



made

at wsa

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made

is about materials and connections in architecture: physical making, joining and crafting; also the intellectual materials and connections of architecture: its science, histories, theories, practice and material culture.

made

materials **architecture** design environment

made

“bring into existence, cause to be, cause (something to happen), (MSw. *maka* construct, Da. *mage* manage, arrange) Gr. *massein* (aorist pass. *magenai*) knead, *magieros* cook, *mageus* baker, Osl. *mazati* anoint, grease, sb. manner, style, form. Maker, manufacturer, creator; (arch.) poet” Oxford Dictionary of English Etymology

Editorial

Describing buildings as 'unstable systems in dynamic environments', Steven Groak argued in *The Idea of Building* that 'problems' in the building industry can be redefined as *characteristics*; 'the condition of the industry, at times to be relished.' 'Problems' to be relished included the weather, location, and materials of building. Working with the built environment inevitably presents uncertainty and complexity, and architects, artists, designers, and builders often extract innovation and delight from the most difficult of circumstances. This issue of *made* explores the diverse challenges and opportunities presented by extremities within the built environment; climatic and geographic; social, economic, programmatic; materials and construction.

Several papers define responses to extreme climatic and geographic conditions. Hugh Broughton begins with the most challenging of environments, that of Antarctica. Describing the design and construction of the British Halley VI research station on the Brunt Ice Shelf, and the Juan Carlos Spanish Antarctic Base in the South Shetland islands, designed for temperatures as low as -56°C, 105 days per year of darkness with katabatic winds exceeding 160mph, and an annual one metre rise in snow levels, Broughton outlines the limits of materials and pragmatics of construction, as well as the psychological and physical well being of inhabitants. The understanding gained from repeated attempts to inhabit extreme environments is highlighted by Owen Francis' thermal analyses of the first research stations constructed for British Antarctic Expeditions: the 1901 Discovery Hut, and the Hut constructed for Scott's 1910-1913 expedition. Studying the environmental performance of these 'primitive' huts, Francis suggests potential improvements. Cristian Suau's research into fog-catchers on the Atacama Coast in Chile learns from precedent, analysing net constructions which harvest fog from one of the driest environments on earth, appropriating the unique confluences of geography

and coastal wind patterns. Aiming to increase the efficiency and applicability of fog catchers, Suau proposes a Fog-Hive: a multi-functional polyhedral fog collector. Ingenuity in the ritual of collecting water is also celebrated in Richard Cox's description of the extreme beauty of Indian Stepwells.

In less extreme climatic or geographic conditions, challenges emerge from tight sites, sensitive briefs, difficult economic and social circumstances, and restrictive regulations. Ignasi Bonet's study of two libraries in Barcelona – Josep Llinas' Vila de Gracia Library, and RCR Arquitectes' Sant-Antoni Joan Oliver Library – reveals how much can be extruded from a tight brief and restricted site. Each library uses restrictions to its advantage, generously extending both site and program to operate as a public space and amenity. Working with a sensitive brief, Sarah Featherstone balances the imaginary and reality, invoking the world of Beatrix Potter to guide an architectural response to the needs of a Rape and Incest Centre. An architectural response to extreme social, political and economic conditions can be difficult to define, and Abigail Lockety's studies of Brazilian favelas employs unwritten codes embedded within the fight-dance-game of Capoeira as a filter through which to gain an understanding of the complex unwritten codes regulating the favelas. While regulations can provide order, they can enforce neutrality rather than celebrate extremity, as MJ Long's celebration of glare suggests. Arguing against uniform lighting, Long contends that we not only tolerate, but demand, and enjoy diversity and complexity. Enric Llorach's study of the work of Eduard Bru in Barcelona describes challenges posed by *urban voids*, activated by Bru as a design method which disregards monumentality in favour of 'the potentiality of the empty space.'

Challenges arise not only through site and brief, but through design and construction processes. Frances Whitehead and Christine Atha's

conversation reviews modes of design practice and engagement in post-industrial contexts, while Roger Mullin's diary of constructing in Nova Scotia highlights the collaboration required to convert design ideals to physical reality in a remote site. Sam Clark's account of renovating a narrowboat focuses on restrictions and opportunities imposed by a 'spatially challenged' boat and the Renault Clio used to transport construction materials, while Ming Chung and Nick Tyson explore the theoretical and physical interface between analogue and digital in their review of the potential of digital tools. Niall Maxwell reviews the rise and fall of pebbledash render in west Wales, where misuse of its application in the extremities of a 'damp' climate has, he suggests, unfairly maligned its potential. Sylvia Harris and David Lea summarise the extreme reduction of complexity offered by building with Hemplime in describing the design and construction of a Hemplime vault at wsa in 2009.

Responding to extreme conditions is specifically challenged by the threat of climate change, a topic raised by Kristian Hyde's review of Ed Green's novel, *The Fall of Man*, which considers our human ability to respond to change brought about by cataclysmic events.

Problems, extremities, uncertainty: all fundamentally define design and construction. Innovation can be extruded from extremities contained within brief, site, material, and construction; in response, the communication of ideas between designers, builders, buildings and inhabitants is paramount. The ways in which ideas are communicated are limitless: drawing, writing, model-making, prototyping, building; buildings, too, can be 'read' or said to engage in dialogue with their inhabitants, and we welcome papers on these, or related topics, for the next issue of *made*.

Allison Dutoit and Mhairi McVicar

Groak, S., *The idea of building: thought and action in the design and production of buildings* (London: E & FN Spon, 1992).



The Uncertain Centre of the Mary Celeste Spencer's Island, Nova Scotia, Canada

Roger Mullin

Since 2007, community members and students of architecture at Dalhousie University in Nova Scotia, Canada have been designing and building the 'Uncertain Centre of the Mary Celeste', a roadside infrastructure and contemporary community amenity that celebrates aspects of the historic shipbuilding period known as the 'Age of Sail'. The program emerges out of an iterative building process and includes a new public space, an outdoor cinema, a gallery, a classroom and an artist's residence. Film festivals and workshops are drawing interest from communities all along the magnificent coast of the Bay of Fundy.

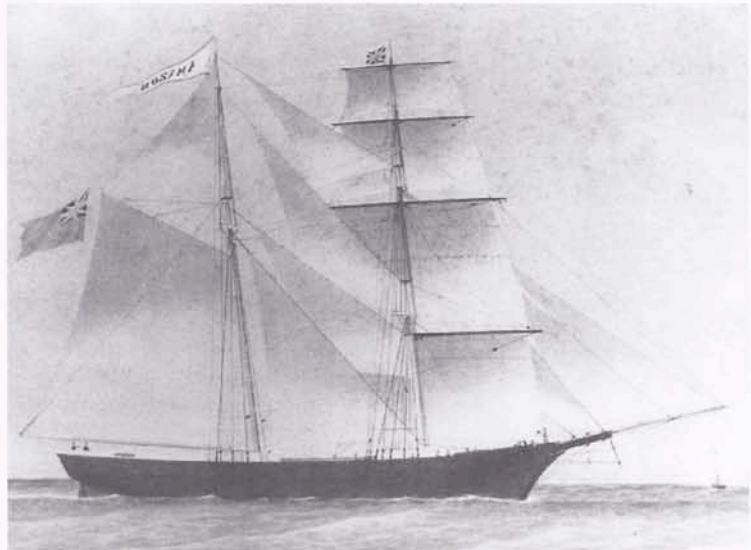
Background Context

Nova Scotia | the Bay of Fundy | Age of Sail | Shipbuilding, Forestry, Merchant Industries | culture | relationship to the world.

In 1861 a brigantine christened the 'Amazon' and later and more infamously known as the Mary Celeste was the first ship built on the beach in Spencer's Island, Nova Scotia. Several misfortunes eventually led her to be picked up as salvage by an American, Captain Benjamin Briggs in 1872. Briggs, his crew and family departed New York City for Genoa carrying a cargo of alcohol. Days later the ship was discovered abandoned east of the Azores, marking the start of a variety of speculations about exactly what may have led to her demise. In 1884, Arthur Conan Doyle wrote "J. Habakuk Jephson's Statement". This interpretation of the events marks a phenomenon by which the *Mary Celeste* is continually reborn in pop culture and media. In 1935, Bela Lugosi starred in the film, *Phantom Ship* that helped define a whole genre of films based on the concept of the ghost ship.¹

To this day on this same beach, the remains of the shipyard lurk in and out

*(top left) Spencer's Island Shipyard, 19th century.
(bottom left) Advocate Harbour at low tide.*



Painting, Mary Celeste (originally christened Amazon).



view of cribwork for historic wharf and new concrete slip.

of the tide and remind us of the robust shipbuilding period known as the 'Age of Sail', a time when merchant shipping and lumbering was at its' peak. This

place of work and socializing was a platform for shipbuilding activities and a stage to the world. Spencer's Island is one of many communities that form an

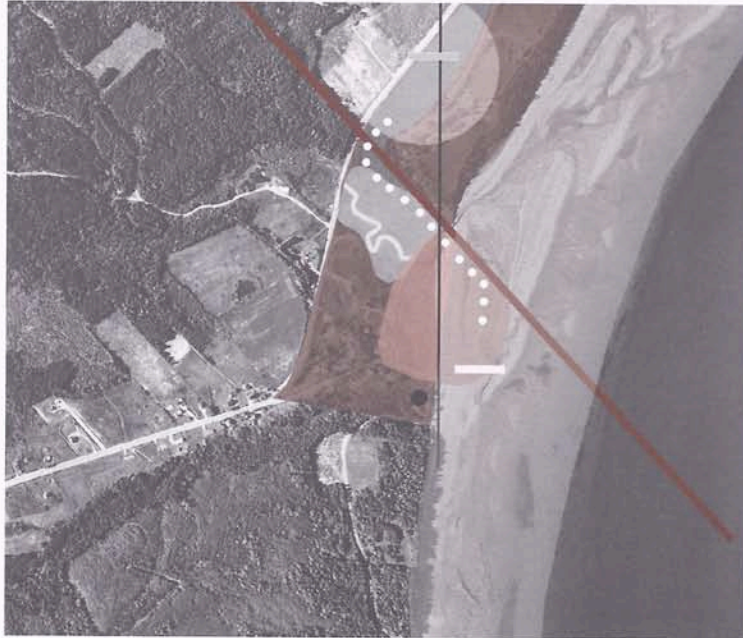
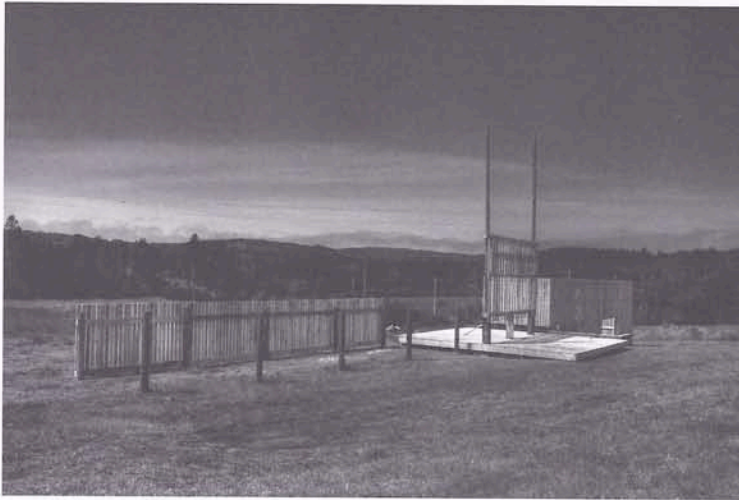


diagram showing current site (upper) and historic site (lower) with estuary and proposed boardwalk.



view of 108 foot long rockwall formed from bull profile and projection tower (2007).



easterly view showing windbreak, stage, screen and classroom (2008).

open necklace along a 280 km arm of the North Atlantic wedged between the Maritime Provinces of New Brunswick and Nova Scotia. The tides of the Bay of Fundy are host to the highest in the world and the remarkable hydrographic phenomenon of the tidal bore (from the Old Norse word *bára*, meaning a wave or swell). Fundy's waters ebb and flow within a 200-million-year-old rift valley, splayed at its head to form two major embayments. In shape, it closely resembles another rift valley, the Red Sea, with the Minas Basin as the counterpart of the Gulf of Aqaba and Chignecto Bay mirroring the Gulf of Suez. The extreme tide in this region is a product of the funnel shape above and below the surface of the water and the Bay of Fundy and the Bay and Gulf of Maine acting as a large body of water oscillating in a big bathtub. This resonance is often called the bathtub effect. The tides reach a height of 16 metres during the spring tides and are fed by 100 billion tonnes of water, a flow equal in volume to that of the Gulf Stream, or 2000 times the discharge of the St. Lawrence River. How a one-metre-high tide on the ocean is amplified by a factor of 12 or more on its six-hour journey to the head of the Bay has been a matter of speculation for most of this century.²

Much of the coastline of the Bay of Fundy is as the French navigator, Samuel de Champlain, found it 400 years ago. This story of the arrival of Europeans is intermingled with the first inhabitants of Canada, the First Nations. In this region the Algonquian tribe, the Mi'kmaq lived and traded extensively on these shores. The fascinating story of the 'sober, grave and good' Mi'kmaq figure Glooscap, according to some histories parallels the English Knight Templar, Henry Sinclair and his alleged voyage to Nova Scotia in 1398.

'The Uncertain Centre of the Mary Celeste'.

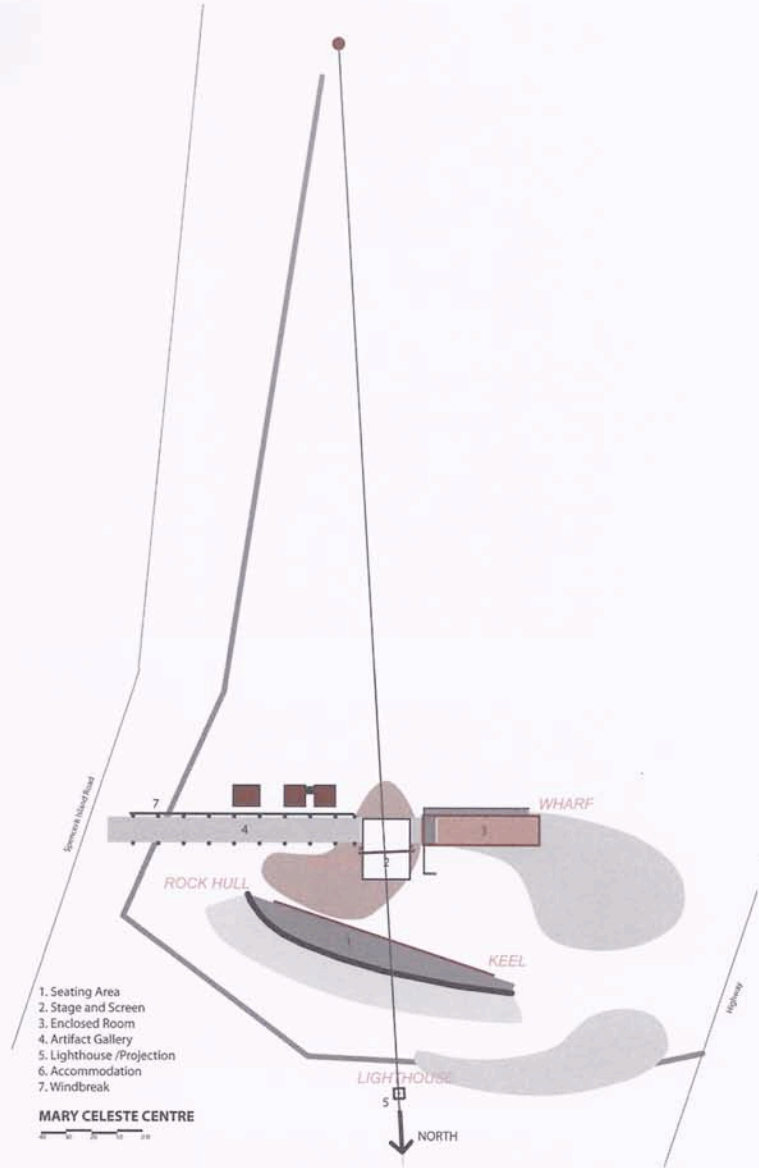
This project broadly engages this history by making a place for a variety of programs to develop and take place. The primary vehicles to date have been the annual design/build modules and the creation of an annual outdoor film festival. More specifically, the physical shape and structure of the projects are analogous interpretations of the space and dimension of the shipyard where the famed brigantine ship was built.



public space defined by hull shaped rockwall



view down into circulation alley adjacent to classroom at south wall.



plan view of current structures (drawing by author).

Begun in 2006, the work continues each summer with a module recently completed during July 15-31, 2010. The 'centre' is a collaborative effort between Dalhousie University School of Architecture students and members of the community. As a new amenity, it aims to link into a developing coastal tourism route by showcasing a rich cultural history through media projection, material artifact display, workshops, meanders and sound-scapes.

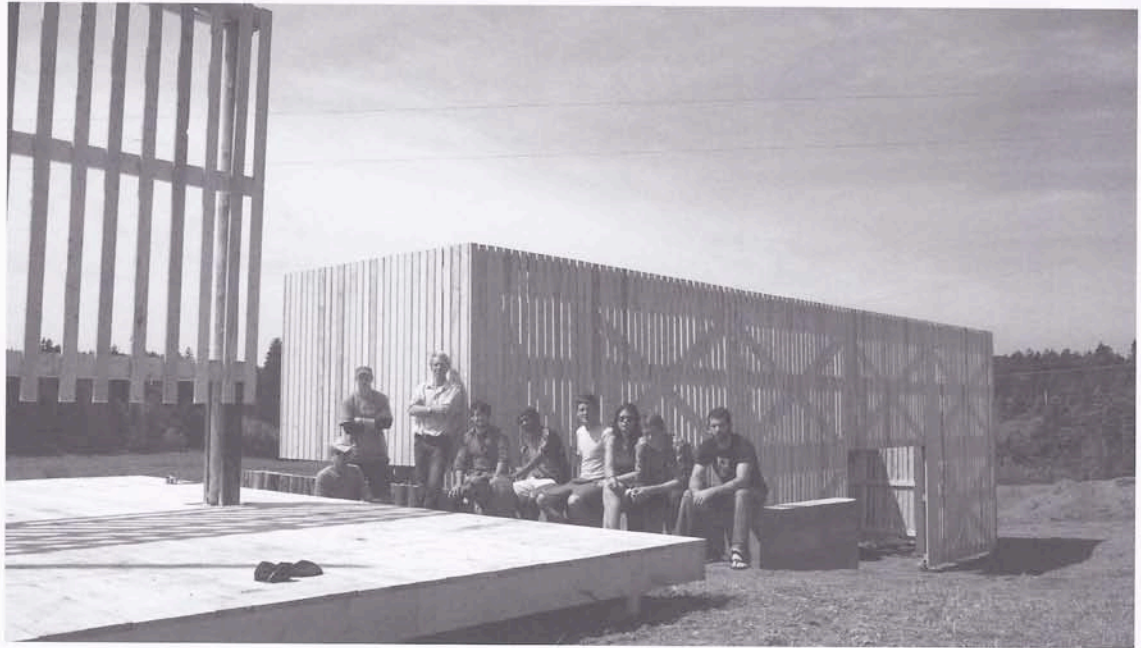
The saga of the Mary Celeste is, of course, a mysterious and unsolved

part of seafaring history. This openness is embraced and this spirit is the namesake of the current project. To date, this is also reflected in the pedagogical approach, where the results of each design/build module are not determined a-priori and are the result of decisions made on site, factoring in available means and methods, skill levels, limited budgets, and materials found and or donated, all within a compressed 2-week working period. With a substantial amount of the groundwork in place through several hard-won design/builds a 'masterplan'

for the site is beginning to emerge, from the ground up.

Time and Structure

There exists two timeframes for the project, historical time, late 19th century when the original shipyard was in full swing during the 'Age of Sail' and present time. At the scale of the community, the built works are loosely a symmetrical 'reflection' of the historical shipyard. Aspects of the spatial and material characteristics are mirrored and transformed to perform in new and familiar ways, programmatically,



Work crew 2009.



View from highway (2007) and signage.



Retaining wall under construction (2008).



Raising a mast as screen support.



View from south (2009).



View of accommodation pods (2010).



South westerly night time view from highway.

spatially and experientially. The structures built on site to date negotiate the landscape at a variety of scales as well as the immediate and longer term desire to develop programs that facilitate public gathering, making and the sharing of cultural experiences. Finally, with a place to work and play established, our task was to build an accommodation on site: a minimal dwelling that provides a temporary resident with a place to rest at an arms length distance from the public buildings.

SITE scales, horizons

The project exists on a sloping 10-acre field between a highway, a rural road and a forested area leading to a marsh (estuary). The narrative and spatial phenomena of

this project employ landscape, program and history in literal and metaphorical ways to represent this point of reflection between the historical site and the present site. Visitors are invited to meander a series of 'desire lines' in the field (along the highway), south to the 'photographers perch', through a forested area and alongside the estuary to the remaining ruins and beach in the heart of the small community. The estuary is then a place where things meet and mix, salt water and fresh water – past and present.

The former shipyard opens to the east and was connected to the world via the passage of seafaring ships. This project faces west and acknowledges the prevalence of the automobile as the primary means of travel and the highway as it takes on the role of

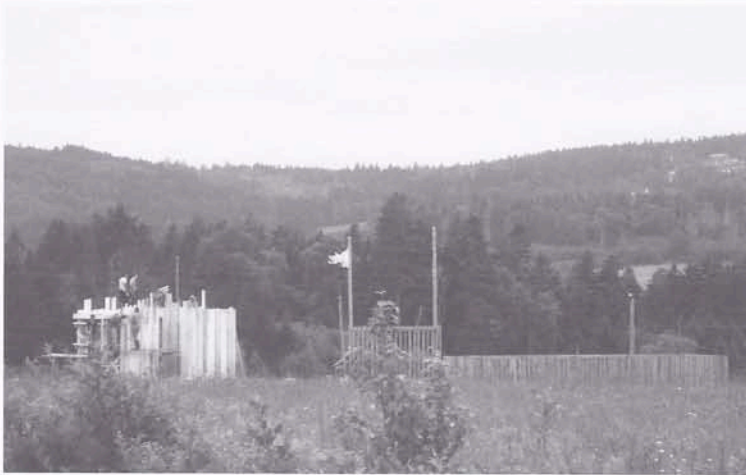
the ocean as a physical connection to the rest of the world.

Historic spaces and structures such as the wharf, lighthouse, the open ocean and a sheltered harbor have been transposed onto the field site with programmatic shifts that cater to public gathering, work, interpretation and rest. A string of analogous buildings and places set up a series of experiences along a 3-part path that traverses the distance between historic time and present time. The project aims to bring people off the 'road' of the highway onto a pedestrian path, slowing the experience down to speed of a walk.

At the scale of the site, the south facing public space looks down and onto an east west traversing 160-foot bar structure.



View of accommodation nearing completion (2010).



Approaching view from Spencer's Island Road.



Framed view from within classroom looking north.

Here, a long outdoor gallery and a lower-level classroom act as a windbreak and bookend the stage and projection screen area. Higher on the slope and to the north, the small tower stands proudly projecting historic images onto the double masted projection screen located at the stage and the intersection of the north-south, east-west axis. Between these structures exists the sheltered main outdoor public space that is largely defined by the 108-foot long rock wall that carves into the slope in the shape of the hull of the infamous ghost ship.

Adjacent to the south wall of the primary structure is a narrow circulation space that connects the main sheltered room at the low westerly part of the site and the stage, new accommodation structures and gallery at the easterly part of the site. This line also creates a spine that both separates and joins the public and private realms. Sloping away from the public spaces and toward the open field, 3 structures accommodate the dwelling program that this year's module aimed to define. The 3 modest rooms plug into the stations of the wharf buildings, as would the local fishing ships at the nearby wharf in Advocate Harbor. Although separate, these structures are conceptually 3 rooms in a house.

Drawing In / Drawing Out

In 2006, I first visited Spencer's Island after meeting several community members at a shipbuilding museum in the nearby village of Port Greville. Following this and as part of ongoing research of coastal conditions in the Northern Atlantic, I organized a drawing excursion in the area, and hosted a variety of research partners and students from the countries of Iceland, Ireland and Norway. Among these partners were the reputed Canadian / Norwegian architects Carmen and Elin Corneil. It is from Carmen and Elin that I, and by extension many of my students, have learned the value of 'drawing big' (42cm x 59.5 cm) on A2-Sennelier 'LE MAXI' in HB conte. This method infuses the process with an open and public quality that welcomes critique and encourages collaboration. Drawing is a large part of the discursive aspect of the design/build modules held in Spencer's Island. The variety of perspectives come together (sometimes reluctantly!) through a shared paper format, media and the viewpoints of the architectural conventions of plan, section and elevation. We use drawing boards and



Elevation of frames for classroom. Drawing by author. (rubbing of models, conte).

we take them with us. The drawing subject matter ranges from regional structures and landscapes to onsite assemblies to speculative ideas and proofs, drawing information in and drawing information out. A garage currently houses our studio space where drawings and models speak of ideas of architecture that respond to the previous modules work and cast out the possibilities of exactly what and how we might add each year. It is here where each workday begins and ends.

Characters

“...build whatever you want.”

Any description of this work would be lacking without framing a constellation of

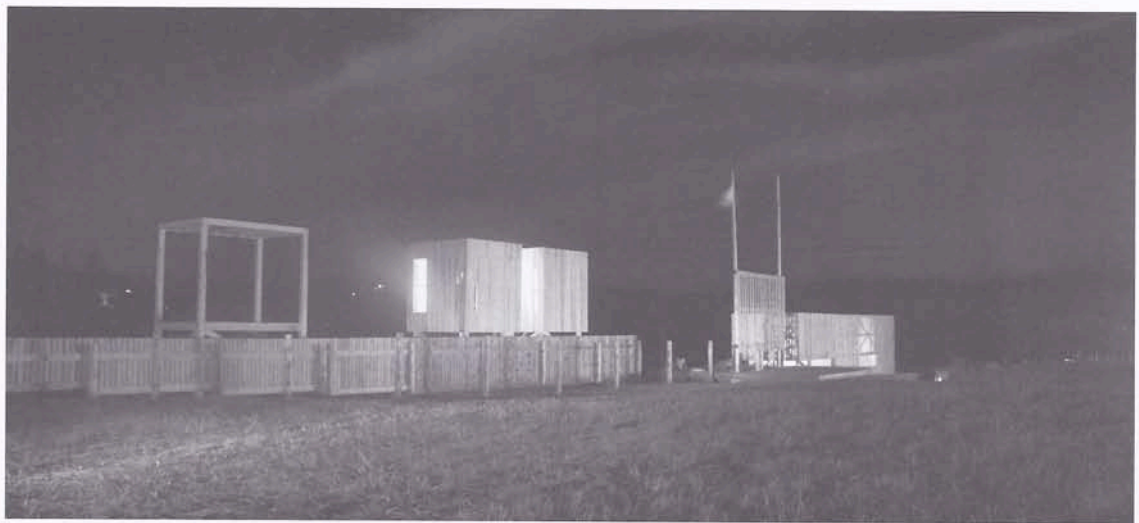
community partners that are responsible for this satellite classroom to the Dalhousie University School of Architecture. A motley crew made up of a retired physics professor, a sawyer who lives on a nearby mountain and a talented jack-of-all-trades constitute the spirited crew whom has generously given their knowledge, humor, equipment and materials. Without these people this project would not exist. For my part I am an architect, a professor and maker of things. I have the pleasure of bringing students of architecture here to this beautiful and peripheral part of Nova Scotia for 2-weeks in July each summer. To these colleagues I extend my deep gratitude and admiration. We have all benefited from the making of architecture from sticks and stones with

a currency that is not one of dollars and cents but of landscape, place and culture. It is here that some 50 people have over 4 years worked collaboratively on a project that subscribes to rhythm rather than schedule and to the physical rather than the shifting and clicking dimension of a mouse pad.

Structure of Work

2-week design/build modules with budgets of less than \$1000 dollars.

Module 1 (Public Room, Outdoor Cinema) - 2007 (projection screen / sail + projection booth / light tower + rock wall / hull) - Bridging the site | Images of the past.



View of outdoor gallery, windbreak, pods, stage, screen and classroom.



Community partners: Laurie Currie (left) and Paul Callison (right).



Work crew 2007.



Advocate Harbor at low tide.



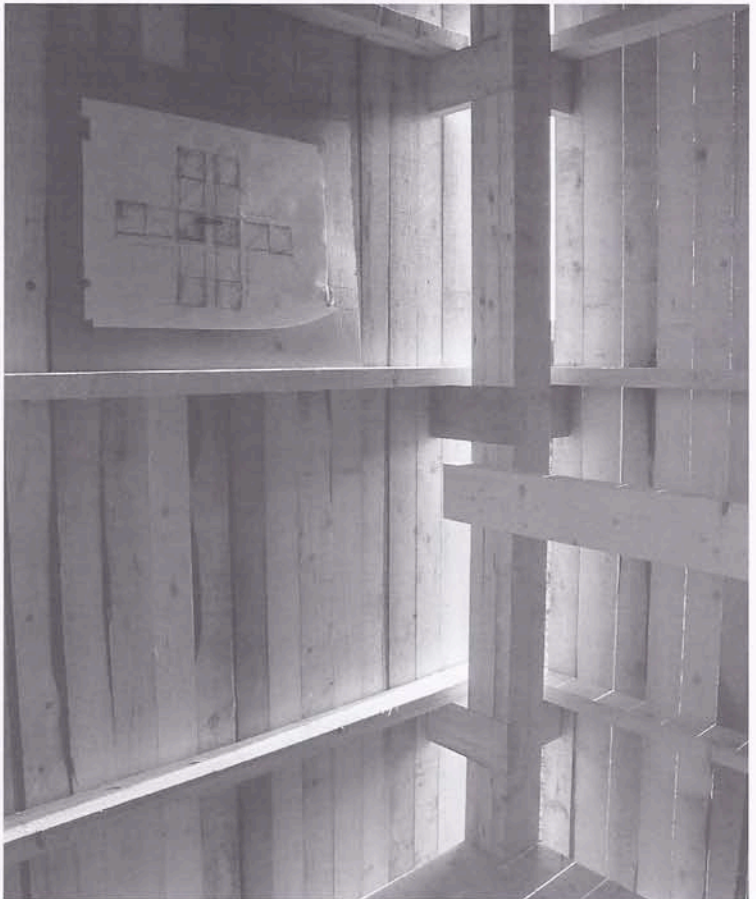
Work crew 2008.



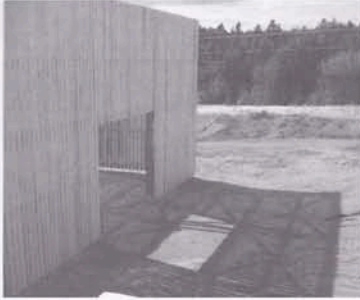
Paul Zylstra, graduate student and collaborator.



Roger Mullin



Interior view of accommodation pod showing framing and window openings at corner and floor.



Afternoon view, classroom exterior.



Framed view towards south end of path (see plan).



View of rock wall defining public area and tower in background.



View from north with tower in foreground.

Module 2 (Classroom, Outdoor Gallery) (wharf bar building frame + retaining wall) Creating a wall to shelter the public space.

Module 3 (Enclosure, Stage, Screen modification) - 2009 (Cladding the classroom, establishing the platform stage) Closing in | Film Festival | Live music.

Module 4 (Shelter) - 2010 Creating 3 rooms that add up to an accommodation for an artist in residence. Moving in.

- 1 Paul Zylstra, "Spencer's Island is Not a Ghost Town: A Cultural Institution in a Post-Industrial Community" (MArch thesis, Dalhousie University, 2009).
- 2 Harry Thurston, *A Natural History of the Bay of Fundy*, (Camden East, Ont., Camden House Publishing, 1990).

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Lori Colucci
Josh Collins

others:

Currie Family
Paul Callison
Wild Caraway

Kerr Canning
Christina Felderhof
Tom Evans
Josh Lunn
Al Tuck
Erin Costelo
Center for
Art Tapes

Contributors

Christine Atha is a lecturer, researcher and curator in the fields of contemporary art and design, cultural theory, practice and aesthetics. The Design Matters Project was part of her research collaboration with the North Fulham New Deal for Communities initiative. Her current research is an examination of the discourses of value and improvement in British design culture, and of the relationship between politics, class and taste. She is an Associate Professor of Design History at SAIC.

Ignasi Bonet (1971) studied architecture in Barcelona and Copenhagen and got his Master's degree in 1999. Since 2001 he has been an architect of Diputació de Barcelona, where he has supervised more than 85 projects of library buildings (120,000 m²). He works also as a free-lance architect. He has presented at several conferences and written numerous articles about architecture and libraries, and has also taken part in juries for several library architecture competitions.

Hugh Broughton founded his practice Hugh Broughton Architects in 1996. In 2005, working with AECOM, Hugh's practice won the international RIBA competition for the design of a new British research station in Antarctica, Halley VI. This project subsequently led to other commissions in Antarctica, most notably winning the international competition to design an Antarctic research station for Spain in the South Shetland Islands.

Sam Clark is a Professional Tutor at wsa and founding collaborator within ad:HOC architects. Within wsa Sam co-chairs first year, co-ordinates the Vertical Studio programme, and contributes lectures various modules. Sam previously taught at Kingston University and Chelsea College of Art & Design. He has practised within five London-based architecture offices; on projects ranging from private homes and social housing schemes to school refurbishments and commercial fit-outs. His narrowboat project began during summer 2010.

Sarah Featherstone is an architect and co-Director of London based practice, Featherstone Young. She is interested in the way people shape their environment and how architecture can stimulate, rather than dictate, activity and social interaction. Sarah teaches on a multidisciplinary MA course at Central St Martins and is a CABE Design Panel Member, an External Examiner at London Met and Oxford Brookes Universities, and a reviewer at wsa.

Owen Francis graduated from the wsa with BSc (Hons) and MArch in 2008, and worked for Ptolemy Dean Architects before setting up A+O Studio in spring 2009. He is now working as a Design Consultant for Capland Property and Investment Group Ltd in Qingdao, P. R. China

Ed Green graduated from the wsa in 1997. He completed an MPhil with Dean Hawkes and a PhD under head of school Phil Jones. For the last eight years he has practiced at Pentan, with a focus on residential and healthcare sectors. He has tutored at the wsa throughout the last decade. He wrote *The Fall of Man* with environmental concerns as the backdrop to a 'human' story, with the aim of broadening awareness of key issues and likely consequences amongst the general public. www.visions-of-britain.com

Kristian Alexander Hyde, co-founder of Hyde + Hyde Architects, graduated from the University of Portsmouth and went on to study Philosophy and Art at the University of Cincinnati. Returning to the UK, he was nominated for the RIBA Silver Medal in 2002. His work has been published in various journals and exhibited at the RIBA. His passion for philosophy and poetics divides his time between practice, research and teaching. He is a tutor at wsa.

Enric Llorach (Barcelona, 1974), Architect (ETSA Barcelona 2000), PhD architect (ETSA Barcelona 2007). He studied Architecture at ETSA Barcelona, ETSA Madrid and Université Paris-La Villette. He is professor at ETSA Barcelona and University of New Haven in Barcelona.

He has published in different architectural reviews and has lectured in Spain, France, Switzerland, United Kingdom and Turkey, including at the wsa in 2009. He loves photography and has published his work in different architectural reviews.

Abigail Lockey holds a BSc in Architecture and an M.Arch from the wsa. She is currently an MPhil/PhD research student at The Bartlett, UCL. Abigail's research in Rio de Janeiro is concerned with unspoken manifestations of urban informality, in relation to the success of slum-city integration programmes. Her research is supported by the Leverhulme Trust.

M.J. Long OBE was born in the US and received her architectural education at Yale, but has spent her professional life in England as a partner in two award-winning practices: Colin St. John Wilson and Partners, and Long & Kentish. She is a CABE Commissioner. She teaches an annual studio at Yale and is a Visiting Professor at the wsa.

Niall Maxwell is principal of Rural Office for Architecture. Niall lives with his family in west Wales, where he runs his practice from a remote farmstead overlooking the Cambrian Mountains. In 2007 he started apprenticing local people to work in his practice, providing local employment opportunities whilst developing an in-house skill base. www.ruralofficeforarchitecture.co.uk He has visited wsa as a reviewer and vertical studio tutor.

Roger Mullin is an Assistant Professor at the Faculty of Architecture and Planning, Dalhousie University, Nova Scotia, Canada. His research in landscape and coastal industries is bracketed by methodologies of construction and representation as they pertain to material and climatic phenomena. Roger has practiced in Berlin and New York City. He has been jointly awarded the Governor General Masterwork Art Award, Best Collaborative Practice Award and was recently selected as one of 8 critical architects in Canada for "The Roadshow: Architectural Landscapes of Canada".