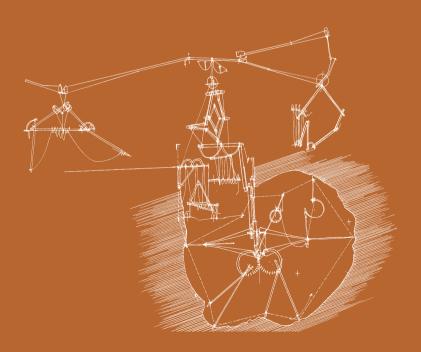
British Exploratory Land Archive



by Smout Allen and Geoff Manaugh



Project Details

Pactice:	Smout Allen
Designers:	Mark Smout, Laura Allen and Geoff Manaugh
	Allen, Smout and Manaugh collaborated on this project. Allen's role focused on instrument design and conceptual development through design drawing, and textile fabrication methods. Smout worked on instrument design and conceptual development and manufacturing. Manaugh was involved in the concept development.
Title:	British Exploratory Land Archive (BELA)
Output type:	Design
Exhibition:	Venice Takeaway: Ideas to Change British Architecture
Venue:	The British Pavilion at the 13th Venice Architecture Biennale
Dates:	29 August – 25 November 2012
Commissioner:	The British Council
Curators:	Vanessa Norwood and Vicky Richardson
Funding:	The British Council; the Bartlett School of Architecture Research Fund
Fabrication team:	Laura Allen, Mark Smout, Jon Kaminsky, Daniel Preston and Sandra Youkhana, with assistance from the Bartlett School of Architecture Workshop
Other exhibitors:	Aberrant Architecture; Ross Anderson with Anna Gibb; Darryl Chen; DRMM; Forum for Alternative Belfast; Public Works with Urban Project Bureau and Owen Pritchard; Elias Redstone; Liam Ross with Tolulope Onabolu; and Takero Shimazaki





Statement aboutthe Research Content and Process

Description

The British Exploratory Land Archive (BELA) focuses on architectural field study and instrument design as a kind of expeditionary archival process, researching and documenting unusual and familiar, but overlooked, UK landscapes. It aims to provide an interpretive framework through which to understand and appreciate exceptional cases of land use in the UK. BELA is an ongoing research project, and its first phase applies research techniques derived from the US Centre for Land Use Interpretation (CLUI).

Questions

- 1. How can architectural design tools reinterpret and inform the experience of landscape?
- 2. How can CLUI land use techniques aid architectural design?
- 3. How do interdisciplinary architectural approaches add to our understanding of land use, and to land use interpretation?

Methods

- 1. Researching CLUI's methodologies and aims, including its research archive, field trip approaches and project sites.
- 2. Identifying a taxonomy of land use, as well as specialist interest stakeholder and hobby groups.
- 3. Understanding British land use through field trips and site visits, including to the Nottingham cave network and Welsh post-industrial landscapes.
- 4. Interpreting UK sites through instrument and installation design.

Statements 5

Dissemination

Exhibited in group shows at the 2012 Venice Architecture Biennale (attended by 250,000 people) and RIBA (2013), and in a solo show at the Architectural Association (2013). The exhibit is documented on the British Council's website and *Vimeo*, and has been reviewed in *Architects' Journal, DesignBoom, Observer, Crane TV* and *BLDGBLOG*. BELA has been presented in lectures in Venice and London. The BELA website is a searchable database of landscapes and land use, and related resources.

Statement of Significance

Smout Allen, in collaboration with Geoff Manaugh (BLDGBLOG), was one of 10 teams selected by the British Council to exhibit in the British Pavilion at the 2012 Venice Architecture Biennale after an open competition.

1 (previous page)
Parys Mountain in
Anglesey with the
Capture Blanket, one
of a series of BELA
instruments



2 The British Pavilion at the 13th Venice Architecture Biennale, August 2012

Introduction

Smout Allen, working with Geoff Manaugh (BLDGBLOG), were one of 10 teams selected to contribute research and exhibition material for the *Venice Takeaway* show in the British Pavilion at the 13th Venice Architecture Biennale, 2012 (www. venicetakeaway.com). The project applies research techniques derived from the Centre for Land Use Interpretation (CLUI) in Los Angeles to develop an architectural analysis, documentation and curation of British land use. The Venice exhibit was the

first iteration of an ongoing research project to establish BELA as a UCL resource.

BELA focuses on architectural field study and instrument design as a kind of expeditionary archival process, documenting unusual and familiar, but overlooked, UK landscapes to provide a robust interpretive framework through which to understand and appreciate exceptional cases of land use in the UK. [fig. 1 & 2]

Aims and Objectives

This research examines how specific conservation landscapes generate the conditions for experimental modes of sustainable architectural design. It sets out to examine:

- How archival and dissemination research techniques can generate greater knowledge and understanding of land use.
- 2. How land users can contribute to this knowledge.

- 3. How experimental modes and architectural practices can inform understandings of British land use.
- 4. How these enable new understanding and experiences of the British landscape.



3a



3 The explorer research and trip paraphernalia were displayed in an emporium space in the British Pavilion entrance Questions / Context 9

Questions

- How can architectural design tools reinterpret and inform the experience of landscape?
- 2. How can CLUI land use techniques aid architectural design?
- 3. How do interdisciplinary architectural approaches add to our understanding of land use, and to land use interpretation?

Context

Venice Biennale

The British Exploratory Land Archive was conceived as a response to the British Council's call for entries for *Venice Takeaway* at the British Pavilion at the 13th Venice Architecture Biennale (29 August – 25 November 2012). This brief was for 'an ambitious global research project' with the aim of sharing ideas internationally about the broad culture of architecture. It was anticipated that the research would 'reflect on a weakness in British practice' and demonstrate how examples from around the would be beneficial to the UK.

Ten teams were selected to produce work for the exhibition, and independently took part in international research from which ideas and processes were developed using film, photography, installation and object design. The other 'explorers' were Aberrant Architecture, Ross Anderson with Anna Gibb, Darryl Chen, DRMM, Forum for Alternative Belfast, Public Works with Urban Project Bureau and Owen Pritchard, Elias Redstone, Liam Ross with Tolulope Onabolu, and Takero Shimazaki. Findings and concepts were shared between explorers via a series of Petcha Kucha sessions and roundtable meetings from which the exhibition and artefact and instrument design was planned. [fig. 3]







8

8 CLUI's filing demonstrates an eclectic mix of subject areas and disciplines Context / Methods 11

Centre of Land Use Interpretation

The BELA proposal researched and drew inspiration from the Center for Land Use Interpretation (CLUI), based in Los Angeles, USA, whose mission is 'dedicated to the increase and diffusion of information about how the nation's lands are apportioned, utilized, and perceived.' The Centre is a non-profit research agency, which allows it to remain politically neutral

and institutionally independent. Self-direction is a corollary of the provocative and insightful research that makes it an important resource for US educational and governmental bodies, as well as for researchers from across the world. The Centre produces regular newsletters and publications, organizes site visits and research trips, and holds public exhibitions at its base in Culver City, Los Angeles. [fig. 4 & 5]

Methods

Researching CLUI's methodologies and aims

The Venice Takeaway programme asked 'explorers' to undertake an international study tour. We visited CLUI in April 2012 to examine their archive, to interview its director Matt Coolidge, and to accompany him on a CLUI study trip. CLUI is based in a small building in Culver City, Los Angeles, where up to five researchers work on academic and funded research. Researchers come from a range of disciplines such as geography, science, planning, architecture and art; this transdisciplinarity points to the diversity of the Centre's scope of interest and its methodological significance to the UK research environment. [fig. 6]

a. CLUI research archive

The Centre focuses entirely on landscapes where human land use is currently active or where a site has been abandoned. CLUI's extensive research material is held for public access on a web database (www.clui.org/ludb), and it also maintains a diverse in-house collection of maps, newspaper cuttings, science papers, and ephemera including postcards, souvenirs, soil and water samples. Records are alphabetically organised so diverse and unrelated material is stored in adjacent files, rather than by classification groupings or affiliations. This leads to unexpected associations and adds to the possibility of multiple readings of land use; for example, nuclear bunkers are filed next to killer bees and Bombay beaches. [fig. 7 & 8]







- 4
 The Initial Points of
 America: Anchoring
 the National Grid,
 exhibition at the
 Center for Land Use
 Interpretation, April
 2012
- 5 CLUI's extensive web archive
- 6 CLUI director Matt Coolidge



9 Geoff Manaugh waiting for the sonic boom on Stratman and Badgett's 'Range Trumpet' at the Desert Research Station

10 CLUI director Matt Coolidge climbs a pylon to look across the desert for an x-plane crash site.



The Centre initially established relationships with individuals, organisations and agencies 15 years ago, through sending out questionnaires that requested current and historical information about land use. in order to catalogue key data about specific locations, activities, inventories and stakeholder interests. They also uncovered unexpected local, personal and cultural information from these groups, including traditional land use practices, folkloric accounts and conspiracy theories. In addition, the Centre undertakes 'extrapolative projects' that aim to expand its methodology through interpretive cultural and phenomenological classifications. For example, the 'Event Marker project' installed roadside markers to commemorate 'inundations and denudations, perpetual flames, and peculiar detonations'.

b. CLUI field trip

Research included accompanying CLUI's director Matthew Coolidge on a site visit to Mojave Desert, California, to experience a part-factual, part-folkloric narration of events on/in/of this landscape. The trip encompassed:

- CLUI Desert Research Station, Hinkley: The Center's research and display facility acts as satellite to CLUI Culver City base by hosting research events and site-specific art installations.
- Lockhart SEGS VIII-IX, Mojave Solar project: A 250 MW solar thermal power facility at Harper Lake.

- Sand and gravel pits, Irwindale: Site of extraction of resources for the Los Angeles construction industry.
- Radar test site at Tejon RCS Facility, Northrop Grumman, Rosemond.
- George Air Force base, Victoriaville:
 Abandoned military housing.
- Mojave Air and Space Port: A 'logistics airfield' for FedEx courier service.
- An alleged x-plane crash site, Harper Lake.
- Geo-textile stabilisation testing sites,
 Tehachapi. [fig. 9–12]

Identifying land use taxonomy and interest groups

The British Exploratory Land Archive aims to gather information about land use. The UK landscape differs greatly from the US in scale, complexity and accessibility. It is also significant to note the much higher density of population in the UK and that circa 70% of the UK landscape is cultivated for agriculture (in contrast to approximately 35% in the US). In addition, the majority of British land is under the stewardship of, or owned by, a small number of landowners (mainly aristocracy and private companies) and institutions, such as: the National Trust (6,000km²); the National Parks (226,600km²); Network Rail; the Forestry Commission (70,000km²); the RSPB (1,311km²); and the Ministry of Defence (240,000km²). Each of these owners/stakeholders have distinct interests and specific agendas relating to the management of their land



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11 Geoff Manaugh correlates the day's itinerary with items found in CLUI's archive.



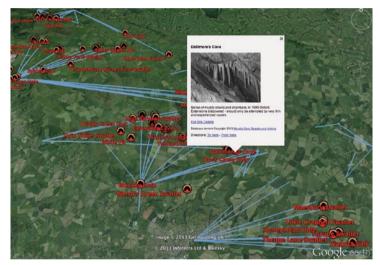


13
The CLUI archive
has been established
for over 15 years
and its methodology
pre-dates Internet
searches and online
databases. Screen
grab from the CLUI
land use database
showing the
map-based search
function



14

14 Signpost to the Kelvedon Hatch Secret Nuclear Bunker, Essex



15



16





1



19

17 The cave network exposed behind the Ye Olde Trip to Jerusalem pub, Nottingham

18
The Nottingham Cave
Survey. Digital scans
reveal the hidden
network of caves that
exist below the streets
of the city.
Trent & Peak Archaeology.
The University of
Nottingham

19 The cave network is unknown to many despite the everyday signposting in the local shopping mall.

and, consequently, this 'stovepiping' can result in an isolation of interests and a degree of separation of landscapes from their local contexts and users.

There are a considerable number of online resources in the UK from which BELA draws inspiration and information. These include: Geograph (www.geograph. org), a web-based collection of images geographically referenced to locations across every square kilometre of the British Isles; and Subterranea Britannica (www.subbrit.org.uk), a society devoted to the study and investigation of manmade and man-used underground locations, which documents sites in an online archive and in a publication issued three times a year. Other sites of note are: the National Heritage List for England (www.english-heritage.org.uk/professional/ protection/process/national-heritage-listfor-england); the English Heritage Archives (www.englishheritagearchives.org.uk); the British Geological Survey (www.bgs.ac.uk); and PastScape (www.pastscape.org.uk). [fig. 13]

a. Taxonomy of land use

In order to provide a research strategy, it was necessary to classify the UK landscape under a set of land use categories.

To date, we have identified the following: invisible landscapes and ephemeral landscapes (e.g. abandoned and underground sites); military landscapes (e.g. civil defence sites, memorials, bunkers and decoy sites); aeronautical landscapes; industrial landscapes; landscapes of extraction; agricultural landscape; forestry; monuments; transport infrastructure; landscapes of power generation; logistics sites and commercial infrastructure; and waste landscapes. [fig. 14]

b. Interest groups

Specialist interest groups, such as hobby, user and stakeholder groups, were identified who have a specific interest and use of landscape. These groups often assemble or maintain detailed site information.

Each group was sent a survey to complete that consisted of the BELA statement, introductory letter, and a questionnaire with an attached map of the British Isles to be returned to us, together with any printed information (e.g. newsletters or leaflets) that the group might itself produce. Each one was asked to provide information about their interests and activities, number of members, assets and ownership of land, stewardship responsibility, map generation, and affiliated bodies. Groups were also asked to categorise themselves under the land use categories that we had identified.

Over 30 groups responded with information including details of upcoming events, society manifestos, reports from study trips, as well as film documentation. The surveyed groups included: Mendip Cave Registry; SABRE (The Society for all British and Irish Road Enthusiasts); Dumpman Films; Pylon Appreciation Society; Airfield Research Group; British Land Reclamation Society; Pillbox Study Group; and various field clubs from different counties such as Kent, Essex, Devon and Shropshire. [fig. 15 & 16]



20 The abandoned fuel station in Amwlch, Anglesey

21 (overleaf) Setting up the Capture Blanket at Parys Mountain, Anglesey

22 Housing and industrial remnants merge into the landscape and Tanygrisiau, Snowdonia.



Understanding British land use through field trips

A number of field trips have been undertaken which have examined land use sites and tested the BELA prototype devices.

a. Nottingham cave network,Nottingham city centre

The extensive cave network of over 500 caverns is the result of sandstone mining from medieval times to the Second World War. The caves have been used as cisterns, tanneries, pub cellars, wells a private shooting range, and storage for the city council. The Nottingham Cave Survey (www.nottingham.ac.uk/tpa/caves/s/sq2) undertakes 3D laser scanning and mapping of the network and is producing an app of geotagged laser point cloud visualisations. [fig.17–19]

b. Amwlch, Angelsey

The site retains the abandoned infrastructure of the Shell Inland Fuel Station and the start of the Stanlow pipeline that extends 170 km to Stanlow. Ellesmere Port, Cheshire. The pipeline was constructed in 1972 as a response to the difficulties in getting large tankers in and out of the Mersey. Ships were moored off the coast of Anglesey on an innovative single buoy mooring system (SBM), where their cargo was pumped ashore. At the time, there was considerable opposition to the scheme because it required a vast network of pipes to be laid and buried under some of the UK's most protected landscapes. Although the pipeline has now closed (because larger tankers can now get access to the Stanlow Refinery),

the station at Amwlch is still highly contaminated with petrochemical pollutants. [fig. 20]

c. Parys Mountain, Anglesey

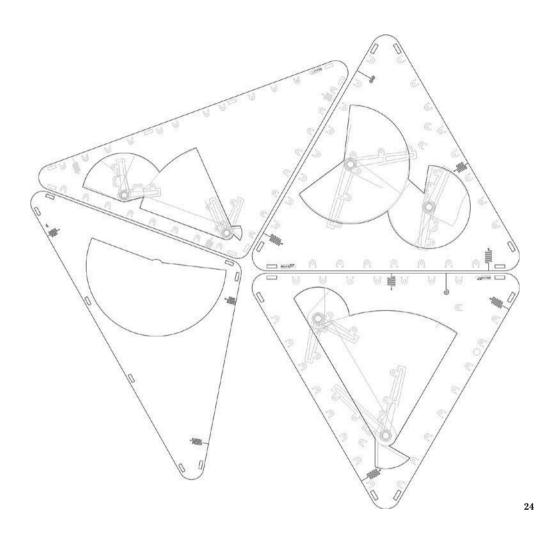
The guarry site covering 20,000 metres of excavated underground tunnels, with drilled shafts reaching nearly 300 metres in depth, has been used for extraction since the early Bronze Age, shown by sub-surface debris nearly 4,000 years old. In the 18th century it was the most productive copper mine in the world until it closed in 1904. quickly falling into disrepair. The site shows the signs of numerous shafts, settling ponds, and spoil heaps. The site is only partly accessible to unsecured shafts and landslides that have resulted from undermining. Parys Underground Group brings together specialists such as geologists and cavers with a common interest in the area to try and discover more about the history and underground workings of the Parys copper mine. [fig. 21]

d. Cwmorthin Valley, Tanygrisiau, Snowdonia, North Wales

Tanygrisiau is on the edge of the Blaneau Festiniog slate mines, which were closed in the 1970s together with many village buildings that are now abandoned and derelict. The site lies at the heart of the Snowdonia National Park although the park boundaries skirt the slate workings and substantial spoil heaps where many remnants of the past industry are still visible, including abandoned machinery, slate fences, and quarrymen's cottages that are now collapsing into the spoil landscape. [fig. 22]







23 (overleaf) Clinometer at Tanygrisiau

24 Drawing of the Clinometer panels showing inlaid weights and eyelets for lacing with bungee cord





e. Dinorwig Power Station, Llanberis, Snowdonia National Park, North Wales

Dinorwig Power Station is a 1,728MW pumped-storage hydroelectric scheme constructed in the late 1950s in an abandoned slate quarry and within Elidir Mawr mountain. The site is significant as the world's largest and fastest response of any pumped storage system, which is also vital because it can handle surges and can bootstrap (restart) the UK grid during a 'black start' event. The AditNow website (www.aditnow.co.uk) documents mine exploration and industrial archaeology.

Interpreting UK sites through instrument and installation design

A second strategy for BELA is the design of speculative and semi-scientific instruments with which to measure, accentuate and record site conditions. Three full-scale instruments have been constructed, which were tested and then exhibited at the Biennale. Further prototypes are being explored for future site visits. [fig. 23]

a. Clinometer (full-scale)

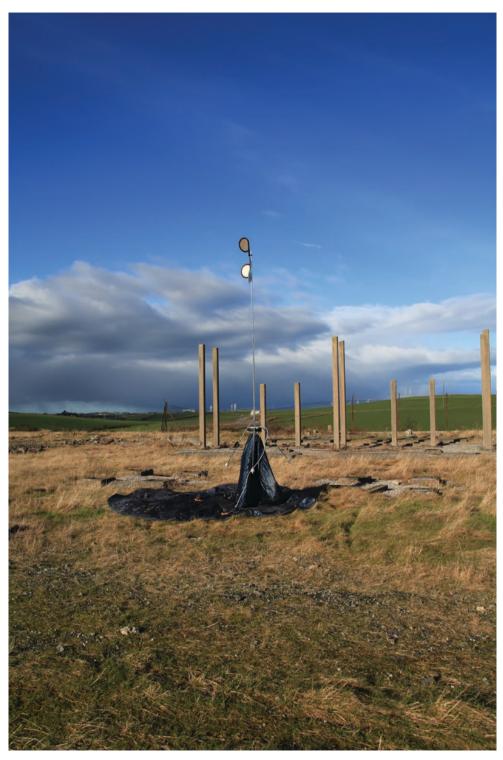
The Clinometer synthesises ideas from analogue and digital site surveying equipment, including radar corner reflectors, which are used as marking beacons, and basic measuring systems, e.g. the handheld clinometer, which measures slope angles. It also responds to mapping notations such as graticule grids, which are reference lines such as longitude and latitude, and hachure lines, which are used to indicate the general direction and steepness of slopes. The

lines are short, heavy, and close together for steep slopes; longer, lighter, and more widely spaced for gentle slopes. The Clinometer interprets and composites these 2D and 3D graphic mapping languages into a faceted 3D form that is composed of nine triangular aluminium sheets, each approximately 0.8m × 1m, on which hanging weights are fixed. The piece can be assembled in numerous configurations using bungee cord, which is laced across the face of the sheets through evelets along their edges, and also through lever arms that are attached to the weights. As the Clinometer is reconfigured for various site conditions and angles of slope, the bungee cord is stretched by the movement of the weight as they readjust to gravity; this distorts the pattern of cords and allows a reading of the site to be achieved.

The Clinometer has been tested in the slate spoil heaps in North Wales which form a significant topographic feature of the Welsh landscape. The UK's industrial history of mining and production creates slag and spoil heaps of china clay, slate, and coal slag, many of which have become accepted topographical landmarks and even cherished local monuments to a region's heritage. A good example is the 32 acre, six million tonne slag heap at Bersham Colliery, near Wrexham in North Wales, where Cadw, the Welsh Government's historic environment service. have opposed plans to recycle the waste for the building industry, citing the heap's heritage significance as a monument to the region's industrial past. [fig. 24 & 25]







b. Capture Blanket (full-scale)

Post-industrial and post-military brownfield sites are often heavily contaminated with hazardous chemical waste and fuel pollutants which can be costly to remediate and which restrict redevelopment. Air sparging is an environmental remediation technique used to remove subterranean petrochemical pollutants such as VOCs. The system forces air underground to the contaminated area, and then dissolves any gases which can then make their way to the surface, where they are collected or allowed to disperse into the atmosphere.

The Capture Blanket is composite textile mat, approximately 6m², constructed from Tyvek, gold Mylar and felt, with rubber attachments and zipped pockets to enable access to the ground surface. The apparatus seals an area of territory and acts as a site respirator that encloses and extracts air samples from contaminated sites. A sparger component is wind-powered via a mast and vane which sits on an integrated tent structure housing a tripod and air handling equipment. The capture blanket has been tested in the Stanlow fuel station in Amlwch and Parys Mountain, Angelsey, as well as at Martlesham Heath, a disused WWII airfield in Suffolk. [fig. 26 & 27]

26 Capture Blanket at the Stanlow abandoned fuel station, Amlwch, Anglesey

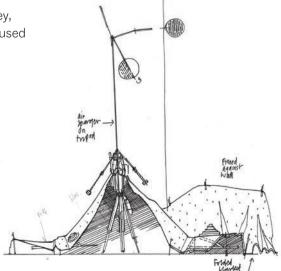
27 Sketch of the sparger and Capture Blanket

c. Site hut (full-scale)

To aid the BELA survey process, a site hut was constructed that can act as a storage grate for BELA instruments and a site shelter. The hut is constructed out of wood, brass and nylon, and designed as a series of reconfigurable individual enclosures. It was exhibited at the Biennale. [fig. 28 & 29]

d. Speleological Pantograph(1:10 scale design)

This device is intended for investigation of underground and inaccessible spaces where it is difficult or dangerous to enter. A three-dimensional arrangement of pantograph armatures – a series of articulated and fixed point linkages – allow the scale and detail of an enclosed volume to be transcribed in open space. We intend to prototype the design and to test its ability to translate and enlarge spaces and surface detail at test sites such as disused tube stations, mine shafts and underground bunkers. [fig. 30]



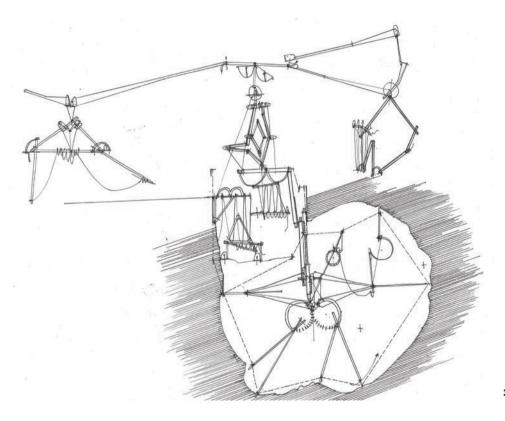




28 BELA site hut at the British Pavilion

29

29 Site hut detail



30

Dissemination

BELA is an ongoing research project that seeks to analyse, document and curate British land use in order to contribute to our understanding and interpretation of land use in the UK. Its findings have been disseminated in various ways:

Consultation

A key part of the research process has been engagement with various hobby, user and stakeholder groups who have a specific interest and use of landscape. This engagement is also a means for disseminating BELA's ongoing research directly with interested parties. In addition to its work with the Center for Land Use Interpretation (CLUI), based in Los Angeles, the research team has consulted more than 30 groups in the UK, including: Mendip Cave Registry; Society for All British and Irish Road Enthusiasts (SABRE); Dumpman Films; Pylon Appreciation Society; Airfield Research Group; British Land Reclamation Society; Pillbox Study Group; and various field clubs from different counties such as Kent, Essex, Devon and Shropshire.

Website

The BELA website, due to launch in November 2013, will consist of a searchable online database of landscapes and land use, as well as links to associated hobby and activity groups, national organisations, and online maps resources.

Exhibitions

Group: Venice Takeaway: Ideas to Change British Architecture (curated by Vanessa Norwood and Vicky Richardson). The British Pavilion at the 13th Venice Architecture Biennale, 29 Aug – 25 Nov 2012. [fig. 31]

Group: Venice Takeaway: Ideas to Change British Architecture (curated by Vanessa Norwood and Vicky Richardson). Royal Institute of British Architects, London, 26 Feb – 23 Apr 2013. [fig. 32]

Solo: *The British Exploratory Land Archive.* The Architectural Association, London, 15 Nov – 13 Dec 2013

Exhibition film: 'British Exploratory Land Archive', Vimeo (998 hits as of Sep 2013). Exhibition website: www.venicetakeaway.com

Invited talks

'The British Exploratory Land Archive', the British Pavilion, Venice (28 Aug 2013). 'Architect Explorers: Landscape Transformation', Royal Institute of British Architects 'Ideas to Change British Architecture' season, the Architectural Association, London (28 Feb 2013).

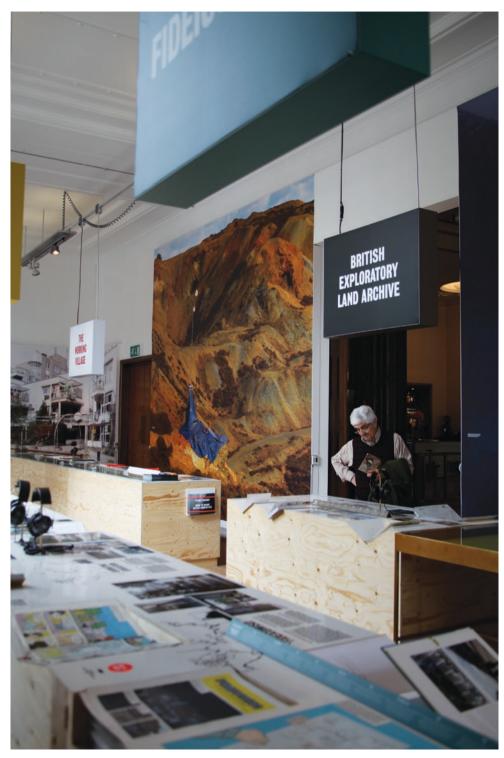




31a

31b

31 BELA instruments at the British Pavilion 32 (overleaf) Venice Takeaway: Ideas to Change British Architecture, exhibition at the RIBA



Appendix 39

Related publications by the researcher(s)

pp. 32-49

Mark Smout, Laura Allen and Geoff Manaugh, 'British Exploratory Land Archive: A proposal and prototype', *Venice Takeaway: Ideas to Change British Architecture, London:* AA Publications, 2012. 29–30, 157–171.

p. 50

Mark Smout and Laura Allen, 'British Exploratory Land Archive', Vimeo (998 hits as of Sep 2013): http://vimeo.com/47544167

pp. 51-56

Geoff Manaugh, 'The British Exploratory Land Archive, BLDGBLOG (28 Aug 2012): http://bldgblog.blogspot.co.uk/2012/08/british-exploratory-land-archive.html

Related writings by others

pp. 58-61

'Designing beyond boundaries', Venice Biennale Preview 2012, *Architects' Journal* 236.6 (16 Aug 2012): 38–39, 56–57.

pp. 62-63

'The British pavilion at the 2012 architecture biennale', *DesignBoom*, (28 Aug 2012): www.designboom.com/architecture/the-british-pavilion-at-the-2012-architecture-biennale

p. 64

'Venice Biennale: Venice Takeaway, the British Pavilion', $Crane\ TV$ (Aug 2012): http://vimeo.com/48605641

p. 65

'Key Players in British Architecture', *The Observer* (2 Sep 2012): www.guardian.co.uk/artanddesign/interactive/2012/sep/02/venice-biennale-british-architecture-key-players

pp. 66-67

Merlin Fulcher, 'Journeymen Architects', Architects Journal (15 Apr 2013): www.architectsjournal.co.uk/culture/journeymen-architects/8646522.article

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101 Spinning Wardrobe by Storp Weber Architects

Blind Spot House by Storp Weber Architects

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