turning our focus on artefacts from the career of Bill Mason, it is hoped that we will acquire new insight into the often unexamined materiality that shapes the powerful stories of our time.