

'Finished Labour of a Thousand Hands'

The archaeology of the Combe Down Stone Mines, Bath, Somerset

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Front cover *Prior Park: The Seat of Ralph Allen* engraving by Anthony Walker c 1750 (courtesy of The Building of Bath Museum)

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Summary

Between November 2000 and August 2008 Oxford Archaeology carried out a programme of underground monitoring and detailed recording of a section of the underground stone quarries at Combe Down, Bath. The works were carried out prior to and during the stabilisation of the quarries, a process that was carried out by concrete infilling. The quarries (legally mines during the Stabilisation Scheme), were situated below the central Conservation Area of Combe Down, which lies between 1.5 and 2 km south of the historic centre of Bath. A large proportion of the parish was subject to either quarrying underground or at surface over a long period, but mainly between 1730 and 1860, when the area provided the main building material for the 'golden age' of Bath. Quarrying in the outer areas of the parish continued, but the main supply of Bath Stone thereafter came from the much larger, rail-served Wiltshire quarries.

The recording works were carried out as a long-running Watching Brief, during the construction of a network of supported engineering roadways designed to initially provide safe access to all areas of the mine and latterly to facilitate the filling of the mines with foam concrete. The recording was primarily by drawn and photographic methods, although a range of other techniques such as laser scanning and video photography were employed to augment the traditional techniques.

The survey, augmented by programmes of documentary and archival research, has enabled a

detailed chronology and technological analysis of the development of the underground workings to be established. These have demonstrated that although stone quarrying was certainly being carried out in the early 18th century and may have been undertaken as far back as the Roman period, the first large-scale exploitation of the quarries occurred during the middle years of the 18th century (c 1730-1764) under the ownership of the entrepreneur Ralph Allen, who introduced innovative techniques and industrial organisation to the process. Extensive quarrying continued after Allen's death in 1764 although the central organising influence was ended and the work was conducted by a number of independent quarrymasters or freemasons. Underground quarrying continued in the central Combe Down area until the 1860s and both underground and surface quarrying continued on the fringes of the area until the 1930s.

The Combe Down Stone Mines Project is the first time in the UK that the full resources of a professional archaeological body, Oxford Archaeology, have been used to carry out a large-scale archaeological examination of underground quarries. The project successfully demonstrated that such works are compatible with ongoing mining operations where old workings are to be disturbed by development. The strategy integrated thorough archaeological investigation with an extensive examination of documentary and published resources, and the results are presented in this volume.

Zusammenfassung

Zwischen November 2000 und August 2008 unternahm Oxford Archaeology Beobachtungs- und detaillierte archäologische Aufzeichnungsarbeiten in einem untertägigen Teilbereich der Combe Down Steinbrüche in Bath. Die Arbeiten wurden im Vorfeld, sowie während des Stabilisierungsprozesses der Stollen durchgeführt, bei welchem diese mit Gasbeton verfüllt wurden. Die Steinbrüche, welche während des Stabilisierungsprozesses den rechtlichen Status von Minen innehatten, lagen zentral unterhalb des Flächendenkmalbereichs von Combe Down, welcher 1,5 bis 2 km südlich des historischen Stadtkerns von Bath liegt.

In einem großen Bereich des Stadtteils Combe Down wurde über einen langen Zeitraum hinweg unter- oder obertage Stein abgebaut, wobei die Blütezeit des Abbaus zwischen den Jahren 1730 und 1860 lag, in welchen Combe Down die Materialien für das "goldene Zeitalter" Baths zur Verfügung stellte. Steinbrüche in den Außenbezirken der Gemeinde wurden auch im Anschluss noch weiter betrieben. Der Hauptlieferant des "Bathstone" wurden jedoch die sehr viel größeren, an das Schienennetz angebundenen, Steinbrüche in Wiltshire.

Die archäologischen Aufzeichnungsarbeiten wurde während der anhaltenden Baubegleitung für die Konstruktion des unterirdischen Straßennetzes angefertigt, welches anfangs sicheren Zugang zu allen Teilbereichen der Mine garantieren sollte und später dabei half, die Stollen mit Gasbeton zu füllen. Aufgezeichnet wurde in erster Linie durch Zeichnungen und Photographien, wengleich andere Techniken, wie z.B. Laserscanner und Videotechnik eingesetzt wurden um die traditionellen Methoden zu unterstützen und zu erweitern.

Die Expertise, angereichert durch Ergebnisse der Quellen- und Archivarbeit, ermöglichte eine detaillierte Chronologie und eine technische Analyse der Entwicklung der untertägigen Grubenfelder anzufertigen. Es wurde aufgezeigt, dass –obwohl Arbeit im Steinbruch sicherlich im frühen 18. Jahrhundert und vielleicht sogar schon in der Römerzeit stattgefunden haben – die ersten groß angelegten Abbauprojekte im Steinbruch in der Mitte des 18. Jahrhunderts (ca. 1730-1764), in welchem der Unternehmer Ralph Allen Eigentümer des Steinbruchs war und innovative Techniken und eine industrielle Organisation einführte, ihren Anfang nahmen. Eine umfangreiche Förderung wurde auch nach Allens Tod im Jahr 1764 fortgeführt, jedoch endete die zentrale Organisation des Abbaus und die Arbeiten wurden von unabhängigen Steinbruchmeistern und Freimauernern durchgeführt. Der untertägige Abbau im zentralen Gebiet von Combe Down dauerte noch bis in die 1860er Jahre an, in den Außenbezirken von Combe Down wurde sogar noch bis in die 1930er Jahre unter- und obertägig abgebaut.

Das "Combe Down Stone Mines Project", ist das erste Projekt seiner Art in Großbritannien, welches mit Hilfe einer professionellen archäologischen Institution, Oxford Archaeology, eine groß angelegte archäologische Untersuchung eines untertägigen Steinbruchs durchgeführt hat. Es hat sich dabei herausgestellt, dass archäologische Arbeiten auch bei gleichzeitigem Betrieb der Mine durchführbar sind, wenn alte Grubenfelder durch Bauvorhaben gefährdet werden. Die Ergebnisse der ganzheitlichen, archäologische Forschungsstrategie, in Zusammenschluss mit einer umfangreichen Auswertung von Dokumenten und publizierten Quellen, ist in diesem Band wiedergegeben.

Résumé

Entre novembre 2000 et août 2008, Oxford Archaeology a exécuté un programme de suivi souterrain et de relevé détaillé d'une section des carrières de pierre souterraines à Combe Down, Bath. Les travaux ont été effectués préalablement et pendant la stabilisation des carrières, un procédé opéré grâce au comblement en ciment. Les carrières (légalement des mines durant le Projet de Stabilisation) étaient situées sous la Zone de Conservation centrale de Combe Down, localisée 1.5 km à 2 km au sud du centre historique de Bath. Une large proportion de la Paroisse de Combe Down a fait l'objet soit d'une extraction souterraine ou en surface sur une longue période mais surtout entre 1730 et 1860, lorsque la région produisait le matériau de construction principal de "l'âge d'or" de Bath. L'exploitation dans les environs de la paroisse a continué, toutefois la pierre de Bath provient ensuite principalement des carrières bien plus importantes de la région du Wiltshire desservies par voie ferroviaire.

Les travaux de relevé ont été réalisés sous forme de surveillance de travaux à long terme, durant la construction d'un réseau d'ingénierie de voies souterraines conçu initialement pour fournir un accès sécurisé à toutes les parties de la mine et dernièrement pour faciliter le remplissage de la mine de béton allégé. Le relevé a d'abord été effectué par des méthodes graphiques et photographiques, bien qu'une gamme d'autres techniques telles que le balayage au laser et la photographie vidéo aient été employées pour ajouter aux techniques traditionnelles.

L'étude, complétée par des programmes de recherche documentaire et archivistique a permis une chronologie détaillée et une analyse technologique permettant d'établir l'évolution des carrières souterraines. Elles ont démontré que, bien que les extractions de pierre aient certainement eu lieu au début du XVIII^e siècle et aient peut-être continué jusqu'à l'époque romaine, la première exploitation des carrières s'est produite au milieu du XVIII^e siècle (c. 1730-1764), alors propriété de l'entrepreneur Ralph Allen, qui a introduit des techniques innovantes et une organisation industrielle au processus. Une exploitation extensive a continué après la mort d'Allen en 1764 mais l'influence de l'organisation centralisée s'est achevée et le travail a ensuite été conduit par plusieurs maîtres de carrières ou francs-maçons indépendants. L'extraction souterraine s'est poursuivie dans la zone centrale de Combe Down jusqu'aux années 1860 et l'extraction souterraine et en surface a perduré aux abords du site jusqu'aux années 1930.

Le Projet des Mines de Pierre de Combe Down représente le premier projet au Royaume-Uni ayant occupé l'ensemble des ressources d'une organisation archéologique professionnelle, Oxford Archaeology, pour effectuer l'examen archéologique à grande échelle de carrières souterraines. Ce projet a démontré avec succès que de tels travaux sont compatibles avec la poursuite des opérations d'exploitation minières lorsque des chantiers existants sont perturbés par le développement en cours. La stratégie a intégré une enquête archéologique minutieuse à l'examen approfondi des ressources documentaires et publiées. Les résultats sont présentés dans ce volume.

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It is from the recognition of the quarries' (Stone Mines) national importance by the Bath and North East Somerset Council in conjunction with English Heritage (regional inspectors Amanda Chadburn and Phil McMahon), that the impetus for the 'preservation by recording' programme originated.

Throughout the project the authors and Oxford Archaeology benefited from very fruitful co-operation with Bath and North East Somerset Council staff, notably the Combe Down Stone Mines Team and its leader Mary Sabina Stacey and the Council's Archaeological Officers Bob Sydes and Richard Sermon. We have been ably assisted by a number of project co-ordinators over the years including Hannah Atkinson, Jen Albano, Rachael Thomas and Jessica Turner (née Bowden). We are grateful to Susan Fox of the Roman Baths Museum for her continuing assistance with the finds.

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Information came from a wide range of sources, both individual and institutional. Prior knowledge of the underground workings, freely shared with us, principally came from David Pollard, but also from Dr Brian Hawkins, Derek Hawkins, Philip Wooster and Paul De'Ath; on the local historical maps and plans, Mike Chapman, and on stone quarrying generally, Paul Sowan. Peter Davenport, formerly of the Bath Archaeological Trust, advised on the amount of stone used in buildings, and Mike Chapman and Brenda Buchanan did the same on Bath history. For help with documentary searches we thank the staff of the Bath Record Office (BRO), The Bath Central Library (BCL) and the Taunton, Somerset (SRO), and Gloucester Record Offices (GRO), and for access to the Hadley Estate papers (discovered there by David Pollard), the Lewisham Library (LL), and for detail on Bath generally, the Bath at Work and the Building of Bath Museums. We were helped in the supply of illustrations by

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Thank you all.

*Lynn Willies
Neville Redvers-Higgins
Ianto Wain*

Extracts from *A Description of Bath* by Mary Chandler (1687–1745)

...View the brown Shadows of yon *pathless Wood*;
And craggy Hills, irregular and rude!

Where Nature sports romantic: Hence is seen
The *new made Road*, and wonderful Machine,
Self-moving downward from the Mountain's Height,
A *Rock* its Burden of a *Mountain's* Weight.
HAIL, mighty *Genius!* Born for *Great Designs*,
T' *adorn* your *Country*, and to *mend* the *Times*;

...PROPHETIC here, the Muse shall build thy Seat,
Great like thy *Soul*, in ev'ry Part complete:

...On this fair Eminence the fabric stands,
The finish'd Labour of a thousand Hands;

...Thy Taste refin'd appears in yonder Wood,
Not *Nature* tortur'd, but by *Art* improv'd:
Where *cover'd Walks* with *open Vista's* meet,
An *Area* here, and there a *shady Seat*....

...How from the Mountain's rocky Sides he drew
A thousand shining Palaces to view:
Temples, and *Hospitals* in ev'ry Land,
From Age to age, his Monuments shall stand.
Envy itself shall die, and fickle *Fame*,
When he is dead, do Justice to his Name.

Mary Chandler (1687-1745) was a poet and an early champion of women's independence, and became famous for this poem, which glorifies the city and environs of Bath, and extols the achievements of Ralph Allen.