

The REFRESH Project: Historical water management at Blenheim Palace

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Introduction

The REFRESH (Water Cycle for Resilient Heritage) project examines how the water cycle affects cultural heritage conservation under climate change. Studying four European sites: the Louvre, Gruuthusemuseum, Doge's Palace, and Blenheim Palace, it explores how historic systems can inform sustainable water management. This poster presents initial findings from Blenheim Palace, using archival research and staff interviews to trace 300 years of water management and inform future conservation strategies.



Fig 1: Royal Academy Lecture Drawings of the work of Sir John Vanbrugh, Blenheim Palace (Oxon): Elevation © Sir John Soane's Museum, London¹

Background: Blenheim Palace

- Blenheim is the seat of the Duchy of Marlborough, and a UNESCO World Heritage Site.
- Primarily built between 1705 & 1722; by architect Sir John Vanbrugh, assisted by Nicholas Hawksmoor.
- The surrounding park and gardens were initially landscaped by royal gardener Henry Wise (with Vanbrugh), designed in a formal style.^{2,3}
- The landscape was transformed dramatically in the 1760s, when Capability Brown was hired to redesign it in a more naturalistic style.^{2,3}
- Done by damming, widening and deepening the River Glyme, and flooding the lower chambers of the bridge.^{2,3,4}
- From 1925-1930 Achille Duchêne was employed to build ornate water terraces.²

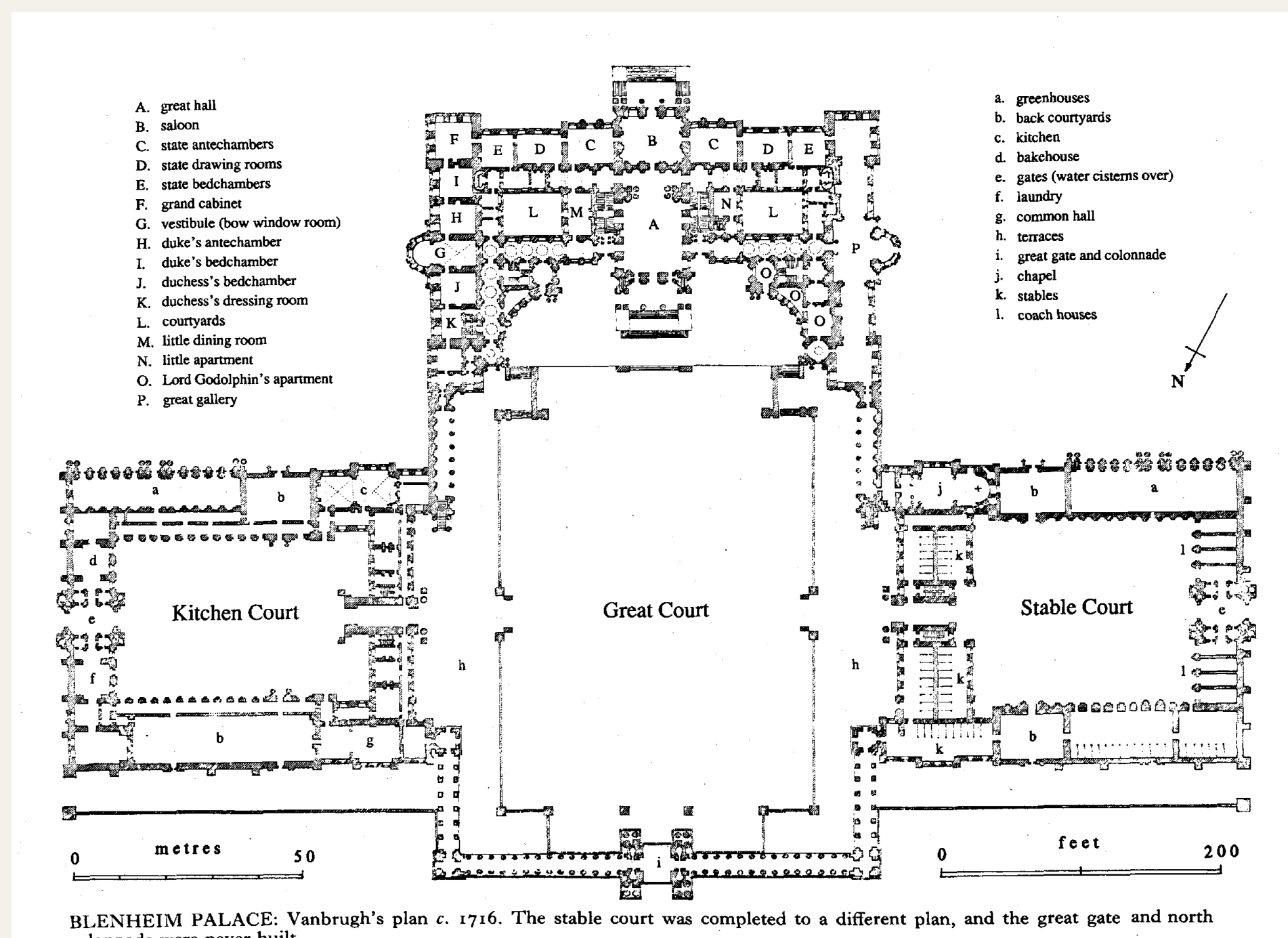


Fig. 2: Blenheim Palace: Vanbrugh's plan c. 1716 as illustrated in British History Online² (originally Victoria County History)

Water terminology issues

Different terms are used to convey different meanings across languages and fields of study. As a multi-country, interdisciplinary project, a glossary of water terminology was prepared to standardise usage across the four historical sites and different phases of the project. The terms listed in the glossary are shown in Figure 3.

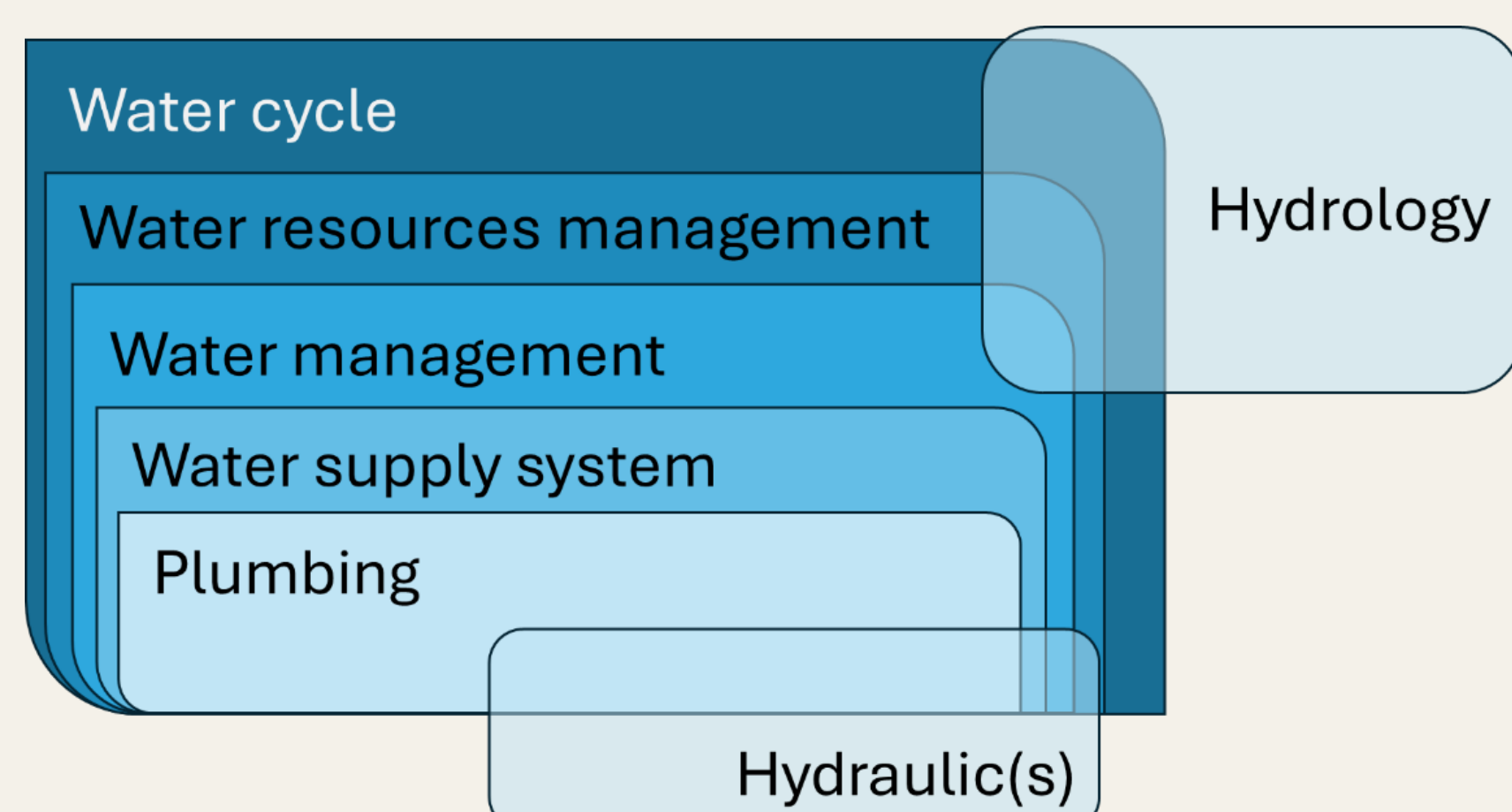


Fig 3: Relationships between various water-related processes, infrastructure and science

Methodology

Archival material provide the evidence of what existed and happened; but it can be difficult to gauge the full narrative – especially on a short-term project such as this. The interviews provide an opportunity to understand how things have evolved and changed over time according to expert knowledge and oral histories passed down over time. The archival research protocol is shown in Table 1.

Familiarity with secondary material/existing literature on the topic of interest

A meta-archive (or archive of archives); secondary scholarship on the topic

Mapping the archival collection(s)

Keeping record of the contents of the archives; establishing a database of relevant information

Content analysis

Broad context; the immediate circumstances of the document; metadata (who, when, where, etc)

Interpretation of the contents

What the results imply in terms of the research questions; connections with other archival material & relevant literature

Table 1: Research protocol, adapted from Moore et al. (2020)⁵

- For the interviews, a semi-structured guideline was used.
- Questions were designed to elicit in-depth conversations. Each interview varied according to the participant's job responsibilities and knowledge.
- The interviews were transcribed, coded, and thematically analysed.
- Seven people were interviewed.

Results (preliminary)

A large number of archival sources were consulted, including at the Bodleian, British Library, Blenheim Archives, etc. These materials indicate a unique water management context, which has been constantly evolving since the initial building foundations were laid.

Archival sources show evidence of utilitarian water management processes – the most significant of which was the Aldersea engine, which was housed in the northern arch of the Grand Bridge (Fig 4).

A letter from Vanbrugh dated 1709 (British Library Blenheim Papers collection, Add MS 61353) describes:

"A Tower to raise the great Cistern upon, which receives the water from the Engine, and from whence the pipes go into the Gardens, Offices, and other places in the East end of the house."

This in turn indicates the limited mechanisation of water supply within the main Palace structure at the time, which is also reflected in the architectural plans from the time (e.g. as in Fig. 2).

In the previous year, an account of the work done at Blenheim (BL Add MS 61172) describes the drainage away from the building:

"The great Sewer and carry'd quite down the Hill into the valley and the foundations of the Bridge are almost compleat."

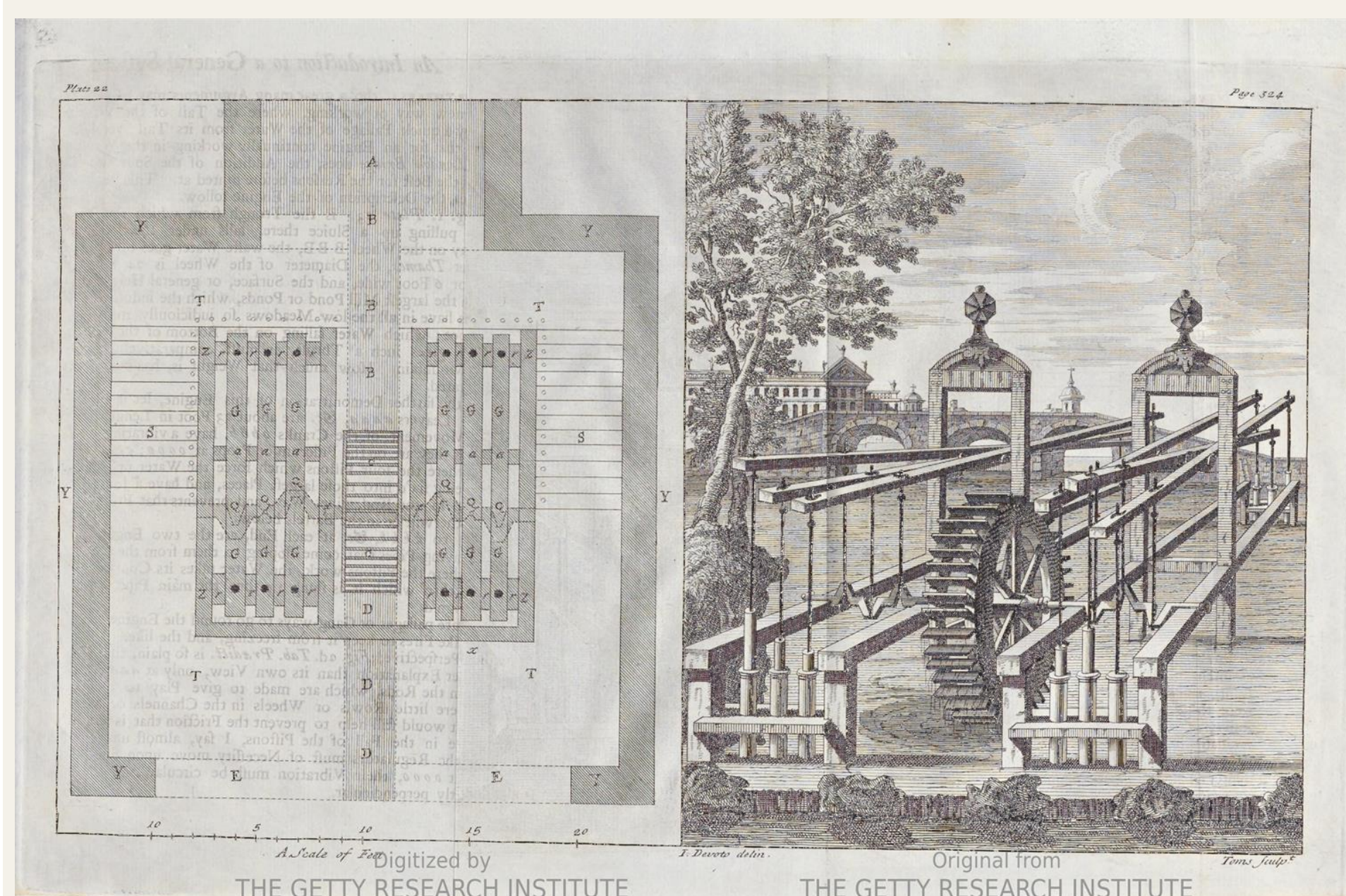


Fig. 4: Aldersea Engine, as illustrated in Stephen Switzer's 'Hydrostatics...', 1729⁶ (available from Gale Eighteenth Century Collections Online & Hathi Trust)

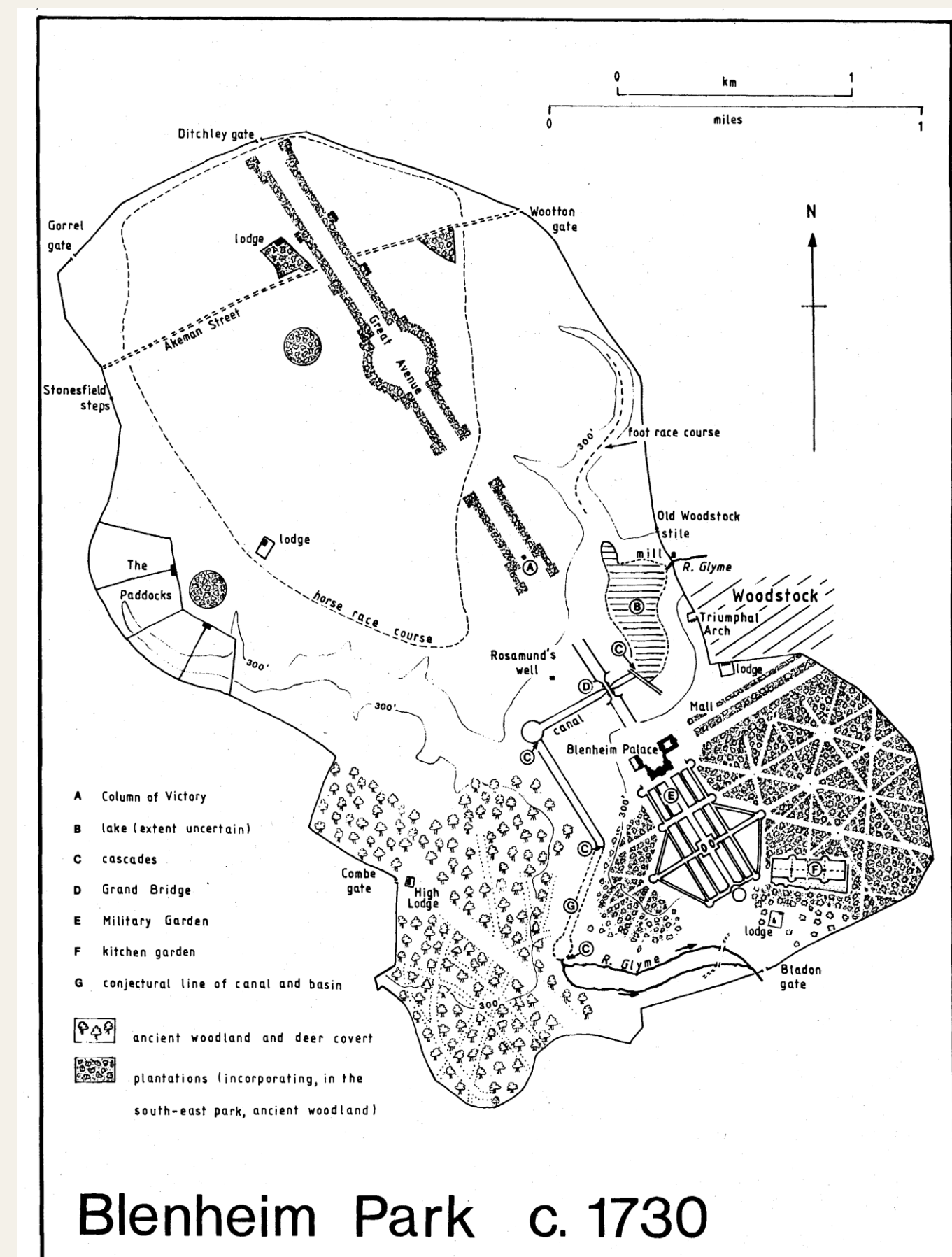
Results (preliminary) [contd.]

Many of the changes which took place were often motivated by changing aesthetic principles. Fig. 5 shows the differences in the landscape and waterscape surrounding the Palace before and after Capability Brown's changes were implemented.

The interviews are still in the process of being analysed, but the initial results show that the interview data:

- Help triangulate archival research results;
- Provide greater context to the primary materials;
- Help understand the social history dimension.

Other themes in the interviews include adapting to evolving uses of the Palace and grounds, synergies between conservation and future resilience, current and future threats to conservation, among others.



Blenheim Park c. 1730

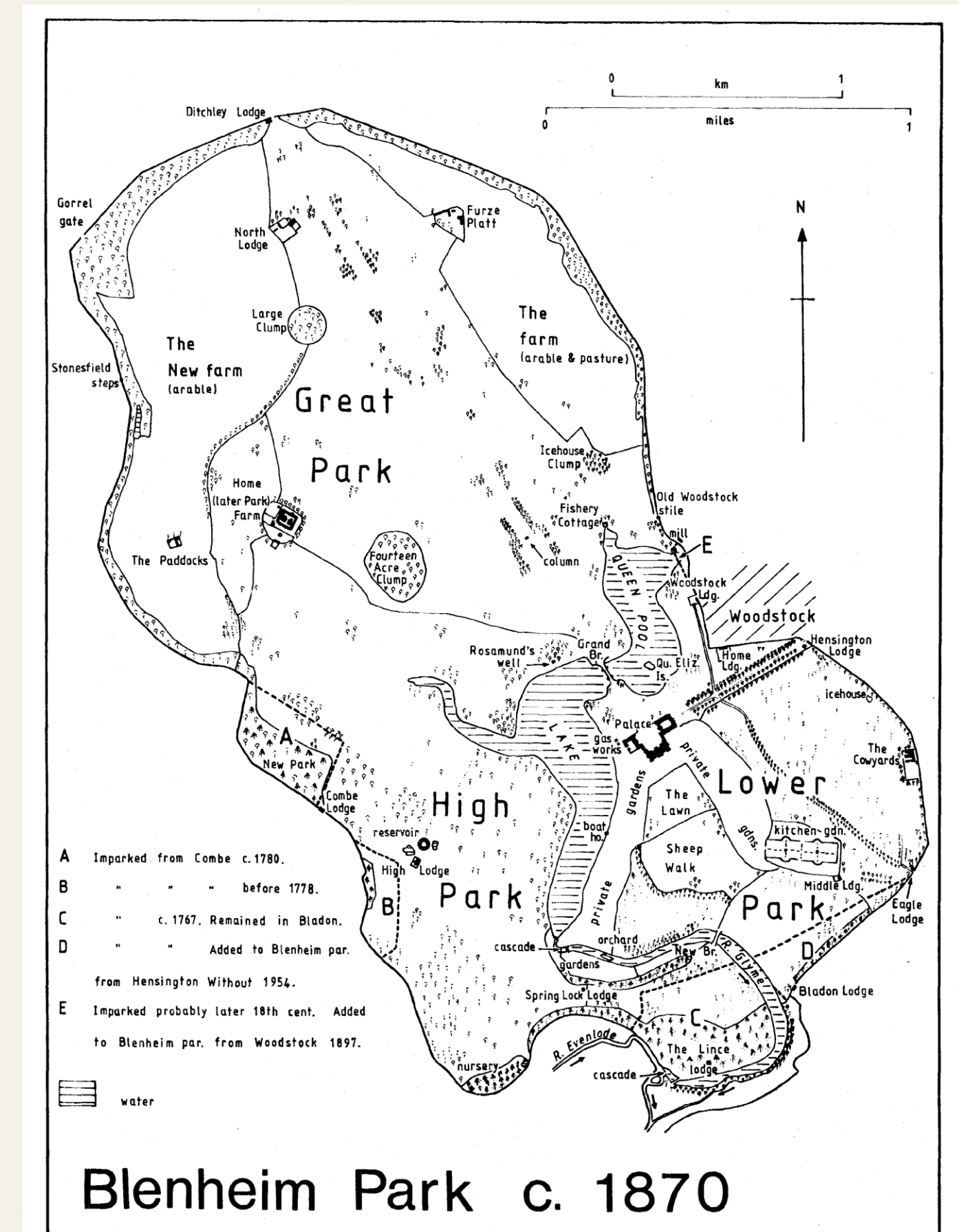


Fig. 5: (a) Blenheim Park c. 1730 (b) Blenheim Park c. 1870; as illustrated in British History Online² (originally Victoria County History)

Discussion

- Water management at Blenheim historically combined functional and aesthetic purposes.
- The land- and waterscape around the Palace has changed, as has the climate, land use, and the estate's responsibilities to upstream & downstream neighbours.
- These changing factors need to be considered when assessing if historical water management processes can be readopted in the context of sustainable conservation.

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