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APPENDIX - A – Chart Indicating Partner Contribution to Project Strands

**A – Scientific Research, B- Artistic and cultural programme, C – Community programme,
D – Website, E – New approaches to soil bunds and screening**

Organisation	Name(s)	A	B	C	D	E	Project Contribution
Portland Sculpture & Quarry Trust	Hannah Sofaer Paul Crabtree	✓	✓	✓	✓	✓	Project Originators and Project Management. Delivery of creative workshops, exchanges between groups. Contributing creative ideas as artists and primary source materials. Organization of exhibitions, seminars.
Albion Stone plc	Michael Poultney, MD Mark Godden BSc, FIQ, Mine & Quarry Manager	✓	✓	✓		✓	Leaseholders and quarrying company for Independent Quarry. Guided visits to Bowers Quarry and mine with interpretation of geology for groups from UOB and Shell International mapping visit. Contribution of information for project website.
University of Brighton	Anne Boddington, Principal Researcher Prof Jonathan Woodham, Snr Researcher Karen Norquay, Head of School of Arts & Communications Prof Charlie Hooker, Head of Sculpture Dept University Partnership Programme (CUPP) Terry Hill, Technical Manager		✓	✓			Lead researchers for the artistic and cultural research project strand. On-site research and delivery of validated course units and Framework for Masters Degree in <i>Design and Cultural Landscape with Community</i> in partnership with PSQT and the community. Staff development / Professional Research. IT Consultancy and Technical Support.
University of Leeds	Prof Jane Francis, Earth Sciences School of Earth and Environment	✓	✓	✓	✓	✓	Geological mapping of aggregate quarries. Mapping programme of geology and quarry environments with lectures. Interpretation materials for community workshops. Contribution of materials for project website.

Organisation	Name(s)	A	B	C	D	E	Project Contribution
World Heritage Coast Team	Richard Edmonds, Earth Science Manager WHCT Dr Anjana Khatwa, Education Officer WHCT	✓	✓	✓	✓	✓	Geological mapping and interpretation of aggregate quarries. Donation of photographs and printed materials, for website and project brochure. Presentations on geology of WHC, and participation at final review and concluding seminar. Co-ordination with national Young People and WHC Education Strategies.
Community Based Learning Steering Group (NLDC)	Jane Maddern Dorset Adult Education Service Anne Cooke Weymouth & Portland Partnership David Smith Weymouth & Portland Partnership			✓			Community education with PSQT to re-engaging hard to reach learners. Quarry-based learning activities and training programmes from basic skills to adult education and employment levels. Assistance with Graphics and content for website.
Ridgeway Centre Conservation Group	David Beagley, Day Services Officer for Adults with Moderate Learning Difficulties		✓	✓			Group leader for weekly creative workshops for adults with learning difficulties; using arts activities to help them communicate thoughts and feelings.
Carlton Arts & Activity Team	Amanda Paul, Dorset County Council Mental Health Authority		✓	✓			Group Leader for weekly creative workshops for adults with mental health needs to support personal development, acquisition of new skills and the therapeutic outcomes of arts activities.
Royal Manor Arts College	Rob Russell (Deputy Head), and Heads of Department: Andy Campbell Dr Keith Bartlett, Vicky Cole, Steve Simmonds, Martin Mullinder, Martin Gooch, Wendy Petite De Mange	✓	✓	✓	✓	✓	Teacher support for 57 art and design workshops. Departments represented: Art & Design, Geography, History, Music, Performance, Design & Technology. Geography field study, environmental impact analysis on working quarries and quarry after use. Theatrical performance. Production of video's. Sound recording from ringing stones and experimentation with music composition. Educational Case Studies for cross-disciplinary learning in the quarry environment.
All Saints School	Brian Smith HOD Art & Design Conrad Cole Head of Year	✓	✓	✓			Education workshops linking the arts & science towards a site specific sculpture and music composition, using sound generated from the stones.

Organisation	Name(s)	A	B	C	D	E	Project Contribution
Yorkshire Quarry Arts	Bobbie Millar Dr. Kia Ng	✓ ✓	✓ ✓				Sound experimentation and recording of ringing stones
Creative Wave Diving	Rob Hughes & dive crew	✓	✓	✓	✓		Underwater photography of the marine environment
University of the Creative Arts South West (formerly KIAD)	Robin Sewell, Senior Lecturer	✓	✓	✓	✓		Research into sound and vibration as a creative medium: lecture programme and community workshops.
Weymouth & Portland Borough Council	Simon King, Leisure & Tourism Manager Jacqui Guisborne, Communications Manager Simon William, Planning & Economic Development Officer			✓ ✓ ✓	✓ ✓		Assistance with press, marketing materials and distribution; review of education materials. Consultation on website design. Project progress monitoring.
Dorset Youth Association	Dave Thompson, Director Terry Vine Youth Worker		✓ ✓	✓ ✓		✓	Facilitating quarry workshops with PSQT and a heritage project for young people
White Design Associates	Craig White Adriana Robert-Rodriguez Andrew Docherty Ronan Schoemaker Karl Hutchison Scott Hills		✓ ✓ ✓ ✓ ✓ ✓	✓ ✓ ✓ ✓ ✓ ✓	✓ ✓ ✓ ✓ ✓ ✓	✓ ✓ ✓ ✓ ✓ ✓	Innovative Design of soil bunds and site screening for restoration of quarry environments. Designs for performance space, habitat creation. Facilities using rammed stone dust construction with UOB. Design of controlled climbing, safe caving and orienteering features with PSQT and Weymouth. Outdoor Education Centre (WOEC). Lecture on sustainable architectural practice and assessment days.
	Dr. Ken Coombe, Geologist and Geomorphologist	✓		✓	✓		Geology Lecture Programme and contribution of interpretation materials re Portland's geology for inclusion on the project website
	Dr. Jon Rae, Anthropologist and Archaeologist		✓	✓			Project Management advice, lecture programme including final seminar presentation and liaison with Purbeck Projects re: preservation and interpretation of geology.
Creative Solutions	Roy Griffiths Justin Amphlett Dave Walker			✓ ✓ ✓	✓ ✓ ✓		Project Website Design; training in updating and management of website for the community.

Organisation	Name(s)	A	B	C	D	E	Project Contribution
	Bill Lowe		✓	✓			Led 72 community workshops for Carlton Arts Activities Team. Organised exhibitions of work. Participation in drawing and painting workshops with artists and geologists.
Scott Polar Institute University of Cambridge	Dr. Piers Vitebsky, Social Anthropologist	✓	✓	✓			Research involving geologists, artists and the community on cultural references to stone, myths and cultural beliefs.
	Kirsten Espensen		✓	✓			Attended community workshops in stone carving and sculpture; painting and drawing with geologists and artists; creative writing.

APPENDIX – B – Lectures, Seminars and Presentations

Lectures, seminars and presentations held during the project brought together artists, geologists, educationalists and the community to share their research and interests in the quarry environment.

- **4th Sept 2005** An open day for the project, with a community stone carving and sculpture workshop, was held with visiting Dutch artists in the top workshop area of Tout Quarry. The Dutch artists were working on the regeneration of this area with PSQT, (previously a waste infill site) creating sculptures in situ on the theme of evolving life-forms from the Jurassic period.
- **3rd December 2005** PSQT illustrated lecture promoting the project for local community (with St Johns Church Community Group church band and Avalon Singers).
- **January 2006** Arts, science and cultural heritage seminar organised jointly by UOB and PSQT involved the Universities of Reading, Sussex and Brighton with local quarry managers and historians. Presentations were given of eleven illustrated papers with a view to further collaborative research, organised by Prof. Charlie Hooker, University of Brighton.
- **May 2006** Prof Denys Brunnsden, geomorphologist opened the project launch in May 2006 alongside Rt Hon Jim Knight MP, Minister for Schools and Mayor of Portland, Tim Woodcock. They discussed the considerable opportunities that the project had given to the community and education, and looked forward to the exciting future for Independent Quarry and the Drill Hall as an exemplary regeneration project for the local area and South West Region. Michael Poultney, MD Albion Stone plc, discussed the remarkable work and partnerships that had developed during the project. Richard Edmonds, Earth Science Manager of the WHC, spoke about the creative and educational potential of the project as an exemplar within the UK and abroad. Paul Ensom, Earth Scientist, shared new discoveries and identified the Drill Hall as a valuable learning resource re Portland's geology. Geomorphologist Dr Ken Coombe, from a local quarrying family, showed his very detailed drawings with interpretations on the major jointing (gulley) system of the Island and the geomorphology of Portland.
- **August 2006** Sustainable Legacy Conference, Weymouth College. Exhibition of project.
- **October 2006** Portland Stone Event Day at The Drill Hall – a seminar organised jointly by the PSQT and the Stone Federation of Great Britain and PSQT. Presentations were given by David Priestman from the Stone Federation with representatives from CITB, Weymouth College, Albion Stone plc, Eric Parry Architect., and local speakers on the quarrying history. Practical demonstrations were given by Weymouth College and sculptural demonstrations of a large carving by the PSQT.
- **November 2006** PSQT *Cultural Landscapes – Stories of the Earth* presentation at Dorset Coast Forum Conference, Ypre, Dorset.

APPENDIX - C – EXHIBITIONS / MARKETING AND PR

Exhibitions

- Natural Stone Show 2006. PSQT exhibition, 14-16th March 2006
- The Drill Hall. Dorset Arts Weeks. Exhibition of project work at May-June 2006
- Chelsea School of Art. Exhibition of work from Interior Architecture/Spatial Design Department, July - Sept 2006
- Robin Sewell: "KYMA", Learningstone Gallery The Drill Hall. Paintings, photographs and film, 2nd to 30th Sept 2006
- Weymouth Library and White stones café / gallery. Regular exhibitions of work resulting from the workshops from Carlton Road Art Activities team
- Dorset County Museum September 2006 Dorset Youth Association exhibition of work resulting from the workshop programme.
- Ridgeway Day Services Southill Centre Exhibition of work from the workshop programme

Marketing and PR

- Marketing and PR activity to give the project a profile in the press and broadcast media included:
- Press Launch on 19th May 2006, see above
- Weymouth & Portland Borough Council advertising for Cultural Landscapes, Stories of the Earth in Weymouth Holiday Guide, 2006 and Weymouth & Portland Partnership publication on sustainable development informing the strategy for a network between organisations providing creative opportunities outside the mainstream.
- Musera Magazine advertising article, June 2006
- Natural Stone Specialist Magazine
- Dorset Arts Week. Exhibition of project work advertised in catalogue and on the website, May-June 2006
- Independent on Sunday. Article on stone carving and sculpture workshop with children by Juliet Ricks, June 2006
- BBC Radio 4 Testbed series 'Men of Stone' series over four weeks from historical, geological, artistic, educational, and industrial perspectives with research materials from the Cultural Landscapes, Stories of the Earth project. The PSQT was interviewed about its project and UOB Students were recorded in interview about their study on Portland during the pilot elective in May 2006 for the series.
- BBC 2 'Flog-it' programme included retired quarrymen, community workshops, the stone industry and sculpture in the quarry landscape.
- Dorset Coast Forum Presentation November 2006
- Various articles Dorset Evening Echo and Free Portland News
- The Artists' Yearbook, published by Thames & Hudson
- Arts Council South west Cultural strategy
- Preparation of an article in the Aggregate industry journals; Aggregates Manager (US) and Quarry (Australia) that introduces people to the aggregate business via the geology, other earth sciences and artistic uses of quarries. Back issue reference: Aggregates Manager October 1999: 'Global Perspectives' Quarries and Pits - Places of Higher Learning, Author: Bill Langer, Research Geologist U.S. Geological Survey
- Natural Stone Specialist Magazine
- Alison Stace 'Sculpture Parks' A & C Black Publishers Limited Bloomsbury Publishing Plc

Press Launch Article – Hilda Swinney - Dorset Evening Echo

Cultural Landscapes and *Portland's Living Quarry Projects* were launched in two sessions at the Drill Hall in Easton Lane. The aim of the projects is to turn the worked-out Independent Quarry into an international attraction spearheaded by Portland Sculpture and Quarry Trust, (PSQT).

Cultural Landscapes will explain how quarrying shaped the island while Living Quarry will include a walk through 140 million years of geological time, an amphitheatre, a stone labyrinth and a wildlife area. The project was introduced by PQST secretary Paul Crabtree who welcomed speakers, representatives of sponsors, schools and members of the public who are involved in various aspects of the work being carried out. He described the Drill Hall as 'the modern threshold into time' leading back into history and he warned his listeners that while the project is well on its way, "it will not happen overnight."

Mr Crabtree said: "This amazing project which seems to have the approval of everyone and is supported by the Mineral Industries Sustainable Technologies, Defra and W&P Borough Council among others, will lead to visual and educational resources on a local, national and international level."

"It continues to have tremendous support from Mr Michael Poultney, managing director of Albion Stone in both the regeneration of Independent Quarry and the use of the old Drill Hall which is now known as the Learning Stone Centre."

Among the speakers were Portland Town Mayor Tim Woodcock who said: "This project is an amazing vision stretching from 140 million years ago into the future and while it will prove to be an attraction for the modern day tourist, as cultural heritage it is important to the whole country." South Dorset MP Jim Knight mentioned geology and geography as part of his background and he said: "In this respect, the project hits lots of buttons for me and there is a vibrancy in this celebration of the landscape which will be highly potent and of great importance on a wide scale in education and for tourism-it will certainly solve the frustration of tourists going just to Portland Bill and then leaving the island!". Mr Knight also stated that he was hugely impressed by the co-operation given by Albion Stone. Professor Denys Brunsdon who led the application for World Heritage Coast status, spoke of the project as an evolution of life, giving the island community a sense of place and he said: "This project is of universal value and part of a legacy for Britain." Richard Edwards, earth science manager for the Heritage Coast said: "There is nothing more interesting than the quarries' story and this project is the most innovative and inspiring in the whole country." Among other speakers in the second session of the launch were Portland-born Dr Ken Coombe, Rob Hughes from C-Wave Diving, geologist Paul Ensom, Robert Sewell from the University of Creative Arts, Rob Russell, deputy head of Royal Manor Arts College and All Saints School teacher Conrad Cole.

Press Release – New Portland Quarry Plans Unveiled.

Portland Sculpture and Quarry Trust, responsible for the acclaimed Tout Quarry Sculpture Park, will unveil its exciting new regeneration plans for the worked-out Independent Quarry on Portland on Friday 19th May 06.

The regeneration of Independent Quarry and the Drill Hall are based on two new projects, ***Cultural Landscapes – Stories of the Earth*** and ***Portland's Living Quarry***. Both will feed into developing the quarry into a highly valuable educational resource and a new cultural centre. When the plans are realised, the regenerated quarry will become a significant cultural resource for the people of Portland and for regional, national and international visitors.

Cultural Landscapes

The ***Cultural Landscape - Stories of the Earth*** project began in August 05 and will run until January 07. It focuses on exploring the full range of learning experiences that can be drawn from disused quarries – layers of visible rock left from the quarrying process act as a geological map showing an incredible journey through time, teaching us infinite amounts about past environments and life forms. Equally fascinating are the local memories and stories of the inhabitants of an island based on the quarrying industry for centuries.

Cultural Landscapes is supported through the Mineral Industry Sustainable Technology Programme (MIST), funded by DEFRA and involves 22 partners, including Weymouth & Portland Borough Council, Albion Stone, local schools, community groups, local businesses, universities, earth scientists and artists. The project involves working with 2 universities on pioneering research into links between landscape and

learning and running a range of courses for the community, from stone carving and creative writing to digital photography.

Portland's Living Quarry

Portland's Living Quarry is included as one of four gateway projects in a Dorset County Council World Heritage Coast Team led bid to the 'Big Lottery Living Landmarks' scheme, under the wider project name of 'Evolution'. This involves 3 other coastal towns – Exmouth, Seaton and Lyme Regis.

Portland's Living Quarry is a long term project that will establish Independent Quarry and the Drill Hall as a unique centre for the community – providing facilities for creativity, leisure, education and interpretation all on the same site. The finished project will include a walk descending through geological time to the Jurassic sea floor; an amphitheatre; a stone maze/labyrinth; a sundial area and a naturally regenerated wildlife area.

Hannah Sofaer from the Portland Sculpture and Quarry Trust said *"This project represents Portland and everything that is rooted in its people, its landscape and its stone. It brings geology, ecology and culture together and shows how a community working in partnership with artists, designers, education providers and industry can jointly shape the design and sustainable after-use of the quarry landscape. This project comes at an important time of change for Portland and will help to create a dynamic way forward for future generations"*

PRESS LAUNCH * PRESS LAUNCH**

Plans for the regeneration of Independent Quarry will be unveiled on Friday 19th May 2006 from 9.15am, at the Drill Hall, Easton Lane, Portland. There will be opportunities to view these and interview representatives of all partners involved in the project, plus local MP Jim Knight and Mayor of Portland, Cllr Tim Woodcock.

Note to Editors

There will also be an Open Day for the public at the Drill Hall on Saturday 17th June 06, where the community are invited to join workshops that will run throughout the summer and will be able to find out more from the artists, geologists and other workshops leaders involved.

For full MIST report on the development of the Independent Quarry Regeneration Project, visit

http://www.mi-st.org.uk/section_c.htm under research projects - section C.

Release issued Monday 15th May, by Jacqui Guisborne, Marketing and Press Officer Weymouth & Portland Borough Council. Please call me on 01305 838383 or 07980 730073 to discuss your requirements.

For further information on all of the above, call Hannah Sofaer at the Portland Sculpture & Quarry Trust on 01305 826736 or 07913 952931

The Mayor of Portland, Cllr T J Woodcock

'I believe that the vision for Independent Quarry is a vital must for Portland and the UK. The bringing together of art, science and history in such a unique way is exciting and general benefit to all young and old students and tourists.

If I can be more specific in the detail:

- Firstly, for the community of Portland as a whole it gives reward for the toil and endeavours of our quarrying industry that is famous the whole world over, from early times, our imperial days right up to the present day. There is probably not a major city or country in the world that does not contain some Portland stone either in its civic or important buildings or sculptures. Such a park would allow the many foreign visitors that come to Britain each year a direct insight into their history and that of the stone industry.
- Secondly, this quarry project, and its uniqueness, enables people to see the geographical and geological history not in model or diagrammatic form, but as real and living thing to see, touch and work with. This concept is in perfect harmony with the Heritage and Jurassic Coast at which Portland is at the centre. With national support and recognition it will enhance the visitor concept for this World Heritage Site.

- Thirdly, the development of arts and culture within this site has to be one of the most forward thinking ideas of today. To develop a natural theatre within the quarry must surely be one of the most exciting and potentially rewarding ideas within the UK. To entertain and educate in such a unique way demonstrates how rewarding the regeneration of old industrial areas for different purposes can be.
- Finally, I believe this project is as exciting as the Eden Project in Cornwall, if not more so, and of national importance. It will provide opportunities for education at all levels from young children to college students, university graduates and those who want to seek careers in the stone industry. Bearing in mind that the National Sailing Academy is situated on the Island and that the 2012 Olympics sailing events will be here, and the amount of national and foreign visitors that this will bring to the area, it will give us this unique opportunity to promote British industry and history in a living form.

The team currently working on the project is dedicated and professional and I believe they need all the support available, especially financial. To lose such a unique opportunity through lack of support would be both unacceptable and detrimental to the educational and visitor opportunities here in the Southwest and especially Dorset and Portland'.

Cllr T.J. Woodcock

APPENDIX – D – Education Case Studies

PSQT working with Royal Manor Arts College

Education and Training

The Portland Sculpture and Quarry Trust provides a centre for the study of all aspects of stone and it's working at The Drill Hall, Easton. There is an extensive archive of both fossil records and the historical working of stone on Portland. Courses are offered for students of all ages, with content ranging from the study of the fossil record in Portland stone to teaching the practical skills of direct carving in stone.

Courses Offered

The History of Stone on Portland – Its Creation, Quarrying and Uses	KS2, KS3, KS4, KS5, FE, HE, Adult Ed
Fossil Records Within Portland Stone – Study Through Modelling, Casting and Drawing	KS2, KS3, KS4, KS5, FE, HE, Adult Ed
Basic Stone Carving Techniques (An Art GCSE course module at RMAC)	KS2, KS3, KS4, KS5, FE, HE, Adult Ed
Direct Carving in Stone	KS2, KS3, KS4, KS5, FE, HE, Adult Ed
Study of Uses of Stone by Contemporary Artists (Tout Quarry)	KS2, KS3, KS4, KS5, FE, HE, Adult Ed
Modelling & Casting Techniques	KS2, KS3, KS4, KS5, FE, HE, Adult Ed
Summer Workshops – Stone Carving	KS3, KS4, KS5, FE, HE, Adult Ed
The Geography and Geology of Portland and its Quarries	KS3, KS4, KS5, FE, HE, Adult Ed
Contributing to Higher Education Courses as requested by Universities (See list below)	HE
MA in Partnership with Brighton University	HE

- PSQT has close links with the vocational stone courses run by Weymouth College, and students regularly progress onto these courses after studying with PSQT.
- PSQT has strong links with, and has enjoyed ongoing support from, Albion Stone for many years.
- Local MP and education Minister Jim Knight has visited PSQT and expressed strong support for its aims and objectives.
- PSQT has for many years introduced students of all ages to the Stone Industry through its many and varied courses.
- Many students have progressed to careers working with stone in an architectural or sculptural setting.
- PSQT works with students from the Prince's Trust and hard to reach people in the community who have progressed to further learning

Developments

PSQT would like to further develop the existing close links with the stone industry by introducing more vocational stone working courses, handing on to a new generation the methods and skills employed by Portland stonemasons, quarrymen and dry stone wallers,

Higher Education

PSQT have worked with the following Higher Education establishments to provide an element for a course offered by the establishment – usually a BA or MA Degree course.

<u>UK</u>	
Architecture Association	Reading University
Birmingham Polytechnic	Royal College of Art
Bournemouth & Poole College of Art & Design	Ruskin School of Art
Byham Shaw School of Art	Slade School of Art
Camberwell College of Art	Southampton University
Cambridgeshire College of Arts & Technology	St Martin's School of Art
Cardiff University	Swindon College of Art & Design
Chelsea School of Art	University of Brighton
City & Guilds, London	University of Creative Arts, South East
Dartington College of Art	University of East London
Dundee College of Art	University of Leeds (Earth Sciences)
Goldsmiths College	University of Nottingham
Heatherley College, London	University of the Third Age
Kingston University (Landscape Architecture, Sculpture & Architecture)	University of the West of England (Fine Art & Architecture)
Humberside University	University of Westminster
Lancaster University	Weston College, Weston Super-Mare
London Guildhall University - Sir John Cass Faculty of Art	Wimbledon School of Art Winchester School of Art
Loughborough University	Wolverhampton University
Middlesex University	
Newcastle University, Architecture	
Norwich University	<u>OVERSEAS</u>
Nottingham Trent University	Alaska University
Open College of the Arts	Ecole Regional des Beaux-Arts de Rouen
Plymouth University (Architecture)	Ecole Superieure d'Art du Havre
Portsmouth University (Architecture & Geography)	Enschede University, Holland
	Frankfurt University
	Singapore University

Royal Manor Arts College – Dr Keith Bartlett, Quarries Case Study

Quarrying is one of our most important **primary industries** in that it obtains important raw materials that we need. Quarries can be referred to as **extractive** industries as the minerals they provide have to be extracted from the ground and the processes involved inevitably cause disturbance to the landscape. Minerals such as limestone, clay, chalk, sandstone, granite, sand and gravel are all extracted from quarries within the UK. On Portland it is the limestone that the quarry companies are extracting.

Quarrying as an issue can be studied as part of the National Curriculum for Geography or as part of a GCSE or A Level course.

There are many possible approaches to carrying out an investigation of quarrying within a locality. As with all investigations, time is a factor that will determine the approach or approaches to be used. Possible options include:

- Site visits
- Interviews with quarry managers/workers
- Questionnaires to be asked within the locality
- Photographs
- Field sketches
- Video/audio evidence
- Use of secondary data
- Environmental impact assessments

The environmental impact assessment is a very simple method that can be used with students aged 7-18, with obvious adjustments for the ability levels of the students concerned. To work most effectively the method involves visits to at least two different quarries which will allow students to focus their observations on the issues relating to quarrying and to promote discussion about these issues.

Preparation

Students should have some knowledge about quarrying before they start their investigation. There are several stages involved in quarrying, including;

- Finding the mineral and assessing the extent and the value of the mineral as well as the costs of extraction.
- Obtaining permission to extract.
- Preparing the site, clearing overburden, constructing roads, safety measures, etc.
- Extracting the mineral.
- Processing the mineral.
- Transporting the mineral to the customers.
- Repairing the site once extraction is completed.

There are also many issues relating to quarrying. As with any industry, quarrying has advantages and disadvantages for a locality. Students may discuss these before any site visit and it is likely that many of the following would arise in those discussions:

Advantages:

- Obtains raw materials we need
- Creates employment
- Brings money to the local economy
- Promotes employment in related industries (multiplier effect)
- Can become an educational/research site
- Brings recognition to an area (very true for Portland)
- Old quarries create new habitats

- Old quarries can become a resource (fishing lake, nature area, etc)

Disadvantages:

- Damage to the landscape (visual damage)
- Noise pollution
- Dust pollution
- Heavy lorries or other vehicles on local roads
- Destroys habitats
- Safety concerns if quarries are easily accessible or have steep edges
- Jobs lost when quarry closes

Students may well suggest other factors they would like to consider. Some quarry companies, for example, go to great lengths to screen their sites from view by planting trees or constructing a bund (an earth bank) around the site. They also repair, restore or enhance the site once the work is complete.

Method: The Hypothesis

An effective basis for the investigation is for students to tackle one clear hypothesis which will drive the study forwards. A multiple-hypothesis is not recommended as this approach tends to lead to fragmentation of the issues and students do not link key pieces of evidence together, instead they deal with each piece in isolation and they lose the 'big picture'.

A hypothesis is an assertion to be tested and has been described as the most powerful way of advancing knowledge. A good trick when constructing a hypothesis is to create a statement (not a question) relating to quarrying and put the word 'That' at the beginning.

Possible hypotheses include:

- That the quarries of Portland are good for the island
- That the quarries of Portland are bad for the island
- That the environmental impact of quarries can be reduced
- That the advantages of quarries are greater than their disadvantages
- That the disadvantages of quarries are greater than their advantages
- That quarries create more habitats than they destroy
- That old quarries provide a valuable resource for the locality

Data Collection

Once the hypothesis has been established, the data collection methods can be determined. Students should focus any questions to be used during interviews on the key issues and ensure that the data collected is quantifiable. Generalised statements and opinions can be very difficult to process and interpret. If a questionnaire is to be used, then the issue of open and closed questions must be tackled. Closed questions are often most effective as all responses can be readily sorted and processed.

Do not ask a member of the public '*What do you think about the quarries on Portland?*', ask them:

Q. '*On a scale of 1-10, with 1 being very bad and 10 being very good, how would you score the importance of the quarries to Portland?*'

Responses to the first option are very difficult to record, process and interpret. Responses to the second question require specific judgements to be made in a manner that is easily quantifiable.

A simple environmental impact assessment works exceptionally well with students of all ages. A sample of this method (sometimes referred to as a bi-polar analysis as it covers extremes of views/scores) is outlined below. In the 'Factors' boxes, any positive or negative features of quarries can be used.

Positive Features of Quarries

Quarry:..... **Location:**.....

Mineral:..... **Scale of quarry:**.....

Date:.....

In this instance 0 = very bad and 10 = very good

Positive Factors	0	1	2	3	4	5	6	7	8	9	10
Value of mineral obtained											
Jobs created											
Safety measures taken											
Attempt to conceal workings											
Attempt to repair or restore site											

Total Positive Score =/50

Students simply observe the quarry in question; they talk together and listen to any input from the teacher or group leader. They tick the appropriate box to indicate their opinions relating to these positive features of the quarry being studied. It is important to stress to the students that there are no 'perfect' or 'correct' answers. They must make their own decisions.

Now they repeat the process to record the negative features of the quarry.

Negative Features of Quarries

Quarry:..... **Location:**.....

Mineral:..... **Scale of quarry:**.....

Date:.....

In this instance 0 = very good and 10 = very bad

Negative Factors	0	1	2	3	4	5	6	7	8	9	10
Visual damage to the landscape											
Noise created											
Level of hazard											
Habitat damage											
Frequency of HGV traffic											

Total Negative Score =/50

Students simply observe the quarry in question; they talk together and listen to any input from the teacher or group leader. They tick the appropriate box to indicate their opinions relating to these negative features of the quarry being studied.

Students repeat the exercise at two different quarries. They now have scores, out of 50, for the positive and negative features of the quarries involved in the study.

Processing the Results

Students can use either the total positive and negative scores to graph their results, or they look at the individual factor scores. There are numerous ways of doing this and much will depend upon the age and ability levels of the students involved.

Interpreting the Results

Students often struggle with this, but a simple sequence for interpreting graphs which always works is this;

- 1) Introduce the graph
- 2) State the obvious
- 3) Quote figures
- 4) Offer reasons
- 5) Link to other evidence where possible.

Students use a range of hand drawn and computer graphic representations of their findings including, line graphs, bar charts, pie charts

For example, (1) Bar graphs that show the negative scores for Bowers quarry and for Tout quarry. (2) From this it is clear that Bowers quarry has a higher total negative score than does Tout quarry. (3) In fact Bowers quarry has a negative score of 33 points whilst Tout's negative score is only 17.

(4) This is because Bowers quarry is still active whilst Tout quarry is no longer operational.

(5) The photographs/sketches of the two quarries prove this point.

Once this has been done the students should be in a position to reach, and justify, a conclusion relating to their initial hypothesis.

University of Brighton – Report on Spring Research Group

Collaboration between the Portland Sculpture and Quarry Trust and the University of Brighton

Early in 2006 senior members of staff from the University of Brighton visited PSQT to develop further the opportunities identified in the MIST funded partnership between PSQT and UOB's Faculty of Arts and Architecture. The intention of the visit was to explore the wide range of disciplinary and interdisciplinary possibilities with particular reference to the potential development of masters level courses, PhD programmes and opportunities for university staff to work with PSQT, both individually or as part of a team. Our visit reinforced our views of this inspirational landscape and the wealth of opportunity it offers.

The Spring Research Group led by Professor Charlie Hooker, (Senior Researcher and Course Leader of BA (Hons) Fine Art Sculpture), also visited PSQT. This research group consists of members of staff from Brighton, Sussex and Reading universities. As well as the possibilities of an inspirational meeting place, the research group discussed the potential of PSQT hosting an arts/science event and the potential for meteorologists, geologists, artists and designers to work on collaborative projects.

Both groups were very grateful to PSQT for the informative tours and presentations conducted over the period of our visits.

Portland Presentation June 2006

Following the visits to Portland, it was decided to make a presentation to colleagues at the University of Brighton's Faculty of Arts and Architecture to consider specific academic and research links with PSQT.

The main visual presentation was given by Prof Charlie Hooker (Senior Researcher and Course Leader) with research developments presented by Prof Jonathan Woodham (Head of Research), academic possibilities presented by Karen Norquay (Head of School) and logistical issues and history regarding the current Extension Study given by Terry Hill (Technical Manager).

These presentations dealt with the background to UOB's links with PSQT through its Extension Studies programme. There was also an overview of the location and facilities, together with discussion and planning for potential developments.

In general, broad topics which might form the basis for research and academic courses were thought to be: Memory; Communication; Identity; Place; Curation; Art/Science collaboration; the Environment. Subject disciplines that might be used for this are: Architecture; Performance; Photography; Music; Film/Video; Painting/Drawing/Basic Printmaking; 3D Design/Sculpture; Sociology; Geology.

Prospects for both disciplinary and interdisciplinary work were discussed and also the AHRC Funded Collaborative PhD Studentships.

Staff showed interest in contributing to Units of Study, workshops and strategic research. At the meeting specific interest was expressed by the following:

Members of staff from Architecture expressed a particular interest in the possibility of being involved with the development and landscaping of the site at as early a stage as possible.

Senior Lecturer in Photography expressed an interest in undergoing academic research at Portland and intends organising a visit over the summer.

- Senior Lecturers in Visual and Performing Arts expressed a wish to build upon their collaborative performance work with improvisation methodologies using the possibilities of the unique acoustic properties of the stone.
- Principal Research Fellow discussed an early visit to Portland with a view to developing a possible event involving outdoor light projections.
- A Historian expressed a wish to explore the use of the environment as a retreat for conceptualising and writing.

Conclusion

Staff to write outline proposals to be reviewed in the weeks before the next academic year, followed by a series of visits to Portland by all concerned, to obtain a more in-depth view of the environment and facilities, from which research proposals, courses and projects and funding bids could be written up in the appropriate academic and research council formats.

Since the meeting, colleagues unable to attend have requested another presentation. This is to be scheduled in early September.

Senior members of Faculty staff to collaborate with PQST to support and contribute to a conference/symposium held at PQST in October 2006.

Update on ongoing University of Brighton activities with PSQT

In addition to the visits and presentations this year, the 3rd University of Brighton extension study took place in May 2006 with 24 undergraduate BA (Hons) students from across the Faculty of Arts and Architecture. The historical perspective for this extension study was informed by a visit to a working quarry and masonry works. Retired quarry manager and PSQT gave demonstrations of traditional quarrying techniques with a presentation by PSQT on Portland's geology, quarrying history and cultural heritage. A University of Brighton tutor visited the course during the extension study and discussed the project's scope for future extension studies. Technical Manager, Terry Hill, provided assistance in having a replacement hard drive fitted to a failed computer and is presently researching the rescue of data. In the interim he has re-instated the Trusts' email communications and installed a 500gb Lacie drive backup system purchased by the Trust.

Karen Norquay July 2006

Appendix (to Report on Spring Research Group)

Initial suggestions and observations for improvements to PQST accommodation to enable research and academic development to prosper: -

Upgrade the main hall, maintaining its flexibility as a potential workshop environment, but creating an exhibition space, which can accommodate performances and public lectures to a more professional standard. Improve seating, audio-visual equipment and lighting etc.

Develop the Artist in Residence facility and programme

Improve (and possibly expand) the current IT facility to include some G5 work stations with video and audio editing, as well as graphics/Photoshop etc. (There is a lot of stone dust on equipment and general surfaces. Doors and windows should ideally be fitted with good seals).

Continue to develop the website

Improve and utilise the upstairs studio. This could be a flexible 2D studio, presentation and seminar space. The space has a tower, which overlooks the island.

The area immediately outside the main building which currently has the loading bay building is due to be extended and could provide additional workshop and installation space. This extended accommodation is still in the design stage.

Consider the possibility of including overnight accommodation for group visits within the development programme.

Senior Lecturer in Illustration wishes to explore the possibilities of M Level units of study in drawing.

Karen Norquay July 2006

University of Brighton MA Unit

Unit Title: Site Specific Arts Practices

Status: Option Unit

Credits: 30

Level: Masters

Weeks: Summer Term – 7 weeks

Lead Tutors: Amy Cunningham & Alice Fox

Code:

Introduction

The aim of this unit is to provide opportunities for practice based research for a wide range of students, for example those working in the following areas: visual art, music, choreography, sound-art, theatre, creative writing, painting, sculpture, installation art, architecture, film, video and photography. This is designed to provide a rich learning environment for cross-fertilization between practices within the unique and inspiring landscape of Portland Sculpture and Quarry Trust.

The partnership with Portland Sculpture and Quarry Trust provides students with the opportunity to contribute to the ethos of PSQT, which is to harness intellectual rigor, investigating the history, politics, geology, geography, ecology, meteorology and astronomy associated with the Portland landscape and integrate the role of art into quarry regeneration in a 'hands-on' way.

This unit will consolidate and build upon the existing relationship between the University of Brighton students, academic staff and PSQT, and will benefit from insights gained at the pilot project stage.

The unit provides opportunities for further investigation into site-specific work, building upon prior knowledge and introducing this into a new context at postgraduate level. The unit provides students with the opportunity to take their practice-based research at Postgraduate Level to a wider audience, encouraging the exchange of ideas between peers.

We aim to encourage students to disseminate their work, which would normally be in the form of a symposium or equivalent, and would be open to all Postgraduate students and academic staff in the University of Brighton. Facilities are available at the Drill Hall for work to be shown as part of an on-going dialogue with the community, visiting artists and earth scientists.

This unit has a focus on practice-based research and will enrich the portfolio of MA units available in the Faculty.

Content

The unit will facilitate students in making and thinking about various aspects of site-specific art practice for example: culture of site, impact of human on land, perception of geological time, ecology, weather, romantic landscape relationship to functional Landscape.

In the context of Portland Sculpture and Quarry Trust, students may wish to redefine and explore the following activities: performance, music composition, choreography, sound-art, creative writing, painting, sculpture, architecture, film, video and photography.

Unit Aims:

To provide the students from a variety of arts practices with the opportunity to make site specific work and respond to the unique cultural and geographical environment of the Portland Sculpture and Quarry Trust.

To support students in exploring and developing practice based research at Postgraduate level alongside their peers.

To support students in exploring an appropriate manner for disseminating their work, widening debate in an interdisciplinary Postgraduate context.

Learning Outcomes

By the end of the unit students will be able to:

- 1) Identify and subsequently expand, amend, and critically appraise a set of actions in order to develop an approach to site-specific practice.
- 2) Investigate and apply site research such as environmental, cultural, geological, geographical knowledge, to their arts practice appropriately and with site sensitivity.
- 3) Critically and comprehensively document practical ideas and processes in a manner appropriate to support their future practice based research as artists.
- 4) Organise as part of a group, present and discuss the work created on site, normally in the context of a symposium or equivalent activity.

Transferable skills

Teamwork / Organisation / Negotiation / Problem solving / Presentation skills/ Research skills

Teaching & Learning Strategies

The unit involves an intensive practice based week on site including inductions, workshops, seminars, lectures and tutorials, which support student independent work.

The subsequent development of student independent practical research, reflection and dissemination is supported by group seminars and tutorials.

Learning Support Student Central. / Library facilities. / Computer pool rooms/multimedia suites.

Indicative Reading

Kaye, Nick **Site- Specific Art: Performance, Place and Documentation**, Routledge, New York, 2004

Robert Smithson: the collected writings, edited by Jack Flam, University of California Press, London; Berkeley, Calif, c1996.

Kwon, Mason **One place after another: site-specific art and locational identity**, MIT Press, London; Cambridge, Mass, c2002.

Performance and place, edited by Leslie Hill and Helen Paris Palgrave Macmillan, Basingstoke, 2006.

Malpas, William **Richard Long: the art of walking**, Crescent Moon, Kidderminster, 1999.

Stanier Peter '**Quarries of England and Wales**' Twelveheads Press, 1995

Schama Simon **Landscape and Memory**. Vintage Books USA. (1996)

Schwenk Theodor **Sensitive Chaos**. Rudolph Steiner Press 1996

Official Guide to the Jurassic Coast. Edited Prof Denys Brunsden. Coastal Publishing. 2003

Ensom Paul. **Geology (Discover Dorset)** Dovecote Press 1998

Morris Stuart **Portland – an Illustrated History**. Dovecote Press 1985

Morris Stuart Discover Portland: **A Guide to Walking and Exploring the Island**. Dorset Books 1994

Vitebsky Piers. **Sacred Earth – Sacred Stones**. Duncan Baird Publishers (2001)

Materials

Natural materials were provided by PSQT with access to quarry environment, exhibition and workshop space

Presentation equipment: Video/DATA Projectors, DVD, monitors, sound system and playback facilities.

Equipment for documentation: audio/visual recording equipment to be supplied by students and/or booked from the media centre at University of Brighton / or the Portland Sculpture & Quarry Trust.

All additional materials to be supplied by students appropriate to their individual research practices.

Technical Support Students will be inducted into on site health and safety including use of basic tools by trained staff at PSQT.

Technical support delivered by appropriate technicians. Students may select from inductions provided in the following: still camera, video camera and editing, sound recording and editing, Photoshop, and presentation equipment. As this is an Option Unit we would expect some students to use the technical skills gained from core units.

Assessment/Evidence of Study Site-specific practical work

Documentation of the site specific works and subsequent development in the form of text, reflective diary, photography, moving image, sound, performance.

Presentation of practical and critical research to the cohort, and participation in subsequent discussion.

Assessment Tasks Formative and summative assessment of practical site-specific work, documentation process and symposium or equivalent activity

Assessment Criteria Presentation of the above evidence of study will be matched against the learning outcomes. A student demonstrating all the learning outcomes will achieve a pass.

A student who demonstrates the following will achieve marks in a higher band of assessment:

- Demonstration of a considered and sophisticated relationship between their practical site-specific work, the documentation process and the dissemination of work and ideas.
- A proactive and professional approach to the group dissemination process.
- An analysis of the wider context of site-specific practices.

Final Work Students will be required to provide PSQT with a copy of final work as hard copy and /or in digital format / DVD / CDROM for the Living Land Archive. Exhibition facilities are available at the Drill Hall for students to show work and/or documentation processes as an important aspect of opening discussions with the local community.

The Oolith Project is a collaborative research project in partnership with the Portland Sculpture and Quarry Trust based in Portland by Connall Gleeson, Amy Cunningham and Claudia Kappenberg from the Performance and Visual Arts Academic Programme at the University of Brighton.

The project uses the context of the quarry environment and will utilise PSQT connections with earth scientists, community and the stone industry.

The project builds on our collaborative performance practice and aims to respond to the unique landscape, geological facts and the particular history of Portland. Working with the 'living land archive resource', which has been instigated and developed by Hannah Sofaer over two decades. The three strands of research include:

- the development of units of study for a Postgraduate Course by the Academic Programme in Performance and Visual Art
- the development of a strategy for exhibiting the archive, in order to facilitate an ongoing dialogue between the documented material and its site of origin and to create a basis for an ongoing engagement by future generations of visitors and researchers.
- a series of performance interventions and installations, which aim to draw out information from the landscape and its materials and articulate links between mineralogy, quarry processes and cultural histories.
- in particular the research comprises an investigation into the unique acoustic properties of Portland stone and local quarry songs, as well as an exploration of visual records of the quarry processes. Different methodologies will combine and contrast past and present, the small and the large, singular events and their wider context.

The project will develop methodologies for arts and science collaborations and contribute to an integration of the site into the local, regional and national cultural landscape.

Claudia Kappenberg. 19th January 2007

Chelsea School Of Art – Interior and Spatial Design

University of the Arts London Chelsea College of Art & Design B.A. [Hons] Interior and Spatial Design / Stage 3 2006/7	
PLATFORM 1 Tutors: Matthew Higgins & Takako Hasagawa	

Landscape and Memory



We are the children of our landscape; it dictates behaviour and even thought in the measure to which we are responsive to it.

LAWRENCE DURRELL

In the first instance our mind is activated by the perception of natural things. Later, the stimulus comes also from the things we ourselves make, but the forms of nature remain always the objective starting point of our making: here art connects with and completes the natural creation.

H. VAN DER LAAN

INTRODUCTION:

Britain's 'natural' landscape frequently reveals itself to be man-made, modified by successive waves of human activity and occupation over time. This is an on-going process, presenting a pattern of continuous transformation in response to successive interventions. As designers we are used to treating 'context' as an immutable backdrop for our creative vision. By contrast this platform will address the transient qualities of both landscape and function as fixed parameters in the design process. We will consider change, decay and regeneration as relevant factors of design; we will explore the abstract or empathetic relationship of architecture to its location; we will emphasise the designer's response to social and historical contexts.

The location of our project will be the Isle of Portland: a small peninsula of land measuring 3km by 7km connected to the Dorset mainland by Chesil Beach, Britain's only UNESCO designated World Heritage Coast. Portland is famous for many activities, most notably stone quarrying that has transformed the topography of the landscape over a thousand years. Other associations with Portland are smuggling, fishing, military fortifications from the 11th century to the present day, and incarceration (there are two prisons on the island).

Recent closure of the naval base and the decline of its traditional industries now present Portland with the challenge to develop an alternative future based on landscape, heritage, and leisure opportunities.

Last year we focused on a number of disused quarries in the centre of the island. This year we will investigate two coastal routes. These include, *inter alia*, the remains of railway lines and viaducts, military installations, tank testing ranges, loading jetties, quarrying spoils and prison facilities.

You will undertake a series of small-scale, site-specific interventions within sites available to the Portland Sculpture and Quarry Trust. These interventions will respond either negatively or positively to the layered history of the locality while being functionally orientated towards Portland's future. Your designs will acknowledge the process of time, adaptation, re-use and eventual assimilation through decay into the landscape.

UNIT 3A

CONTEXT & CONDITION

[Note: Please refer to the Course Handbook for Learning Outcomes for this Unit.]

The first term will begin with a two-day site visit to Portland. We will walk the two routes and map points of personal interest or resonance using written descriptions, photographs, sketches, measured drawings, rubbings or any other media. This is an opportunity for you to respond to the qualities of the landscape in advance of any detailed research, i.e. free of preconceptions. Your mapping work should be contained within a bound sketchbook that will be developed during the year to include sketch designs, precedent material and notational information.

On our return to London the platform will divide into four groups to undertake a two-week site research exercise. The topics will include topography, geology, weather, history and industry, together with plans for the island's future development. This research will focus on information that is relevant to the coastal routes and will include group models of the two locations.

The remainder of the term will be devoted to the design of a 'micro' installation – this may be a self-contained proposal or a fragment of a larger vision. The intention is to explore the potentiality of the site through the use of, and response to, the island's materials, weather conditions and general setting. Your designs will take into account a range of conceptual precepts such as durability or fragility, the creation of enclosures within a landscape environment, options for static or kinetic forms, flexibility or specificity of use, the potentiality of Portland stone as a building or sculptural material, the response of built form to nature and the elements etc. The second purpose of the exercise is to guide you in the selection of a site or sites for the major project of the year.

Funds and logistics permitting we may hold the final January crit for this piece on Portland at the Drill Hall exhibition space, with guest critics from the Portland Sculpture and Quarry Trust (see website references below).

UNIT 3B

RESOLUTION & DEPICTION

[Note: Please refer to the Course Handbook for Learning Outcomes for this Unit.]

Following the January crit you will reform into two groups to address each of the coastal routes. Drawing upon the previous term's work the groups will prepare a coherent, mutually agreed masterplan that defines the means of access, routes, vistas and project boundaries that bind together your individual briefs and design approaches. You will be expected to discuss, develop and, if necessary, defend your initial design concepts within this group context. Remember that each coastal route is a large canvas, where proposals can be closely intertwined or remotely located. This stage of the programme will last four weeks with an initial presentation at the February 'super-crit'.

For the remainder of the Spring term you will develop your individual proposals. By the end of term you will be expected to have a well-developed scheme design that encapsulates the salient characteristics of the proposition. This stage will be completed by March 16.

During the Easter break and Summer term you will focus on the spatial and (as appropriate) interior qualities of your proposals, with the freedom to dictate your own depictive and analytical approach to the design programme. These may include, for example, studies of how your proposal will transform over time, how it mediates the behaviour of users, how the design's concept is sustained in its detailed resolution, how it

encompasses or resists the environmental characteristics of the site, and so on. This term is your opportunity to explore your design and use innovative media free of a prescriptive agenda.

The work of this platform is intended to stimulate debate beyond the confines of Chelsea. It is our intention to publish your final designs, in conjunction with selected projects from last year, for final presentation or distribution to key members of the Portland community and the local press. In this way your vision can make a tangible contribution to the island's future.

REFERENCES:

Background reading will be discussed at the first group meeting. The following provide a good grounding on Portland's history, geology, industry and future plans:

PORTLAND INFORMATION

(Note: Some may be out-of-print. Refer to <http://www.abebooks.com/> for available copies)

Kemp John **The Book of Weymouth and Portland** Nigel J Clarke Publications, Dorset (ISBN: 0907683320)

Morris Stuart **Portland Camera** Dovecote Press, (1990) (Anthology of 19th and 20th century Portland photographs) (ISBN: 0946159793)

Whitworth Alan **Portland: An Island History** Island of Portland Heritage Trust, 1988 (ISBN: 0951322206)

Discover Portland: A Guide to Walking and Exploring the Island. Dorset Books, UK, 1994 (ISBN: 1871164206)

Stanier Peter **Quarries of England and Wales.** Twelveheads Press (1995) (ISBN: 0906294339)

Schwenk Theodor **Sensitive Chaos.** Rudolph Steiner Press. (1996) (ISBN: 1855840553)

Schama Simon **Landscape and Memory.** Vintage Books USA. Reprint edition (1996) (ISBN: 0679735127)

Vitebsky Piers **Sacred Earth – Sacred Stones.** Duncan Baird Publishers (2001) (ISBN: 1903296072)

WEB-BASED INFORMATION

<http://www.geoffkirby.co.uk/Portland/>

Detailed information about the Island in general, with many current and archive photographs.

<http://www.soton.ac.uk/~imw/portnew.htm> Very detailed analysis of the Island's geology.

<http://learningstone.org/> Portland Sculpture and Quarry Trust site.

<http://www.livingquarry.org/> PSQT MIST5 Website

<http://aboutstone.org/> this links to the PSQT stone sculpture virtual library

<http://aboutstone.org/vl/> and stone conversations <http://aboutstone.org/conversa/>

developed by Rick Crust Diversity Studio

<http://www.weymouth.gov.uk/> Borough Council website with current information about Portland

KEY DATES:

Term 1 Portland Site Visit :

Week commencing November 6

Group Research Exercise:

Interim presentation week commencing November 20

Term 2 Crit: Presentation of 'micro' installation proposals

Week commencing Jan 8 (provisional venue: Portland)

Super Crit: Initial presentation of coastal proposal

Week commencing February 5 (venue to be confirmed)

Crit: Presentation of scheme designs

Week commencing March 12 (venue to be confirmed)

Term 3 Interim Crit: Review of topics for further investigation

Week commencing April 16 (venue to be confirmed)

Final Crit: Presentation of completed proposal

Week commencing May 21 (proposed venue: ISD Triangle space)

Publication: Preparation of artwork and text

Week commencing May 2

Neighbourhood Learning in Deprived Communities (NLDC)

Community case study (1)

Description of learner / their background [learning history]

Mark recently moved to Portland with his family from an inner city area and had no previous experience of carving stone or knowledge of the quarries geological and cultural history.

Learning new skills through CBL/NLDC

The stone carving workshops developed an interest in natural forms, and produced a series of work based on the geometry found in the growth and structure of plants. This became a starting point where Mark developed a series of geometric designs cut into stone corresponding with patterns found in plants and the Fibonacci series that gives rise to the spiral form as found in ammonites. His work has resulted in patterns and structures using triangles, polygons (pentagons and hexagons) and circles. Traditionally, these forms are given the name of 'star panels' and are used in carved architectural detail and motifs. In a wider context they relate to the 'golden section'. Mark has created work the showing the similarity between structures in nature and architecture.

PSQT introduced Simon to a range of different skills, moving from the carving of architectural detail to letter cutting, three-dimensional and relief carving. Mark was taught how to incise his designs using letter cutting techniques, where the angles cut in to the stone find there own depth in the meeting points of carved surfaces. He was able to produce a substantial amount of work and carved a large version of the PSQT logo. The carving was photographed and used in the Trust's current brochure.

Outcomes

The courses resulted in Mark developing his new skills to a point where he was able to assist the Trust with letter cutting projects. His work formed part the MIST 5 display at the Natural Stone Show 2006, London, Docklands ExCel, and he has begun to develop images and text towards a book on his learning process.

The stone carving courses led to an interest in the geology and geomorphology of Portland and the wider aims of the PSQT project for the regeneration of Independent Quarry and the Drill Hall as a centre for all aspects of stone. The programme enabled Simon to attend lectures, design workshops and seminars involving geologists, architects, anthropologists, local schools and students studying at BA, MA and research levels.

Community case study (2)

Description of learner / their background [learning history]

Kay aged 22, was introduced to the '*Cultural Landscape, Stories of the Earth*' as a community based learning project encompassing the history, geology and environment of Portland, with opportunities for training courses and learning new skills.

Her first introduction to the courses involved a series of drawings that would develop into 3D stone carvings based on different shell structures. She gained confidence and ability to develop her own ideas during summer 2006 through painting, clay and stone carving courses, where she worked on drawings and carvings of a series of spiral shells.

Outcomes '

Kay met people on the course who were from different backgrounds and age groups and has subsequently gained a real interest in enrolling on further educational courses. Kay volunteered help in the preparation of exhibitions and seminars and was involved in organizing the project launch day attended by the press, guest speaker, project partners attended by approximately eighty people from the community.

Appendix -E- Paul Ensom Additional Report

Interpretation Potential of the West Face of Independent Quarry

INTRODUCTION

The face has been quarried back to a final line and along with the rest of Independent Quarry, will be signed over to the PSQT for a 50-year lease. The project commences in 2007.

The PSQT are seeking to use the west face, immediately below and running to the south of their premises in the Drill Hall, to develop a *walk that descends through geological time*. As part of that development, they are intending to use some of the geological and geomorphological features preserved in the face to provide interpretation and research potential for visitors with a variety of levels of knowledge and expertise. These will include those who have no previous knowledge of earth sciences, and at the other end of the 'knowledge spectrum' there may be undergraduate and postgraduate students with a good knowledge base and for these, the aim is to provide ideas for possible research. For the latter category, there is a need to appreciate that Portland has been studied over a period of in excess of 150 years, and the suggestions made here will need to be developed with those active in the respective research fields (e.g. University of Leeds) to ensure that the suggestions are original and workable. If pursued, these strands are almost inevitably finite and answers to questions will be found. As with all research, there may be 'spin-off questions and ideas' which require further investigation. Doubtless there are other topics that could be investigated; the ideas below are very unlikely to be comprehensive!

PREAMBLE

Observations on the quarry face: The face as of the 31st January 2007 has sections that are partially obscured by quarry waste including clay and rubble (in the northern 'amphitheatre' below the Drill Hall), and large blocks of stone (below the patch reef – see Figure 1). The face itself is of a very variable nature, with stone banked in earlier quarrying operations at the southern end, a valuable interpretive asset in its own right, rough and sawn surfaces, and varying amounts of detritus which have spilled down from poorly consolidated overburden and an earlier phase of 'waste disposal/tipping'.

In order to use the face's full potential for both interpretation and research, amongst all the various H&S and other considerations, the following should be noted:

Falling debris. There is a need to ensure that there is no threat to both the visiting public and researchers from falling debris, both from the overburden and from the face itself. Mesh may need to be applied to the overburden area and loose debris and fractured rock will need to be dislodged from the face. Mesh may be required on some areas of the face.

Exposing and maintaining exposure of the details preserved. The face, once the banked debris is removed and the face is exposed, will require thorough cleaning to remove loose debris and other contaminants. Cutting muds generated when blocks were being sawn have penetrated fissures and a white 'limestone' mud is sometimes present on top of fissure deposits. Sympathetic cleaning of fissures and caves will be required so as not to remove the potentially interesting sediments preserved in them.

Access. The visitor will need to be close enough to the face in order to see the details preserved – some of which are very small, but kept far enough away to stop them being injured, or causing either accidental or deliberate damage – especially in relation to the cave. Special access arrangements for researchers should be a part of the design brief.

Though outside the scope of this study, I suggest that the most effective form of access would be the construction of a 'gently' sloping steel walkway, which provides access to both disabled and walking public alike. This would take in key features along the face (Figure 2). The ramp could also carry pipe-work to provide a supply of water for periodic pressure washing to remove algae and other organic build-ups in addition to the inevitable soil wash which will be brought down from the overburden levels above. N.B. Consideration will need to be given to the handling of the washings at the foot of the face.

The beds exposed could be sympathetically labelled

THEMES FOR INTERPRETATION:

There are several, and often interrelated, strands which lend themselves to the provision of interpretative schemes. Some of the topics are appropriate for the development for the non-expert, and some for a research-based approach by students or others. Leeds Earth Science students are a case in point, and they are likely to have a positive input into the project both in the short and longer term.

I believe that there are a number of research topics which could be developed. They are noted below.

The topics are as follows:

THE PORTLAND FREESTONE MEMBER – DUNES/SAND* WAVES:

The presence of examples of dunes/sand waves in the Whit Bed provides a number of opportunities for investigation by the non expert:

* NB Sand is used throughout to denote a calcarenite (calcareous sand).

INTRODUCE RIPPLE MARKS, DUNES AND SAND WAVES

Use a flume tank (water is pumped along a flat bottomed, glass sided, tank in which there is sediment, white sand and a less heavy fraction of ground up coal, to show how ripple marks and even larger dune/sand wave structures form. Different depths of water and flow rates are used to produce different forms

Illustrate different ripple marked surfaces and larger dune/sand wave structures

The chert (the black flint-like rock) picks out the sedimentary structures

Q. Using the pictures, and or the flume tank, what can you say about the conditions in which these structures may have formed?

Use the chert to help calculate the size of the dunes/sand waves

Amplitude (= height = vertical distance between trough bottom and top of dune)

Wavelength (= distance between consecutive crests, or trough bottoms). NB This cannot be done as there are not two crests/troughs

A. These structures were formed by a reasonably deep flow of water. The water must have been at least as deep as the dune is high. Researchers/students at Leeds University wonder if storm conditions may have been responsible (*vide* Robert Anderson 27.02.2007).

Q. Can you work out the orientation of this structure?

A. No - not accurately as the exposure is only 2-dimensional and the dune/sand wave could be cut at a variety of angles!

Help the viewer to understand that they are seeing these dunes in 2D not 3D

What are the limitations of seeing them in 2D?

Possible, often interrelated, research topics arise from the following questions:

Q. What relationship do the dune/sand wave structures have to the patch reef?

Q. What has triggered chert formation along surfaces of the dune/sand wave structure?

Q. Where has the silica come from? Siliceous sponges are a probable source – and have been considered the source of chert in the Portland Cherty Series – but is this so here?

Q. Examine the vertical and horizontal distribution of chert in the Base Bed, Curf and Chert, Whit Bed, and Roach. Is the chert controlled by different sediment types?

Q. Is there evidence to suggest sea floor modification with truncating of dune/sand wave structures before chert deposition? The lateral chert developments appear to be truncated.

Q. What is the relationship of the chert to the patch reef?

Q. How do these structures relate to others in the Whit Bed at the Broadcroft Quarry complex and at Bowers Quarry? What is the orientation of this structure?

THE PORTLAND FREESTONE MEMBER – PATCH REEFS:

The sectioned patch reef has much to interest a visitor without specialist knowledge.

Explain why this particular reef is so special – i.e. it is sectioned.

Contrast cut with uncut surfaces of patch reef . Is it easier to see and understand structures when they are cut?

PATCH REEF BUILDERS:

A patch reef is a wave-resistant framework, of limited extent, constructed of organisms, which in this case are marine. Commonly, the framework is in turn colonised by other organisms – including borers (organisms which bore into hard substrates) and encrusters (animals which colonise the surfaces of shells).

Q. What organism do you particularly associate with a reef?

A. The answer will probably be coral.

Have examples of sectioned fossil corals on show. Show examples of other reef types.

Q. Can you see any corals in this reef?

A. Should be NO.

N.B. In the past, a variety of organisms have built reefs, and there are ‘reef’ builders other than coral in today’s oceans.

Q. How many different organisms can you identify in the sectioned reef?

Provide pictures and or specimens to help with this. Will require access route to be in place to check out what is visible.

GEOPETALS:

Explain what a *geopetal* is, i.e. a way-up indicator in a rock, like a fossilised spirit-level.

Q. How might something like this come to be preserved in the fossil record?

Explain how the equivalent of a builder’s spirit-level comes to be preserved in sediments.

Q. Can you see any geopetals in the preserved reef?

A. There should be examples.

Q. What is this telling us about the reef?

A. If geopetals are found with their fills at angles contrary to the bedding of the strata, they have obviously been tilted after their fills became hard. This would tell us that parts of the reef have been disturbed/broken/slumped.

Possible, often interrelated, research topics arise from the following questions:

Q. When did the patch reef(s) first develop?

Q. What is the patch reef's (reefs?) relationship to the dune/sand wave structures?

Q. What is the patch reef's relationship to the sediments around it?

In this context, what is the distribution of chert in relation to the patch reefs within this sequence?

Q. What is the relationship of the Roach to the patch reef and to the Whit Bed?

Q. Are geopetals preserved within the reef's framework and are they consistently orientated?

Q. How does this reef fit in with what is known of previously described patch reefs on Portland (Fursich, Palmer and Goodyear 1994, *Palaeontology*, Volume 37, pp.131-171), and with those preserved in the face below the Grove road?

Q. What are the organisms that make up this reef and are the significant differences to those described by Fursich *et al.*?

CAVES AND FISSURES IN THE PORTLAND FREESTONE MEMBER:**For the non-specialist there are various questions which can be asked:**

Explain that the fractures in the Freestone Series represented by relatively smooth vertical surfaces are joints.

Q. Do the visible joints exhibit preferred orientations?

A. Provided joints are visible – yes, they do.

Q. Do the joints control the distribution and orientation of fissures and caves?

A. Yes. They are lines of weakness along which water percolates, both dissolving and depositing calcium carbonate – the mineral of which the limestone is composed.

Q. What significance do the joints have for quarrying the Portland Stone?

A. They provide an invaluable aid for quarrymen to remove stone.

Q. Can you see any clues which allow you to determine how much limestone has been dissolved from this fissure?

A. Yes. [There is one fissure which has shell debris standing proud, indicating how much limestone has been removed].

Q. Is this removal of limestone unusual? Do other fissures tell a different story?

A. In this context, this appears unusual. Other fissures often have 'stal' or speleothem deposits over their surfaces.

Q. Can you suggest a reason why the cave has formed where it has?

A. There seems to be a close relationship to the development of chert in the horizon called Curf and Chert.

Q. Do you know which is a stalactite and which is a stalagmite?

Possible, often interrelated, research topics arise from the following questions:

- Q.** Is the cave (or caves if others are exposed) vadose (formed by passive water percolation above water table) or phreatic (formed below the water table where passages are full of flowing water, often under pressure) in origin?
- Q.** What was the direction of water flow, and how do caves in Independent relate to other cave systems on Portland?
- Q.** What controls on cave and fissure formation have there been?
- Q.** What are the compositions of cave and fissure fills? Sedimentological studies are required of the fissure and cave fills.
- Q.** Are there clasts/derived fragments of the overlying sediments (i.e. sediments now missing from the top of Portland?) preserved in these sediments?
- Q.** Could stalactite and stalagmite formations and other speleothems provide useful samples for dating studies to be carried out?

APPENDIX – F – PSQT EDUCATION POLICY

PSQT Education Policy

The Portland Sculpture and Quarry Trust is a registered charity with the object (from the Memorandum of Association):

“To advance the education of the public by the encouragement of study, research, practice and knowledge of the arts and sculpture, thereby stimulating public interest in these and other related artistic and cultural fields, and of the environment, geology, geomorphology, archaeology, culture and heritage of the Isle of Portland, Dorset and other regions in the UK and elsewhere.”

The core activity of the Trust is in providing access to the quarry landscape as a creative/educational resource, through formal, non-formal and Informal education. Educational programmes incorporate the arts, earth sciences, cultural heritage and environment as primary sources in a cross-disciplinary approach to learning and discovery. The Trust works with groups from the full range of the educational sector, the general public (regionally, nationally and internationally), the local community and a wide range of special interest groups.

The education policy of the Trust is to provide access and understanding of:

- how the Portland landscape has been shaped by generations of quarrying
- earth sciences interpretation of previous environments and fossil record illustrating environmental change
- carving skills and hand tools in the working of Portland stone for sculpture, architectural detail carving, masonry and letter-cutting
- the distinctive culture of Portland's oral histories, personal working histories, of both quarrying and fishing, stone-working experiences and knowledge of the quarry environment
- the uses of Portland stone in art, architecture and design and identification of quarry sources.
- the relationship between the ecology and geology and natural regeneration and re-colonisation through the design and creation of new habitats and micro climates
- sustainable energy solutions that utilise natural resources of wind, water and sun

The core education activities and programmes organised and delivered by the Trust aim to:

- provide engagement with the quarry environment, working with stone in its place of origin
- develop individual creative ability at all levels, encouraging originality in the expression of ideas through the development of ideas using stone, audio-visual recording, sound recording, digital photography and information technology
- create a learning environment that is non-competitive and supportive of individual needs enabling personal development .
- exchange ideas, skills and knowledge between disciplines and different interest groups (e.g. arts, performance, earth science, ecology, community, the full range of the education sector, architecture, landscape design)
- provide an understanding of and creative engagement with the cultural heritage of stone-working on Portland, and how this has shaped the community
- raise awareness of preserving Portland's twin traditions of knowledge of the stone and the sea: its stone working, geology and ecology.
- Include access for all regardless of age, ability or ethnic background (in keeping with the Trust equal opportunities policy).

The Trust aims to make its educational activities open to all irrespective of status or ability, including:

- local, regional and national schools at National Curriculum and external examination levels
- local community, including young people from disadvantaged backgrounds and youth groups
- colleges/universities and research students (including validated courses)

- general public (Learning for Life)
- special interest groups in the arts, geology, environment and ecology
- people from all walks of life / backgrounds / age-groups/ families, groups and individuals
- young people and adults with special needs / learning difficulties
- people with, disadvantaged circumstances and backgrounds
- continued professionals development (CPD), including teachers, landscape architects, architects, university and college lecturers, mental health workers, etc.

The Trust's policy for education is based on its experience of developing creative and education initiatives in the quarry environment in consultation with users, non-users, staff and other stakeholders, including:

- Local community
- Educationalists from all areas of education and learning systems locally and nationally including the Portland Pyramid Teachers Network
- Student groups across the National Curriculum Key Stages, further education, undergraduates and post graduates
- Dorset Adult Education Service
- Dorset County Council World Heritage Coast Team
- Dorset County Council - Cultural Services and Mental Health Services (e.g. Carlton Road);
- Weymouth and Portland Borough Council
- Chesil Education Partnership
- Ridgeway Centre for Adults with Special Learning Needs
- Work Experience Placement Service
- Jurassic Coast World Heritage Site
- Local quarrymen and stone masons
- Dorset Wildlife Trust
- Local naturalists
- Royal Manor Arts College
- Arts Council England South West
- Visual and performing artists

The Trust aims to provide and maintain resources, materials and facilities of a high quality for different levels of learning and educational needs, providing access through appropriate activities, media, language, images and text, making provision for the needs of visually and hearing impaired participants. The facilities and resources include:

- continued development of multi-disciplinary / cross-curricula approaches to learning about heritage through the arts and environment
- school activities and resources linked to programmes of study in the National Curriculum
- audio-visual recording and editing facilities
- well equipped indoor studio/workshops with lifting equipment and tools
- outdoor workshop facility in Tout Quarry
- exhibition and display spaces (indoor and outdoor)
- broadband access to internet
- printed and visual and sensory materials using suitable language and images for different age and ability groups
- fossil collection and geological samples from the Portland strata
- access to working quarries to look at quarrying processes and changes in quarrying technology
- walks and talks programmes to provide understanding of natural regeneration of quarry environments
- portfolio of photographic and oral histories.

The Trust will monitor, evaluate and review the policy, and the relationship of the education policy to all other policies, including equal opportunities and health and safety. Evaluation will include:

- monitoring by an education steering group responsible to the Trustees and by tutors/teaching staff and assistants engaged in delivering the policy
- ensuring the right of access set out in the Trust's equal opportunities policy
- documenting and recording the numbers of user groups and visitors
- documenting feedback from user groups used to evaluate the quality of activities and inform best practice
- recording requirements for group/school visits with special needs.

APPENDIX – G - John K. Grande – writer on Art and landscape

TOWARDS A SUSTAINABLE CULTURE: Portland Sculpture & Quarry Trust

As a global identity can encourage understandings of many cultures, many peoples, so a culture specific identity rooted in the geospecifics of place and history can add true depth to this equation. The Portland region, is fascinating, particularly for the evolution of its landscape, emergent from the seas, the forest growth and eventual disappearance. All this carries a history whose scale is enormous, and within which the human adventure arrived relatively recently.

The Portland Sculpture Quarry Trust offers a variety of potential developmental directions to ensure future viability. A new landscape is an old landscape with a new vision. That vision accompanies various shifts in expectation and interpretation and this, in turn, is influenced by the changing nature of economies in the 21st century, particularly in First World nations. Given the available resources and experience of peoples working there, I believe the educational, touristic and business components when brought together can ensure an ongoing viability and potential for this to develop into a site where visitors and local people can engage in the development of something unique. Biological, geological, and multiple varieties of historical and actual features will engender a sense of a performative, productive resource site.

An arena could be built within the open quarry area below the Drill Hall when the mining (quarrying) ceases in its entirety. This arena-like facility could be used to facilitate theatre, video projections, film, and artists' performance, with a natural seating system. As well, the walkways leading down to and around this site could eventually be developed to ensure that the relief sculpture imagery of typical London building facades made of 140 million year old Portland limestone. These include over 50 London churches designed by Sir Christopher Wren, the British Museum, New Scotland Yard, the Whitehall Cenotaph to name but a few examples. To swop back building façade relief, and either project these at night or carve these onto the stone would facilitate educators in their explanation of the relation between materials and architecture, and the important history Portland played in the development of British architecture as a primary resource provider.

The architectural component, however this is presented (even along newly constructed walls, that would likewise include interpretive texts in poetic or descriptive style) would be a permanent reminder of the transition from natural stone to eventual architecture. Indeed the quarry itself is a kind of inverse architecture, the result of extractive processes. These processes are now to go into reverse with attempts at re-engendering natural elements, growth species and biological and botanical specimens that encourage some understanding of the permacultural and ongoing relatedness of species to site. Indeed, as species of plant, and tree, are related worldwide, so specific hereditary plants and flower species can be encouraged, likewise encouraging moth, butterfly and bird species to return to their habitat.

As ecological awareness continually reminds each of us, nature itself is the economy on which we build our civilization(s), and economies. The process is quite a challenging one, and with photographic, documentary and material and quarry tool archives, the museological component could be encouraged further, developed into an outright museum, either at the PQST or as a compliment to this within the village proper. Likewise the sculpture programme can be extended to feature new works on site by international, European and British sculptors under the guidance of an art and ecology specialist and curator.

The central issue that would be extended to sculptors and artists visiting the PQST would be their ability to commit time to the site, to understanding something of the history - both human and natural – that is part of the site - and to work at developing unique expressions around this. The permanent works that result would be on view for visitors to Portland. Further, a publication could be produced that catalogues and explains the development of the on site sculpture collection which is quite extensive already. This could be available in several formats – brochure, catalogue, website or pamphlet – depending on the specific use required.

Likewise the Jurassic coast fossils, part of the 150 million years of earth history present at the Tout Quarry, could be integrated as either an architectural feature or an exhibition feature on the PQST grounds. The landscape has undergone several extensive shifts and changes over time, and is endlessly revolving over the centuries from natural, to transformations due to mining.

Given the World Heritage Site status that the Dorset and East Devon Coast has acquired, and the fact that the region is the finest in the world to engage in studying a history that extends through the Triassic, Jurassic

and Cretaceous periods of geological time, being of interest to palaeontologists, geologists, and geomorphologists, the Portland siting is ideal for developing both didactic and demonstrative tourist facilities that would encourage further exploration along the coastlines, and general tourist region of Dorset and East Devon.

It is only by fostering an understanding of our relation to nature, to permaculture and the history of the human experience that we can develop an adaptability, a living basis for redevelopment of old resource sites and placements. The PQST can be an expository prototype for a renewed respect for resources, a model for sustainability emergent out of a site that once represented resource extraction at its most elemental. A respect for the environment, for sustainable models for interactive education and demonstration of these principles will be demonstrated through education, and new model prototypes for a permacultural architecture that could utilize stone with other emergent and recently developed materials. Architectural models or design maquettes, could be available on site for viewing by visitors, either on a seasonal basis or in more permanent and integrated settings.

The PQST, for its future projected development will embody a connectedness to nature, a holistic and ultimately physical environment, where the energy of life is celebrated through positive affirmation of the best values, accompanied by the many layered history and structures of natural and man-made experience that this place has experienced over time. The volatile endlessly changing character of nature, and of the landscape this site is part of, will make visitors all the more aware that nature, of which the human species is part, is an open and versatile, endlessly changing system of checks and balances.

Balancing the natural with human history, the PQST encapsulates the ongoing evolution of human values, as a response to our material history, the interventions made on a landscape, and the eventual relocation of past ideologies of development, towards a reversal and renewal process. This involves local initiatives, redefining local economy, and encouraging these through reinterpretation, the envisioning of new paradigms for development and values that are already in the process of being manifest, both culturally and economically.

Limestone from Portland, once raw material for building Britain's city structures, now becomes an artefact, an archaeological spectacle on this site. Redefined, transformed, nature as embodied by this reserve becomes the metaphor for a new process of development, an inducement for the public at large to interact in novel ways with their own heritage, and collective historical experience. In the process, our relation with, and to, nature is rediscovered.

John K Grande, *Writer on Art and Ecology*, September
2006

Cultural Identity

"Cultural identity is as necessary to humanity as the sun is to nature, for it guides us to identify who we are, where we have come from and where we are going. The impulse to create reflects an implicit desire to improve the world around us. Art can no longer be purely object based. The limits imposed on us by nature are guiding us to establish a new global ethic that involves the mutual respect between all living things. Art draws upon that flow of energies that is part of the process of life, the procreative core of our need to transform, enrich, express"

John K Grande, *Writer on Art and Ecology*, Centre for Contemporary Canadian Art, The Canadian Art Database: Canadian Writers Files

Appendix – H – Shelagh Cluett, Research Proposal

SHELAGH CLUETT

INVESTIGATING PHYSICALITY IN THE DIGITAL SURFACE OF THE ROMAN MOSAIC IN THE CONTEXT OF CONTEMPORARY FINE ART PRACTICE

This research project aims to investigate how experimentation in digital technology can enable practitioners to develop new working processes in order to inform and enhance sculptural practice. Specifically it will develop methods that may enable artists to engage meaningfully with surface and space within the digital environment. Through practice based research the project will -

- a) Develop a means of generating a physicality of surface within the digital that parallels the material resistance in sculptural practice
- b) Test forms and sites of installation to contextually question architectural and temporal displacement
- c) Realise and disseminate a body of digitally generated artwork.

Mosaics have been identified as the vehicle for this research in that they provide the earliest form of pixelated imagery that was both physically constructed and architecturally located. Primary research will be conducted into the Roman mosaics of Tunisia, Cyprus and Ostia, the port of Rome, which exemplify aspects of shipping, trade and cultural exchange. Further contextual research will be conducted at the sites of origin and archive sources.

This practice-based research will be developed through computer manipulation of digital still and video imagery of mosaics, material surfaces from sites of origin and architectural plans. It will be subjected to rigorous testing procedures across platforms including the projection onto and intervention into architectural spaces. It will result in high quality outputs disseminated through:

1. Installation at Independent Quarry, Dorset. With World Heritage and Olympic sailing venue status, Portland is a site of Roman stone working where subsequent quarrying has revealed a unique timeline and created a natural amphitheatre. Archaeological finds from the region, including Tunisian amphorae, provide evidence of extensive trading. I will physically intervene in the quarry surface through sandblasting and digitally cutting the architectural plans of sites of origin into the stone face. By the projection of a series of mediated mosaic images of shipping across the quarry, I will activate the space, digitally linking the past and future cultural roles of the island.
2. Exhibition at Learningstones Gallery, Portland Sculpture & Quarry Trust. Large-scale digital prints and video; documentation of evolution of installation project.
3. Solo Exhibition at Hackney Forge Gallery, London. Digitally generated art works and documentation of installation project outcomes.
4. Dedicated and associated websites.

The research will contribute to

The debate on the Digital Environment in Fine Art Practice:

The sharing of knowledge between arts, cultural heritage, earth science and education through the *Quarry Park* regeneration initiative:

The reconsideration of the role of the mosaic in contemporary fine art practice:

This project builds on my earlier research investigating the digital surface with reference to cultural forms and architectural spaces, the outcomes of which have been exhibited nationally and internationally.

Research Questions

1. What processes of digital manipulation can be developed in order to generate a physicality of surface within the digital that parallels the material resistance in sculptural practice?
2. What forms and sites of installation can be employed to allow the physicality of a digital surface to be shared with the audience and to contextually question the displacement of the mosaic from its architectural and temporal setting?
3. What are the appropriate visual and textual production techniques for publication and dissemination to stimulate a reconsideration of the mosaic in contemporary fine art practice?

Research Objectives

1. To originate and develop fluid production techniques in order to create a physicality of surface within the digital image that will serve to inform sculptural practice.
2. To research and test forms and sites of installation in order to allow the physicality of a digitally generated surface to be shared with the audience and to contextually question architectural and temporal displacement.
3. To exhibit a body of new art works generated through the digital exploration of early Roman mosaics in order to contribute to the debate on the Digital Environment in Fine Art Practice.
4. To collate visual and textual material for publication that will stimulate a reconsideration of the role of the mosaic within the context of contemporary fine art practice.

Research Context

Within contemporary fine art practice, digital techniques are becoming increasingly integrated with more established processes, enabling artists to work across media and boundaries. Peter Lunenfeld in *Snap to Grid* states “the computer is more of a workbench upon which one works with ones tools”. Exactly so, indeed the title ‘Snap to Grid’ refers to the software command that advanced users purposefully disable to retain expressive flexibility over the programme’s predictability.

In this project I will work perversely with technology, often misusing tools, to generate glitches in the system that parallel the material resistance in sculptural practice. With stone, the process of stripping away reveals and energizes, but in the digital this results in a loss of information. You must feed it with false information to activate the visual surface. Through the projection of the mediated images onto and intervention into the quarry surface I will develop a generative working method that will inform sculptural practice.

This project is timely in the context of the creative debate around the impact of digital technologies on Fine Art practice and specifically how artists can engage meaningfully with surface and space within the digital environment. Jennifer Steinkamp creates a physicality with light using animation software, remapping the geometric space of the computer it into real space (*Artweek oct98*). In her immersive installations *Eye-Catching*, *Rapunzel 2005* the architecture is dematerialized through projection. Char Davies in the virtual environment *Osmose* uses transparency and luminous particles to de-solidify and dissolve spatial distinctions. Diana Thater in *Knots&Surfaces 2001* deals with the intersection of nature and culture creating charged environments with layered projections that metaphorically chart a multidimensional space. Anthony Hobbs in *My Paradise is here 2003* uses ultra high-resolution scanning-camera and printer to interrogate the digital surface of the skin. Christian Möller uses interactive media in architectonic design to create smart surfaces and reactive environments. The transition from digital to sculptural surface is evident in (*Mesh 1979*) an early work of Gary Hill.

Ars Electronica and Transmediale create international platforms for debate on digital culture. N.Katherine Hayles *How we became Posthuman* discusses how concept and artifact engage in continuous feedback loops. Lunenfeld *Digital Dialectic* discusses dematerialised imagescapes. Roman Verostko in *Software As Genotype* predicts high-level software will enable artists to build personal systems that humanize the digital. The risks and loss in the digitisation process are addressed by James Faure-Walker *Painting the Digital River* and Jacques Delaruelle: *Periphery*.

Mosaics are often encountered in the museum setting as wall-based, fragmented art objects. Originally linked to their architectural context, they would have revealed themselves partially and progressively as one moved through a space. Contemporary discourse on the mosaic comes from the archaeological and cultural

heritage perspectives. Michèle Blanchard-Lemée *Mosaics of Roman Africa* discusses contemporary audience engagement with mosaic as form of painting. Katherine Dunbabin: *Mosaics of the Greek and Roman World* cites spatial ambiguity as characteristic of African mosaics. This project will both re-engage the mosaic with the site of origin by embedding the architectural plans and surfaces as elements within the image, and explore displacement through projection into alternative architectural sites.

This research project is situated between that being conducted into the use of digital technology to extend printmaking concerns and that concerned with sculptural installation. Outcomes will contribute to Fine Art Digital Environment research project at UEL that investigates the impact of digital technologies on fine art practice and its relationship to established studio practice. Professor Paul Coldwell explores the digital surface in printmaking mediated through the computer. Andrew Stiff develops digital projection to produce spatial installations.

Related past outcomes from my own research into the digital surface include *Map Without Territory Series*, sculpture and digital images, at Culture Gallery New York in 2001 and *Khajuraho Series* sculpture and digital prints, in *Digital Responses* V&A 2002. Both used temple architecture, plans and sculpture as source material.

Under the Skin film and accompanying paper made for *Digital Surface* conference Tate Britain 2003 supported by Culture 2000. *Sea Series*, digital prints and video installation shown in *Beyond the Digital Surface* at EWAH University Gallery, Seoul Korea 2004 with conference paper. New digital works, Solo exhibition, Hackney Forge Gallery, London 2005.

Research Methods

1. Collection of raw digital still and video data through documentation of mosaics and material surfaces from sites of origin; Bardo Museum, El Djem, Nabeul, Dougga, Carthage, Paphos, Ostia.
2. Analysis + contextualization through research of related documents and architectural plans using archive sources, British School at Rome, British + Dorset County Museums, Portland Archaeology Trust.
3. Experimentation in production of digital artifacts to create visual physicality of surface just before the point of pixilation / image breakdown.
 - a) By scanning and digitally enhancing stone samples and surface materials the image becomes scale-less; frozen incidents compacted over time are released back into a state of flux within a digital landscape. By embedding the manipulated plans into the image I will shift the reading from a two dimensional proposition to that of a three dimensional realization and invest the mosaic with its architectural context. (fig 1)
 - b) By generating noise, interference, glitches through transference between formats and programmes, re-sampling, applying warp and emboss filters. Many mosaics are incomplete and have been in-filled in the restoration process, isolating elements of the image. (fig 2) My research has revealed that early versions of artist software create glitches, leaving fragments of the previous version of the image behind. I will use this feature as both an archaeological tool to retrieve and a sculptural tool to construct. (fig 3)
 - c) By generating parallel sound data through application of effects in video editing process.
4. **Development / circularity by transference across platforms:**
 - a) Sandblasting and digital cutting in sculpture source. Using the architectural plan as a mask, sandblasting strips away the compacted stone surface, leaving only the territory of the plan holding onto its protective skin. This shallow depth of surface and slippage between states energizes the work. This quality will be recaptured and incorporated as digital information. (fig 4)
 - b) Using high-resolution digital still macro format + scanning to recapture details from print source.
 - c) Re-filming from LCD screen + projections in video source.

5. Testing forms and sites of installation

- a) By projection of mediated images incorporating ground plans onto and into alternative architectural spaces
- b) By projected installation and sculptural intervention into quarry surfaces at Portland. I will need to purchase of video projector for the testing process. I will hire additional equipment for the final installation.

6. Testing forms of visual and textual production techniques

- a) Proofing print output at Chelsea College of Art.
- b) Appropriate models for websites.

Publication and Dissemination

Venue / 2007	Event	Audience
Learningstones Gallery Portland Dorset	Solo Exhibition Opens 30.6.07 Confirmed	specialist + wide non-specialist, cultural heritage, earth science, education, Olympic sailing venue.
Independent Quarry Portland Dorset	Sculpture / Video Installation Opens 20.7.07 Confirmed	specialist + wide non-specialist, cultural heritage, earth science, education, Olympic sailing venue.
Hackney Forge Gallery London	Solo Exhibition confirmed	specialist +non-specialist
Websites	Dedicated website learningstones.org art-culture.org June	wide specialist +non-specialist

Future Dissemination (i) Conference papers. (ii) Teaching, findings support postgraduates who bridge disciplines and international students through cultural research.

Timetable of Completion

Phase 1	UAL	
January	Collection of raw digital still and video data through on site documentation of mosaics and sites of origin; Tunisia, Cyprus. Studio development	
February	Contextualization – consultation of archives British School at Rome, British + Dorset County Museums, Portland Archaeology Trust. Studio development	
March	Studio development in generating physicality of digital surface	
April	Studio development by transference across platforms	
Phase 2	AHRC	
May	Studio testing methods of print output On site testing sites of installation	
June	Website development Solo Exhibition Learningstones Gallery Portland Dorset Evaluation + documentation	30.6.07
July	Installation Independent Quarry Website publication. Evaluation + documentation. Solo Exhibition, Hackney Forge Gallery London Evaluation + documentation.	20.7.07 27.7.07

APPENDIX – I – Acknowledgements

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APPENDIX – J - PSQT Contact Details

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