# Continuity and Change in Etruscan Domestic Architecture

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# Abstract

Etruscan architecture underwent various changes between the later Iron Age and the Archaic period (c. 800-500 BC), as seen in the evidence from several sites. These changes affected the design and style of domestic architecture as well as the use of raw materials and construction techniques. However, based on a supposed linear progression from inferior to superior building materials, explanations and interpretations often portray an architectural transition in Etruria from 'prehistoric' to 'historic' building types. This perspective has encouraged a rather deterministic, overly simplified and inequitable view of the causes of change in which the replacement of traditional materials with new ones is thought to have been the main factor.

This book aims to reconsider the nature of architectural changes in this period by focussing on the building materials and techniques used in the construction of domestic structures. Through a process of identification and interpretation using comparative analysis and an approach based on the *chaîne opératoire* perspective, changes in building materials and techniques are examined, with special reference to four key sites: San Giovenale, Acquarossa, Poggio Civitate (Murlo) and Lago dell'Accesa. It is argued that changes occurred in neither a synchronous nor a linear way, but separately and at irregular intervals. In this monograph, they are interpreted as resulting mainly from multigenerational habitual changes, reflecting the relationship between human behaviour and the built and natural environments, rather than choices between old and new materials. Moreover, despite some innovations, certain traditional building techniques and their associated materials continued into the Archaic period, indicating that Etruscan domestic architecture did not undergo a complete transformation, as sometimes asserted or implied in other works. This study of building techniques and materials, while not rejecting the widely held view of a significant Etruscan architectural transition, argues for a more nuanced reading of the evidence and greater recognition of the nature of behavioural change during the period in question.

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# Chapter 1: Introduction

The purpose of this book is to examine the nature and extent of changes in building techniques in the domestic structures in Etruria from 800-500 BC. Where a transition is demonstrable, the degree and possible reasons for change are examined. To fulfil this purpose, it is necessary to identify the building techniques used in domestic structures in Etruria and interpret how and why they were used through time. The framework established by the environment-behaviour relations model of architectural theory (see section 2.1.1), as well as the broader theories of behavioural archaeology, governs these interpretations. The identification of building techniques is conducted through descriptive analyses of structural features and associated evidence. Identified techniques are then interpreted using the *chaîne opératoire* approach and comparative analysis.

Both introductory textbooks (e.g. Bartoloni 2012a: 266–267; Becker 2014: 9–12; Donati 2001: 321–324; Ridgway 1988: 666) and in-depth studies (e.g. Brandt and Karlsson 2001b; Colantini 2012; Izzet 2001a, 2007: 143–164; Steingräber 2001a) commonly assume a transition in building technology and architectural style in the seventh and sixth centuries BC. Of the publications that recognise the supposed transition, the seminar proceedings edited by Brandt and Karlsson (2001b) is most significant. The title of their volume, *From Huts to Houses: Transformations of Ancient Societies*, sums up the widespread perception of the architectural transition. In their introduction to the volume, they assert that a transformation occurred in "building material and technologies" (Brandt and Karlsson 2001a: 8). Accordingly, they state that the common use of the terms 'huts' and 'houses' arose in the literature to distinguish between structures supposedly resulting from the use of different materials and technologies (Brandt and Karlsson 2001a: 7–8).

As noted by Brandt and Karlsson (2001a), the transition in the domestic architecture of Etruria is thus commonly recognised through terminology as a transformation in building materials and technologies (e.g. Colantini 2012; Colonna 1986; Izzet 2007: 152–154; Steingräber 2001a: 26; Torelli 1985). The terminology used to characterise the transformation, particularly the terms 'huts' and 'houses', creates a simplified system for the interpretation of architectural features. Typically, structures made from wood, wattle and daub and thatch are referred to as 'huts', whereas structures made from mud brick, stone and terracotta roof tiles are 'houses'. However, the terminology also paints the transition as one of linear evolution based on the adoption of superior materials. Domanico (2005) is one of the few authors to criticise this approach for inaccurately diminishing the complexities and variety of techniques in earlier structures. Based on this linear depiction of the transition, one technology is replaced by another, as evidenced by the appearance of new building materials. From such a depiction it is not clear how building techniques (which are the learned behaviours of architectural creation, maintenance, demolition and reuse; see section 2.1.2) fit into the perceived transition, if they do at all.

The architecture of an individual structure varies based on the surrounding built environment and the behaviours of the builders (Rapoport 1977, 2000, 2006; see section 2.1.1). If a shift in the structural evidence is archaeologically apparent, then the built environment or the behaviours (including building techniques) of the builders changed. The identification and interpretations of building techniques attempt to understand architectural change as a product of behaviour. Rather than identify the transition based on the appearance of new or different building materials, an investigation of the building techniques forces a reconsideration of how (via identification) builders interacted with their surroundings and why (via interpretation) change in behaviour is evident.

This approach departs from the identification and interpretation of Etruscan architectural features based on building materials and technology. Identification is relatively straightforward in the traditional,

terminological classifications. In Etruscan studies, the typical evidence for change in architecture is primarily based upon: the presence of different building materials (both raw and manufactured) between contexts in the archaeological record, the interpretation of artefacts with architectural features (e.g. cinerary urns) or the architectural descriptions in Classical sources (e.g. Vitruvius). Interpretation of architectural features, particularly of the seventh and sixth centuries BC, often relates in some way back to the transition in materials (e.g. Izzet 2007: 152–154; Steingräber 2001a: 25–27). Many interpretations also use evidence for material change in other contexts to understand the supposed architectural transition (e.g. Bartoloni 2012a: 266–269; Torelli 1985). The resulting depiction is thus a linear, evolutionary progression from inferior to superior materials that is often reliant on non-architectural contexts.

Making a transition in building materials and technology the focal point of interpretation has in effect created the common perception of significant architectural change between the Iron Age and the Etruscan period. Continuity of tradition is only rarely proposed as a continuation of traditional architecture (e.g. Damgaard Andersen 2001; Karlsson 2006: 142–144; Ö. Wikander 1990). Instead, similar building techniques are viewed altogether differently based on the different materials being used. For instance, walls made of self-supporting pisé are typically interpreted as inferior and fundamentally different from ashlar stone, despite their similarity as walling techniques and their function in buildings.

Furthermore, the interpretations of the transition in Etruscan domestic architecture have changed considerably over the last forty years (see section 2.3). Initially, the transition was interpreted as a result of the spread of the superior Greek and Near Eastern manufactured materials, artisans and artistic motifs to the western Mediterranean (e.g. Pallottino 1975: 174). A decade later, the transition was explained as the rise of an élite class who used new, foreign materials to display their wealth (e.g. Torelli 1985). More recently, the use of new building materials (particularly of terracotta tiling and stone) is often associated with urbanisation and the need to use space in new ways (e.g. Izzet 2007: 143–164; Rohner 1996).

Altering the interpretive focus from building materials and technology to building techniques shifts the common perspective of architecture from a discussion of new materials and technologies to one of identified behaviours.[1] A focus on techniques emphasises the behavioural tendency toward habit and the maintenance of tradition rather than the more noteworthy appearances of change (see section 2.1.3). In effect, this shift of interpretive focus encourages the identification of differences in building behaviour rather than instances of technological progress.

Moreover, with its basis in technique, the recognition of change becomes more dynamic. Changing techniques, following psychological and sociological theories of behaviour (see section 2.1.3), can be recognised as habitually or actively innovative. The distinction is based on a number of factors, the primary factor being the relationship between habitus and choice. Interpretations following a *chaîne opératoire* approach can recognise the subtleties separating the habitually and actively innovative techniques through the comparison of the different operations over time (see section 2.2.2).

One of the main problems with the ways that scholars have engaged with domestic architecture is the relativism in the definitions it uses when discussing and describing the evidence. There is often little standardisation in defining architectural features. Simple differences between, for instance, what is and is not considered structural, where foundations end and walls begin and what makes a building a hut as opposed to a house are rarely directly addressed. Even how to identify certain techniques using material evidence is not immediately clear or even wholly accurate (as is the case, for example, with pisé; see

1 The terminological difference between a building technology and technique is subtle. Described further in the Glossary, 'technology' refers to the know-how and ability to apply calculated, practical and mechanical ideas to create an end product, as opposed to a 'technique', which is a pragmatic operational sequence often (though not necessarily) associated with a specific technology (Oxford University Press 2014). A technique, as a specific set of actions, is a behaviour (see section 2.1.2), whereas a technology is typically a concept or group of concepts.

section 5.1.1). Definitions of any technique based on material evidence are essentially relative to intra-site standards or to comparable cases elsewhere, which themselves are caught up by similar insecure definitions.

The ambiguity of discussion regarding the evidence has produced a muddled use of architectural terminology. The same ambiguity has also led to the misrepresentation of evidence. Widespread, vague assumptions about building features seem to be used by scholars as an attempt to support findings defined by unclear terms. This imprecision has given rise to models of architectural development that are not well-founded. Similarly, incorrect, outdated or unclear terms have made it difficult to recognise specific materials or techniques (a common problem when discussing the foundations of later, sixth-century BC structures; see section 4.1.2). Some terminology is even left out or changed because of how a term is perceived (as is likely the case with the use or, rather, neglect of the term 'timber' for wall structures in early Etruscan buildings; see section 5.1.1). This use of terminology corresponds with the common use of a similarly outdated evolutionary taxonomy, which has been critiqued since the 1970s (Abrams 1989: 50–51; Athens 1977; McGuire 1983; McGuire and Schiffer 1983; Wenke 1981; Yoffee 1979).

In this work, therefore, the evidence from sites across Etruria is described according to a strict definition of terms. This is intended to help clarify the material evidence. It also helps to reveal what direct evidence for building techniques and technologies exists and what else has merely been assumed. To build specific definitions for terms used in this book, it was essential to look beyond archaeology to vernacular architecture and structural engineering. Incorporating the definitions used in these fields for common terminology into specific archaeological definitions creates the boundaries for the terms necessary for a meticulous evaluation (for a full list of defined terminology, see Glossary).

Examining building techniques with clarified terms allows for the recognition of the building process through time, with all of the continuances, modifications, adaptations, adoptions and innovations involved in each step of that process. By contrast with the focus on building material and technology, this approach makes it easier to identify the persistence of tradition and the dynamism of change. Whether that change is revolutionary and caused by radical alterations to the social fabric or part of a gradual, centuries-long development where the visible aspects of the change appear at irregular intervals (or even some point in between these two), analysing the construction process is essential in order to establish a more reliable interpretation of architectural development in Etruria from 800-500 BC.

## 1.1 Book outline

There are seven chapters in this book, including this introductory chapter. Chapter 2 presents the major sites in this study and the theoretical and methodological foundations for this work. In the first section, behaviour and the environment-behaviour relations are reviewed. The focus on behavioural theories throughout the book emphasises the relationship between domestic structures and the people that created, used and destroyed them within a social context. A behavioural archaeological approach is intended to free the interpretations here from the wider ideographical concepts commonly used in the literature. The first section also examines the causal nature of actions with reference to habitus, structuration and the dual-process theory.

The second section details the methods employed in this research. It outlines the descriptive reconstruction process used to identify techniques. Then, it describes the *chaîne opératoire* approach and why it is an increasingly necessary method for interpreting past building techniques. Along with comparative analysis, the *chaîne opératoire* approach forms the basis for interpretations and is therefore discussed in some detail, including an examination of the limitations and problems with the approach.

The third section of Chapter 2 asserts how the research presented in this study corresponds to the established historical context. Along with a summary of broader socio-cultural development from 800-500 BC, the third section examines the state of scholarly discourse on Etruscan architecture. In particular, it considers how certain approaches to the general study of central Italian society and culture have formed the prevailing perceptions of Etruscan architecture. In the conclusions to this book, the wider concepts discussed and raised in this section will be considered in relation to the results of this study and architectural change.

The final part of Chapter 2 reviews the literature on four sites that have greatly influenced the overall discussion of domestic architecture. San Giovenale, Acquarossa, Lago dell'Accesa and Poggio Civitate are the most extensively excavated sites with domestic architecture for the period in question (Izzet 2001a). As Brandt and Karlsson (2001a) note, the excavations and publications by the Swedish Institute, in particular, have been essential to the overall concept of architectural transformation. The end of Chapter 2 therefore critiques both the excavation reports of these sites and discusses their wider impact on the literature.

Chapters 3 and 4 consider foundation techniques. Chapter 3 focusses on the early types of foundations that appeared up to 625 BC and Chapter 4 focusses on those types that appeared following 625 BC. Chapter 3 also explains the terminology and classification system used in both chapters. Foundations, being the most likely to survive archaeologically, are perhaps the best part of a building to analyse when attempting to understand changes in building technique. By defining the foundations of buildings based upon their typical features (i.e. ground preparation, wall footings, flooring and roof supports), building techniques can be identified through time. As detailed in Chapter 3, the foundation techniques have been grouped into 'types' based on evidence for similar operational chains. Grouping techniques into larger 'types' allows for a broader recognition of change over time, which in turn leads to a more rigorous evaluation through comparative analysis.

The investigation of architectural features continues in Chapter 5 with walls and roofs. Supposed material and technological changes suggest a transformation in walling and roofing in the seventh and sixth centuries BC. Based on these material and technological changes, many scholars use a model of evolutionary progression in wall construction from wattle and daub and pisé to mud brick and, finally, stone. Chapter 5 challenges this evolutionary progression by calling into question the evidence for material and technological change. The subsequent identification of walling techniques suggests the need for rethinking the standard interpretations. It is suggested that continuity of tradition is more evident than generally asserted.

Roofing techniques are also discussed in Chapter 5. The identification and interpretation of roofing techniques contrasts with the earlier examination of the walling techniques in the chapter because, in comparison, roofing evidence is clearer in the literature. Yet, interpretations of roofs are, akin to walls, based on some false assumptions. The appearance of terracotta roof tiles in domestic contexts has been suggested as evidence for a marked change in technology, possibly spurred by foreign influence (e.g. Torelli 1985). A number of scholars (e.g. Damgaard Andersen 2001; Ö. Wikander 1990, 1993) have offered dynamic interpretations of the transition in materials but the appearance of terracotta tiling is the major factor in most interpretations. While the roof covering techniques are identified and discussed, the section on roofing techniques broadens the focus by also identifying the structural roofing techniques. Interpretations of roofing in Chapter 5 attempt to create a holistic understanding of roofing that recognises the entire roof, not just the covering materials.

Chapter 6 examines interpretations of architectural change based on raw and manufactured building materials. Further to discussions of technique, the chapter examines the procurement, manufacture, use and reuse of building materials and how these facets of the *chaîne opératoire* affected building

techniques. Chapter 6 also discusses the progression of building materials, indicating noticeable changes to procurement, manufacture, use and reuse with reference to possible causes for change. Based on this approach, it is argued that there was consistency in building material procurement, manufacture, use and reuse over time. Ultimately, local traditions, rather than the choice of superior foreign over inferior native building materials, appear to have been the key factor in the progression of material procurement, manufacture, use and reuse.

The conclusions presented in Chapter 7 offer both a summary of the key points of the individual chapters and an interpretation of the changes to domestic architecture from 800-500 BC. This interpretation allows for a conclusive answer to the main research question of this book: how did the use of building techniques in the domestic structures of Etruria change from 800-500 BC? Further discussions of the implications of transition are also presented in Chapter 7, focussing on the interaction between the maintenance of and innovation to building techniques over time. Finally, possible areas for further research are suggested, highlighting some of the limitations of the current evidence and this work.