



Reigate Stone at the Tower of London

Martin Michette

UCL Institute for Sustainable Heritage, University College London, London, UK
martin.michette.15@ucl.ac.uk



Introduction

Reigate Stone was used extensively in South-East England between the 11th and 16th Centuries, contributing to a legacy of **medieval heritage** that ranges from parish churches to royal palaces. It is a 'glauconitic malmstone', a unique building stone to the British Isles. It was easy to carve decoratively, however also **highly susceptible to degradation**.

By the 15th Century many buildings were already in an advanced stage of decay. Long subject to **wide-scale replacement**, attempts at conserving what little remains have increased in accordance with modern practice. The Tower of London has been a testing ground for a range of methods, yet the **causes of decay remain poorly understood**.

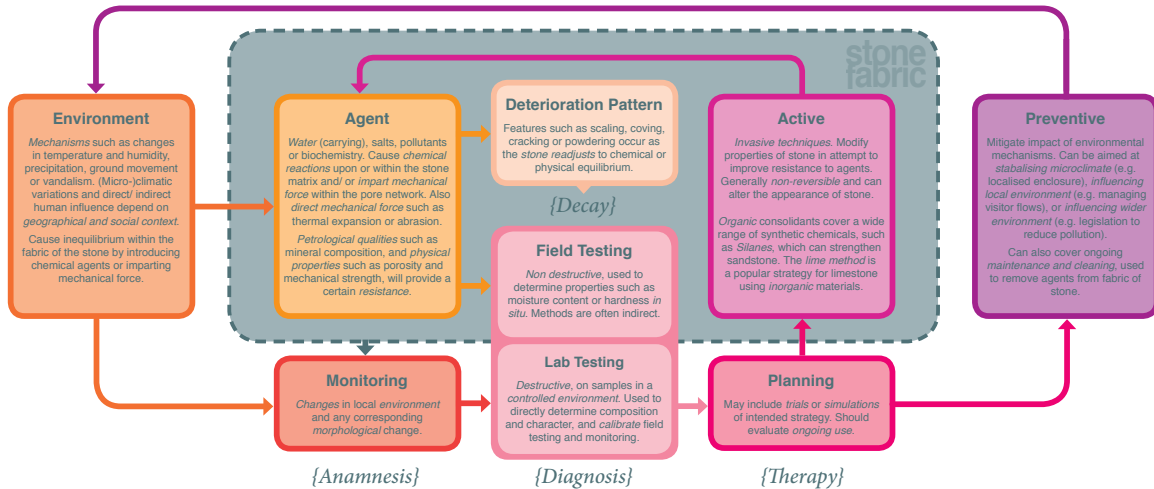
Research Questions

1. How and why does the condition of Reigate Stone **vary across different locations**?
2. What **deterioration patterns** are evident? Can these be linked to local environment?
3. How successful have **past treatments** of Reigate Stone been?



Wakefield Tower, Tower of London

{Cycle of ongoing Conservation}



Reigate Stone window sill, Hampton Court Palace

Methodology

The MRes project will employ a **field-based methodology**; learning from the current condition of Reigate Stone *in situ*, informed by knowledge of both their history (previous treatments and environmental data) and their current local environment.

This will **focus on the Tower of London**, given its relatively large stock of Reigate and the long history of conservation efforts. Research will be supported by investigations at **Hampton Court Palace**, to assess the influence of local climate (e.g. pollution).

A range of **environmental monitoring** and **non-destructive testing** methods will be employed. Following an initial stock take, a more detailed survey will be conducted on noticeable typologies. These should inform a **database of situations and conditions**.

Intended Outcomes

This stage of the project will cover the **anamnesis and initial diagnosis** of Reigate Stone decay, by providing a full condition survey of two key sites. This data will assist laboratory testing, to be conducted during the DPhil. The overall aim will be to develop a system dynamics approach, by **linking degradation to measurable parameters**.

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