Craft Education in the United Kingdom and the United States: A cross-cultural examination of ideals, approaches and solutions

3 Volumes

Volume I of III

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Abstract

At the conclusion of the Second World War both the United Kingdom and the United States experienced drastic changes in their building industries. As the construction industry progressed, the training systems for construction workers evolved to meet this new demand. This thesis argues that these changes have caused the UK and the US to face a perceived crisis in the training and supply of traditional craft workers. In both societies, different approaches have been taken to address these concerns, based on the evolving ethos of conservation theory in their respective cultures and their educational frameworks. The approaches taken can be seen as reflecting the evolution of conservation theory and practice in each society, which is often expressed through variations in perception of value, age, and methodology, as well as distinct differences in terminology. This thesis studies the progression of heritage craft training through the examination of historical evidence juxtaposed against ethnographic surveys of three generations of craft practitioners along with current educational providers. Using this evidence, this thesis examines the strengths and shortcomings of current heritage craft educational offerings in both networks through the opinions of both practitioners and educational providers using Actor-Network Theory methodology. It is from the triangulation of historical evidence, craft practitioner opinions, and educational provider experiences that this research proposes pathways to improve the educational offerings in both networks. This study argues that contrary to popular belief, the crisis in heritage craft training may be misdiagnosed, but significant improvements need to be made by both countries to enhance the visibility and delivery of the existing training opportunities. This thesis aims to inform our understanding of the progression of this under-studied sphere of the conservation industry in order to enrich future craft training practices.

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Author’s Declaration

I declare that this thesis is a presentation of original work and I am the sole author. I certify that all material in this thesis which is not my own work has been identified and that no material has previously been submitted and approved for the award of a degree by this or any other university.

Chapter 1: Introduction

1.1 Introduction

The concept of conservation and preservation of built heritage has been growing in importance in the cultures of the United Kingdom and the United States for over 100 years. The role that heritage conservation has taken in both the public and private realms increased dramatically after the end of the Second World War. It is from the extensive loss of historic fabric, from both wartime damage and rapid modernisation in the United Kingdom and the expansive suburban sprawl and urban flight in the United States that the concept of the professional conservationist has formed. For the last fifty years, colleges and universities have taken a role in training these professionals. This role has been focused on training those in the licensed and chartered building professionals rather than craft practitioners. While the importance of heritage conservation in a wider societal context has been demonstrated through numerous reports and studies, little attention has been focused on the training of heritage craft practitioners in the education realm. While concerns have been raised about the loss of heritage craft skills since the 1960's, it is only in the last ten years that this issue has garnered any proper consideration in both countries, when the concept of the "craft time-bomb" of an ageing workforce has come to fruition. It is now, with this situation identified, that both countries have begun to take steps to address the problem. This thesis seeks to examine the approaches and issues in the formalised training of heritage craft professionals in the United Kingdom and United States, from which new approaches to improve the delivery of these skills will be proposed.

1.2 Problem Statement

In the earliest days of the conservation movement in the United Kingdom, prominent figures such as John Ruskin and William Morris lamented the loss of craft skills in the building realm. New technologies such as steel frame construction and the industrialised processes of building material production brought new designs in the architectural domain, beginning the marginalisation of traditional trades. The issue in the United States during this time was less pronounced, given the substantial influx of immigrants trained in traditional craft skills, coupled with the young history of the nation which relegated the concept of heritage conservation and traditional building craft to a minor role primarily focused on the conservation of sites connected to the founding of the nation and the Revolution.

After the Second World War, both countries engaged in substantial building campaigns. In the United Kingdom, the country confronted a housing shortage and the need to repair or replace structures damaged during the war. The United States conversely, faced a major crisis of both housing and employment, with millions of veterans returning from the war and an economy

which only emerged from the Great Depression because of the outbreak of hostilities. To combat these issues, the United States government subsidised new construction through the GI Bill, making low interest loans available to returning war veterans with the caveat that they be used to purchase new homes. With this government support, the United States built 40 million new homes between 1950 and 1974 (Mason, 1982).

These massive construction projects facilitated the use of new construction techniques and specialisations in the construction trades, such as cement block construction and plasterboard interior finishing, that marginalised the traditional structure of the trade systems. Schools and other training bodies responded to this need by emphasising these new construction techniques in its courses, abandoning centuries old techniques and ideas, and those who were trained and continued to practice in the traditional methods became a minority in the industry.

The understanding that the lack of training opportunities in the heritage crafts was detrimental to the maintenance of historic structures was identified early in this process. The 1968 Whitehill Report in the United States noted how technology was displacing building craftsmen, advocating their continuation as a living tradition to ensure the ability to authentically conserve the nation's historic structures (Whitehill, 1968). The Report also called for a five-year plan to re-establish traditional trades in the educational realm. The recommendations of the report were never adopted. Since the Whitehill report, there has been no comprehensive survey about the status of heritage building craft in the United States and little organised research regarding heritage craft education.

In the United Kingdom, the response was no less disjointed. Organisations like the Society for the Protection of Ancient Buildings (SPAB), founded in 1877, had long espoused the revival of heritage crafts, but the impact of their efforts has been minimal when compared to the drastic changes in the construction industry. Some isolated training centres and programmes existed, like the Masonry course at Bedford College, and the Institute for Advanced Architectural Studies at the University of York, which eventually led to multiple programmes being established between the 1970's and the beginning of the 21st century. Many of these programmes have ceased operations or have transitioned into more theoretical academic frameworks. In 2005, The National Heritage Training Group (NHTG), a consortium of heritage groups and training bodies, including English Heritage, the National Trust, and Historic Scotland along with the Construction Industry Training Board released a series of reports entitled "Traditional Building Craft Skills: Assessing the Need, Meeting the Challenge", with follow-up studies being released in 2008 and 2013. These regional reports identified the current situations and needs throughout the four

major regions in the United Kingdom: England, Scotland, Wales and Northern Ireland. This concise study identified that "…traditional building craft skills, which in the past have been handed down from generation to generation are one of our most prized (assets), but are now threatened assets and in need of saving themselves" (NHTG, 2005: p.3). It is from these reports that a renewed interest in the encouragement and training of new entrants to the heritage craft fields has begun, and many organizations are diverting more of their limited funds to training efforts. Groups like NHTG and COTAC (Council on Training in Architectural Conservation), have met regularly to share ideas and to formulate long terms plans for the training of the future workforce. Furthermore, a growing understanding of the value of cultural heritage tourism in the United Kingdom has further enhanced the demand for qualified heritage building craft workers. While there is a renewed interest in craft training, the field remains fragile, as demonstrated by the NHTG losing a major funding stream in 2014, and therefore not initiating any further studies since its 2013 report.

While the United Kingdom can be seen as far ahead of the United States in research regarding heritage craft training, the similarities between the situations faced in both countries far outweigh their differences. Both face challenges concerning the training of their workforces. Until recently, the modern National Vocational Qualification (NVQ) system in the United Kingdom has had limited options in heritage certifications. The training system in the United States is even less well defined, with fewer training opportunities and a lack of standards between programmes. Decreased funding streams and a push towards STEM (Science, Technology, Engineering and Math) education leave programmes in constant jeopardy of closure, with many of those under threat being the only specialized training centre in the country. The termination of the Textile Conservation Centre at the University of Southampton prompted a study examining the fragility of conservation programmes in the United Kingdom, and some of the issues facing these programmes regarding necessary academic qualifications and student enrollment (Leigh 2009). Many of the problems identified in this report are also mirrored in the United States. In 2013, the National Council for Preservation Education (NCPE), a consortium of degree awarding programmes released a primary framework for the placement and promotion of faculty in preservation (conservation) programmes (NCPE, 2013). Conservation programmes in both countries are scattered throughout a variety of disciplines including architecture, archaeology, history, and construction, thereby making unifying curriculum and practice exceptionally difficult, and very few specialise in heritage craft training.

Expenditures per student in these programmes are commonly extremely high in comparison to equivalent course offerings, and instructors who are experienced in heritage craft practice that

also hold the necessary degrees and certifications to teach are extremely difficult to recruit. Colleges, facing increased enrollment and fewer resources are often reluctant to maintain such programmes or create new offerings based on what is still considered by many a very minor subcategory of more expansive fields.

It has been noted by groups in both countries that there is a rising need for more trained heritage craft practitioners to maintain and repair their nation's built heritage. Despite an increased understanding of this need, the training systems for these crafts remain as vulnerable as the skills they are attempting to impart. This thesis will examine the approaches taken by both countries in response to this demand along with the issues facing these attempts and will propose new approaches to improve the delivery of heritage craft skills.

1.3 Aims and objectives

The aim of this research is to examine why, in these two societies, when there is evident demand through market research of the need for an increased number of heritage craft practitioners, that training networks of heritage crafts have struggled to remain sustainable.

This thesis will endeavour to gain a clearer understanding of the history of heritage building craft training in both the United Kingdom and the United States as well as the current approaches both countries are taking to respond to the rising need for qualified practitioners. It is from this examination that potential solutions will be identified that offer approaches to address the issues identified in both countries.

The examination of these problems will be ascertained through the compilation of opinions of both practitioners and educational providers regarding the current training offerings and the issues facing these schemes.

Using Actor-Network theory, a well established sociological research method based on the work by Bruno Latour, this research will study how practitioners, educational providers and others interact to form their respective national networks of heritage craft training. Actor-Network Theory, for which the methodology is described in Chapter 2, has been chosen for this research due to its concepts relating to the study of how connections between various actors, both human and inanimate, create an operable network, and the process and procedures for the formulation and breakdown of these networks of practice. It is from this examination that a clearer depiction of the approaches that each system has chosen to initiate can be understood. From these findings is will be possible to identify and consider the educational challenges that have faced

both systems and it is against these findings that potential solutions will be proposed to improve both networks.

1.4 Key concepts and meanings

An understanding of the background contexts and approaches taken by each country regarding heritage craft training has the potential to enhance the educational opportunities of both. Before a study of this complexity can be undertaken, some key concepts must be identified and further studied to ensure a comprehensive understanding of the subject matter. Key questions about the current heritage craft training environment that this research aims to examine are as follows:

1. *Has the training of craft practitioners throughout history been as cohesive as commonly perceived?* Chapter 3 of this research will examine the history of heritage craft training in both countries to determine if the commonly held perceptions regarding previous training frameworks correspond to the realities of those practices. Beginning with the examination of the medieval Guild structure, this research will investigate the transitions which occurred in the UK training system through the industrial revolution, concluding in the modern National Vocational Qualifications (NVQ) system. Conversely, the US system of training will be investigated beginning with the establishment of the colonies through to the current educational structures. The investigation of the historical progression of heritage craft training of the two countries will form the basis from which to examine perceptions of current and previous systems by practitioners and educational providers.

2. *Have the concepts and philosophies of the conservation movement been uniform across countries and how does this affect the skills desired of craft practitioner?* Chapter 3 of this thesis will also study the evolution of the heritage conservation fields in both countries to determine the effects their progression has had on heritage crafts. From this examination, differences in conservation philosophies concerning age and authenticity, coupled with the building traditions of both countries will be ascertained to determine the craft skills needed for the industries. From these findings, this thesis aims to examine if current educational offerings are relevant for the craft needs of each country's conservation network.

3. *How do heritage craft practitioners perceive the current educational offerings in their countries?*
   Chapter 4 of this thesis will examine the paths that a representative sample of three generations of heritage craft practitioners have taken to enter the field. By studying the

routes available for these generations, an enhanced understanding of the progression of the educational opportunities for heritage crafts since the Second World War will be gained. It is from this understanding that the opinions that interview participants have pertaining to the current educational offerings can be placed in a greater context which may assist in comprehending if disconnections are occurring between industry perceptions of craft training and the realities of practice.

4. *What challenges face the training delivery networks in both countries and what innovative practices are current being attempted to address these issues?* Chapter 5 of this thesis aims to examine current issues facing heritage craft training by examining interview responses from current training providers. This research seeks to gain a clearer understanding of the concerns of the respondents regarding the sustainability of the system and the steps these providers are taking to address these concerns. By studying the challenges faced by educational providers, along with innovative practices that are currently being performed in both networks, is it anticipated that a greater understanding of how heritage craft programmes operate in the educational frameworks of both countries will be gained.

5. *What new approaches can be proposed to address the identified issues in both training networks and which approaches can be adopted by both systems to improve training?* The goal of this research is to propose avenues in which to improve the training delivery of both heritage craft networks. This thesis will triangulate the historical basis of heritage craft training with the experiences and perceptions of both practitioners and educational providers to propose new directions which may assist in the strengthening of the educational frameworks. It will examine the similarities and differences of the two training networks to propose improvements to these systems which are specific to their individual countries. This research also aims to recommend initiatives which may be adopted by both networks based on shared elements of the systems. It is anticipated that these recommendations, found in Chapter 6, may be used by the networks to assist in the formation of more sustainable training systems.

Vocabulary differences

English writer Oscar Wilde once wrote that “We have really everything in common with America, except of course, language” (Wilde 1887: p. 5). This statement can be regarded as true when examining the field of conservation in both countries, as vocabulary differences are numerous. These vocabulary differences can often cause confusion when comparing the two systems. While

the vocabulary differences between both countries are abundant, it is critical that some key terms are identified to ensure a mutual understanding of terminologies used in this research. Some of the more important terms that must be established at the onset of the study are as follows:

Conservation: The term conservation in the United Kingdom has been consistently applied to the practice of intervention to protect and care for heritage buildings, sites and monuments. In the United States however, this term is primarily applied to the protection of the natural environment. The term conservation in the US is also often applied to techniques used to protect materials such as fabrics, paper, and other artefacts. The expression is only commonly applied to historic buildings when referring to individual building components such as glazing, and the concept of conserving complete structures is not commonly applied in the US. The terms typically applied to the protection of historic structures are either preservation or restoration. The terms are often used interchangeably by laypersons, but professionals differentiate between the two expressions. Indeed, there are no training programmes in the United States that are titled "Conservation", as they are frequently identified as "Historic Preservation" courses, and this nomenclature further extends to heritage organisations, such as the National Trust for Historic Preservation.

Vocational Education: Vocational Education is referred to in both societies as training for a specific occupation in mind. Vocational programmes instruct individuals on the specific training needed to perform a job or vocation, also known as procedural knowledge. Vocational education focuses on these skills over traditional academic subject matter, commonly referred to as declarative knowledge. Vocational education can be obtained through traditional college enrollments, but can also be attained through training bodies such as City and Guilds programmes in the UK or union apprenticeships in the US.

Heritage Building Crafts: The Creative and Cultural Skills Group defines heritage building crafts as "skills requirements from a contractor's perspective in relation to working on the built heritage stock" (Jennings 2007: p.16). While the term has gained acceptance in the UK, it has, until recently, been foreign to US practitioners. A complementary term that is used extensively throughout the US is preservation trades. There is a growing rejection of this term, as it implies that those employed under this expression are only competent in the repair techniques of historic structures and not traditional building techniques. While many in the field object to this term and prefer traditional trades as a substitute, the phrase remains the standard in the US.

Placements: Placements will be identified as those students who have completed the necessary coursework and achieve full-time employment in their chosen field of study. In the UK, placements can be applied to a variety of contexts. Placements can be referred to those who have gain entrance into a chosen programme, often indicated as accepted applicants in the US. Placements are also designated in the UK as those students who receive short term employment, either paid or unpaid as either a partial fulfilment of necessary course work or as a supplement to stated requirements. These work arrangements are routinely referred to as internships in the US. To avoid confusion in this thesis, placements will be defined as graduates who have received full time employment in their field.

College degree: A College degree will be identified in this thesis as degrees awarded by College programmes. In the UK the separation between Colleges and Universities is clearly defined. The situation is not as transparent in the US, as many Colleges award Bachelor's degrees and higher. For clarity in this study, College degrees will be identified as those awarded by two-Year College systems. Those will be the Further Education system in the United Kingdom, and the Technical or Community College systems in the US. Examples of award offerings include Higher National Diplomas (HNDs) and National Vocational Qualifications (NVQ) awards in the UK and Associate Degrees and Certificates in the US.

University degree: A University degree will be identified as a degree awarded from a Higher Education Institution. As previously stated under the definition of College, the standards that differentiate between Colleges and Universities in the UK are clearly defined but is not so in the US. Although the standards are not identical between the two societies, the awards for University degrees are. For the purpose of this study, University Degrees will be identified as those awarded for the completion of an academic course. Awards include Bachelor of Science or Art, Master of Science or Art as well as Postgraduate Certificates and PhDs.

1.5 Thesis Scope

While the subject matter that will be examined in this study is expansive, it is not a comprehensive review of all heritage craft training offerings. Due to time and length constraints, it is impossible to examine the field in its entirely and the limitations to this study are as follows:

This study will not be a comprehensive survey of all offerings in both countries. The aim of this thesis is to create a comparative study of craft education offerings between both countries. To achieve this goal, this study will examine comparable courses to create a representative analysis of the standard structure, challenges and successes of each countries' offerings. It is anticipated

that from this representative sample that hypotheses regarding the overall health of the heritage craft training in both countries can be developed.

Not all heritage craft will be investigated. Crafts studied in this thesis are based on the interview participants' fields of specialisation. All effort has been made to align generational participants and course structures to achieve a comparative analysis of experiences. This research will focus primarily on the timber framing, masonry (stone and brick), and plastering trades. Certain participants have self-identified as participating in a wide range of trades, often referred to as generalists in the field. To effectively examine the capabilities of the current training networks to instruct students in these fields, attempts have been made to identify educational providers that offer courses or specialisations in these skills.

The definition of heritage craft includes not only the building crafts but also those identified with domestic and industrial processes such as weaving, dyeing, printmaking, knife making and cooperage. These fields are exceptionally specialised and have innumerable levels of participation between the two countries. Some, such as cooperage, have an extremely limited number of participants and forming representative data from these groups would be difficult. Others, such as weaving and dyeing are heavily subscribed and have been studied in detail by a variety of reports. Many of these are also cottage or hobby crafts and fit poorly into the study of the heritage building crafts, and there are separate debates concerning the value and maintenance of these crafts as well as organisations associated with them.

Indeed, even in the realm of heritage building craft, not all craft trades will be represented in the study. Certain crafts such as flint knapping in the UK has no comparable skill in the US. Conversely, adobe construction, found commonly in the Southwestern US, has no equivalent in the UK. It is important to note that even in their countries of origin craft trades may be in higher demand in certain regions than others. An adobe construction and restoration programme for example would be unnecessary in the northeastern region of the United States, as there is no adobe construction within 2,000 miles of the region.

Other trades which predate the founding of the United States, such as lead working will also not be covered. Exceptionally rigid lead handling and disposal laws, coupled with the limited use of lead in historic structures do not call for the creation of training courses in the United States, but could be seen as valuable courses in the UK. The same viewpoint can be applied to thatching and wattle and daub applications. While both were used in the very early periods of American history, their practices were quickly eclipsed by other building crafts therefore negating the purpose

behind training of these skills in the United States. Conversely, crafts such as square rule layout timber framing would have not applicable purpose in the United Kingdom and is indeed unknown to many practitioners in the craft.

While the field of heritage conservation is expanding, and the identification of heritage sites is growing to include those buildings from the mid-century era, the crafts involved with the construction of those structures will not be studied. Crafts such as concrete are taught in standard building craft courses and are still commonly used in the construction industry. It is due to the common use and the relatively recent introduction of these techniques that they are not currently considered heritage crafts.

Certain proposed potential approaches to improve the systems may not be applicable to both societies. The goal of this thesis is to critically compare the histories, composition, and practices of the heritage craft training networks in both countries to determine if cross-cultural solutions can be proposed to improve both systems. As stated previously, the education systems in each country do not align seamlessly and some proposals presented in this research will reflect the distinctive differences of the two networks. The block or day release plans, for example, while common in UK, is extremely limited in adoption in the US, and many individual state plans prohibit such training delivery. While cross-cultural similarities will be identified during this research which recommendations can be formulated from, certain proposals will be developed based on the distinctive characteristics of each network. It is important therefore to acknowledge at the onset of this research that not all solutions proposed in this thesis can be applied unilaterally in both societies.

1.6 Thesis Structure

This thesis is divided into three sections: *History of Building Craft Education*, *Examination of Current Educational Offerings*, and *Approaches for the Future*. These sections will examine the following:

History of Building Craft Education: Section One (Chapters 3 and 4), examines the history of the medieval Guild system and the role it has played in the establishment of modern vocational education ideals. It then examines the divergence of building craft traditions and training that occurred between the two countries which began with the colonisation of North America and continued throughout the beginning of the United States. An investigation of the modifications in building craft training that occurred through the Industrial Revolution and the Second World War includes an analysis of the establishment of the conservation movement in both countries as well

as the early responses to the loss of heritage craft skills. Section One concludes in Chapter 4 with a study of the post war period including the changes in the building industry and educational fields. Incorporated in the study of the post war period is the investigation of data collected from three generations of building craft practitioners who recollected their methods of training and their opinions of their educational experiences. This data is based on a series of semi-structured interviews with six members of each of the three generations identified to analyse the socioeconomic and cultural issues facing heritage craft training since the conclusion of the Second World War and the generational responses to the difficulties they encountered.

Examination of Current Educational Programmes. Section Two (Chapters 4 and 5), begins with an examination of practitioners' opinions of the current educational offerings as well as their concepts for an ideal educational programme, followed by an investigation of the current condition of heritage craft training through the views of training providers. This is based on the analysis of a series of semi-structured interviews with training providers in both countries. These interviews identify the students and instructor composition of each programme, as well as concerns facing the effective continuation or expansion of their courses. The interviews conclude with examinations of innovative approaches undertaken by these programmes to advance the field of heritage craft education. Interview participants are drawn from multiple sources, including administrators, course leaders, and faculty members of both operating and redundant programmes. This analysis investigates the structural differences which exist between the two systems and determines how these educational approaches affect the delivery of heritage building craft training.

Potential Approaches for the Future. Section Three (Chapter 6), examines the conclusions found in Section Two to propose potential approaches for the improvement of heritage building craft training. It begins by identifying innovative techniques taken by individual programmes which may be adopted on either a national or cross-cultural scale. Potential drawbacks to widespread adoption of these practices are also acknowledged.

This section also examines the findings of the semi-structured interviews carried out in Section Two to determine if industry perspectives of craft training align with the realities of the educational practices. From the triangulation of historical evidence, practitioners' opinions, and educational provider experiences, this thesis proposes potential approaches for improvement in both the UK and US systems. It will conclude with potential approaches that may be collectively adopted across both cultures.

At the conclusion of this thesis (Chapter 7), an improved understanding of the similarities and differences that exist between the heritage building craft educational fields in the UK and US, as well as suggestions of ways to improve both systems, will be developed. It is from this understanding that educators may ascertain more improved delivery methods of heritage building craft training.

Chapter 2: Research Methodology

2.1 Introduction

As stated in Chapter 1, this research aims to develop a clearer understanding of the historical progression of heritage craft training, along with why, when there is a perceived demand for an increased number of heritage craft practitioners, that training networks in both countries have laboured to remain sustainable. Specifically, it will examine how, working within prescribed frameworks set forth in higher education, traditional building crafts can be maintained in modern academic institutions.

To effectively study craft training and practice in comparison to other formal educational pursuits, it is important to understand the process in which a craft practitioner develops their understanding of their trade. According to Aristotle, human actions exists in two forms; the poesies and the praxis. Poesies action are production activities which relate to economic life, or "making action", and is guided by techne, commonly referred to today as instrumental reasoning. Poesies therefore exists as an instrumental action which requires knowledge, methods, and skills which formulate technical expertise. The Greeks would consider the work of the craftsman as a productive philosophy, which uses established methods and knowledge to reach a pre-determined end (Carr, 2006: p. 425-426). Praxis knowledge, according to Aristotle is interpreted and applied through concrete situations which produces an understanding of best practices, identified as phronesis (Carr, 2006: p. 426). Previous studies in craft practice and training, examined in Chapter 3, along with practitioners and educational providers have used both poesies and praxis human actions to identify progression of craft skills, using instrumental reasoning and praxis understanding to determine progression of competence in the field. Historically, these understandings of competence have been structured in the frameworks of the Guild system, using the terms apprentice, journeyman and master to identify a member's development of "making action" through praxis understanding. Today, with the less structured network of practitioners, these expressions have often been replaced with less defined terms of "skilled" and "unskilled", with fluid definitions being used for both.

While knowledge and practice are intertwined in the heritage craft profession (phronesis), this research will focus on the subject of generational knowledge transfer of traditional practical skills (poesies). This will be achieved through literature reviews, and by studying the historical transition of craft training techniques in both systems. Through qualitative analysis of in-depth semi-structured interviews conducted with practitioners and educators, the researcher will examine the current conditions of heritage craft training in formal academic settings by studying,

as Malterud states, the interpretation (hermeneutics) and human experience (phenomenology) of the interview participants (Malterud, 2001).

2.2 Methodological approach

This study used several approaches to gather data on the current condition of heritage craft training in the United Kingdom and United States, including current perceptions regarding the quality of the training delivered, as well as the challenges and successes in both contexts. This data was compiled through three forms of data collection. These include review and critical evaluation of historical evidence, qualitative semi-structured interviews with individuals practicing in heritage craft, and qualitative studies of heritage training providers. These differing approaches to data collection from varying data and methodological approaches will then be compiled to serve as the basis for the proposals found in the "potential approaches for the future" section of this research.

This study will examine the interaction of traditional training techniques, current heritage craft practitioners, and modern craft educators utilising Actor-Network Theory methodology, commonly referred to as ANT, which "maps the social relations between people, objects and ideas, treating all as agencies that form a broad network" (Cerulo, 2009: p. 533). Originally developed by Bruno Latour and others to study the processes of learning in laboratory settings, the idea has begun to become prominent in the social science communities. While still used limitedly in conservation studies, a notable application of this methodology can be found in the research of Thomas Yarrow and Sian Jones on their studies of the conservation network of stone masons and conservators at Glasgow Cathedral (Yarrow and Jones, 2013 and 2015). The goals of ANT can be confusing, as many presume that a network must have a definitive shape and structure. However, Latour notes that ANT is more interested in tracing and uncovering new institutions, procedures, and concepts that can better (re)connect the social (Latour, 2005).

Latour argues that all subjects in a network are considered actors. While many methodological frameworks consider humans as the only actors in a system, ANT identifies that any component which has affect or is affected by the network is also considered an actor. In his initial work dealing with laboratory settings, it can be stated that the humans, the equipment, and even the laboratory itself could all be considered actors within the knowledge base. All networks are constantly in transition, and either need to be maintained or remade through processes which support their work (Latour, 2005).

ANT takes a unique view of society as a whole. In his work *We have never been modern*, (Latour, 1993) Latour argues that "the very notion of culture is an artefact created by bracketing nature off. Cultures-different or universal-do not exist anymore than nature does. There are only nature-cultures" (Latour, 1993: p. 104). In essence, no cultural or societal practice can exist without the interaction of human actors (culture) with non-human actors (nature) to form a network of knowledge and understanding. Because of this, in ANT methodology, "society" is not the context in which everything else is framed, but rather one of the "many connecting elements circulating inside tiny conduits" (Latour, 2005: p.5). This research studies the interaction of the practitioners and educators of the historic built environment in educational settings working to develop modern networks of training for heritage building crafts.

The central component in this societal view is the concept of *translation*, in which actors create a forum in which they agree that a new or existing network is valuable to defend and possibly expand (Callon, 1986). According to Gadamar "…even the most genuine and solid tradition does not preserve by nature…it needs to be affirmed, embraced and cultivated. It is essentially preservation…but preservation is an act of reason" (Gadamar, 1975: p. 250). Within the *translation* process, there are four elements:

1. *Problematisation*: Identifying the problem which needs to be solved
2. *Interessment*: Recruiting interested actors and determining the terms of their involvement.
3. *Enrollment*: Actors accept the roles in which they are assigned.
4. *Mobilisation of allies*: Recruiting actors in the network to serve as representatives of the network to the greater community.

From this *translation*, a network is formed. Although the actors in the network have individual roles, they are dependent upon each other's abilities to complete their tasks in order for the network to maintain. A properly maintained network therefore, should be represented as an entire unit rather than its individual parts, a concept referred to as *punctualisation* (Callon, 1986). When networks cease to operate effectively, *punctualisation* also breaks down, exacerbating the dissolving of the network.

This research examines the transition of the traditional craft knowledge transmission network since the conclusion of the Second World War. Through examining historical evidence, along with punctualisation transitions through of the post war period identified by interview participants, it will examine the attempts by craft practitioners and educators to reimagine the training network

of heritage craft in a modern educational environment. This will be achieved through the examination of three post war generations of craft practitioners' approaches to education, along with current educational providers' opinions of the current status of craft training programs, combined with the participants' interessment and enrollment in their networks. These networks will be examined in the UK and US and will then be cross-analysed to determine potential mobilisation of allies and approaches across cultural boundaries.

Although Actor Network Theory was ultimately chosen as a methodological framework for this research, several other methodologies were also explored. Grounded theory was investigated as a potential methodology but was eliminated due to the researcher's previous personal experience with the subject matter, as grounded theory methodology recommends the researcher to not have performed any previous literature review on the subject matter (Glaser and Strauss, 1967). Although grounded theory was not chosen as a methodological approach, its method of coding interview transcripts was adopted to simplify data gathering. Action research, also known as Participatory Action Research (PAR), was also considered, but it was determined that due to the limited timeframe of the research, complete analysis of data gathered from actions proposed would not feasible, as it involves direct application of changes in practices and monitoring of results (Gadmar, 1975).

Literature Review

An analysis and synthesis of historical evidence for the history of heritage craft training forms the focus of Chapter 3 of this research, drawing on both primary and secondary resources. It will present a narrative account of the historical background in regards to the traditional approaches to craft training. The historical settings in which traditional craft was disseminated to the next generations of practitioners will be studied, with an emphasis on the reintroduction of heritage craft training in recent years. This historical study also considers the role that changing conservation philosophies have performed in the retention, and sometimes reintroduction of heritage building craft skills. This narrative of the history of heritage craft training focuses on previous research and scholarship in the field from medieval through modern applications, with a focus on the post-war period.

Qualitative Semi-Structured Interviews

A series of semi-structured interviews engaged three generations of practitioners and traditional craft advocates, with the aim of constructing a comprehensive understanding of the changes in heritage craft training since the conclusion of the Second World War. Six interviews were conducted for each generation, with three practitioners or advocates interviewed for each

country, and one which has experiences in both networks, for an aggregate number of nineteen interviews. These interviews follow a series of ten questions and were performed in one interview session or over multiple interview sessions, dependent on the interviewee's availability and interest. These interviews include questions about the participant's vocation as well as the method of training in which they were educated. The interview concluded with the interviewee's analysis of the current delivery of heritage craft training, including their perceived concerns about contemporary training as well as their opinions of the future of heritage craft training both in their own country and internationally. Sample generational interview questionnaires can be found in Appendix IV.

Case Studies Questionnaires

The researcher interviewed six higher education programs in the US and five in the UK to investigate current approaches to heritage craft education. Multiple attempts were made to identify a sixth UK participant, which were unsuccessful. The researcher conducted semi-structured interviews with representatives from the selected eleven schools. From the correlation of data from these semi-structured interviews with trainers that thorough case studies of current programme offerings will be presented.

The research also explores issues around course creation and redundancy in heritage craft training programmes. To obtain the information required for this research, several of the semi-structured interviews were held with training providers from those institutions which experienced these concerns. Interviews conducted with these providers followed the same format as those conducted with providers which operate within the higher education programmes identified through earlier case studies. Recently established programmes were defined as those programmes which have been in existence for five years or less. Sample questionnaires are provided in Appendix V.

Data collection and research forming new approaches for future

It is the goal of this research to assist in formulating an analysis of the health of the international heritage craft training field as well as to contribute to a deeper understanding of the important role of heritage craft training in the conservation of built cultural heritage. It was therefore vital that the data collected in this research be properly correlated, analysed and stored to enable an accurate understanding of the research being performed and to assist future researchers in conducting additional research.

Once the research with heritage craft practitioners and educational providers was completed, the data collected from the semi-structured interviews and site visits was coded to identify themes which were analysed and assessed critically to inform possible future approaches to heritage craft training in the UK and US as well as internationally. New approaches for the future were identified from these direct interactions with those engaged in the field as well as the historical context in which heritage craft training was delivered. It is from the methodological and data triangulation that more comprehensive proposals were formulated.

Empirical limitations of the survey

While the research executed is broad, there are significant limitations to the amount of data which can be collected during this study. These limitations include number of participants, time and size constraints, vocabulary issues, technological restrictions, the potential for significant amounts of surplus information and issues surrounding the researcher's previous interactions with interview participants. While this study interviewed nineteen individual practitioners, this represents a small subsection of those who practice heritage building crafts, and the philosophies and opinions in the field vary drastically. While much of this variation is reflected in the interview participants, the limited number of participants does not reflect the variations of education, experience and philosophies which are present in the greater field. Since this study has a limited time frame, limitations needed to be established regarding the number and depth of each component studied. While modifications to the schedule occurred, given the availability of interview participants, institutional teaching calendars, and travel constraints, it was determined that limiting the number of participants allowed for enough flexibility in the schedule to obtain a representational cross section while still completing the research in a timely manner. Furthermore, given the overwhelming proportion of male practitioners, particularly in older generations, all attempts were made to incorporate female participants when possible, but a balanced gender examination was determined to be unattainable.

There are considerable differences in the usages of vocabulary employed by professions operating in each country. Indeed, these vocabulary differences caused issues within the research. While the researcher often used the interview subject's vernacular language during the interviews, any variations regarding vocabulary were properly identified and noted in the research to ensure consistency.

Perhaps the most vital concerns regarding the gathering of empirical data was the personal relationship the researcher held with many of the interview participants. Given the researcher's previous role as a heritage craft practitioner as well as his current role as heritage craft educator,

the researcher and many of the interview participants have established professional and personal relationships. These relationships can be interpreted as having both positive and negative repercussions for this study. The previous relationships established assisted in putting the interview participants at ease with both the researcher and the questions posed, allowing candid responses to the interview questions. Some participants referred to previous shared conversations or experiences that have occurred between the researcher and interviewee. Several participates also referenced mutual colleagues who may or may not have been interviewed for this study. The researcher made all attempts to limit or clarify these past experiences in the interview sequence.

A greater concern with these past relationships is the interview participant's potential concerns of personally affronting the researcher while answering questions posed. This is of particular concern when addressing the current value of heritage craft training. Given the researcher's current position as a heritage craft educator, the concerns of the participants were addressed in the interview. The researcher noted this concern during the interview process and reiterated the importance of candid responses to the questions posed as well as the researcher's role as an unbiased participant in this study. While every attempt was made to alleviate these concerns, it should be noted that these previous relationships may bias the responses that some participants delivered during the interviews.

2.3 Sample questionnaires

The semi-structured interviews with individuals and educational providers form a significant proportion of the primary data gathered in this research. Two forms of interview questionnaires are used. One questionnaire is designed for individuals who formerly or currently practice heritage building craft or those which serve as major advocates for heritage building craft training in their professional or volunteer roles. The second questionnaire is designed for those who serve as trainers or administrators in educational institutions which offer heritage craft training. Those former trainers and administrators of redundant training programmes were also administered the educational provider questionnaire.

The interview questionnaires are composed of 10 questions each with each question having a series of probes assigned to it. The differential between the two are as follows:

Questions: The questions within the designed interview questionnaire are generalised, flexible queries designed to elicit detailed responses. These questions are intentionally kept generalised to allow the interviewee to respond in a manner which they feel comfortable. The researcher has

purposely avoided potential polar questions to elicit detailed responses from the interviewee. It should be noted that the responses of each interviewee will vary, and certain questions may not be equally applicable to each interviewee, therefore responses given by each interviewee will reflect such relevance.

Probes: Probes are specific questions located in each of the ten questions of the interview questionnaire. Probes are designed to answer specific aspects of the questions posed to the interviewees and were used to focus the interview. Probes are only to be used when the interviewee needed assistance framing the answer to the posed interview question, or in an instance in which the interviewee gives a short or incomplete answer to the question which was posed to them. It should be noted that not all probes were applicable to all participants, and many probe questions were answered in the context of the original question framed and did not need to be implemented.

Sample questionnaires for the individual interviews as well as education providers can be referenced in Appendices IV and V respectively.

2.4 Ethical Considerations, Data Collection and Storage

The questionnaire frameworks have been submitted to and approved by the Department of Archaeology's Ethics Committee. All interviewees were required to sign a release of informed consent to allow their interview to be used in the research. The interview subjects were also required to verbally confirm their consent to be interviewed before the session began. These verbal conformations were recorded and retained as portion of the interview documentation. The interview participants also agreed that they will not be anonymous participants, and they will be named in the research. The lack of anonymity in the research is due to realisation by the researcher that many of the interviewees are prominent and easily recognisable within the heritage craft field and that a promise of anonymity would be impossible to guarantee in the study. Since there is no promise of anonymity for the participants, the interview subjects have access to their responses as required under the Data Protection Act of 1998. In May 2018, the new General Data Protection Regulation (GDPR) will be initiated, and this data will conform to these updated regulations.

In person interview sessions were recorded using a digital dictation recorder. When distance and time limitations prohibited the researcher and subject from interacting in person, a Voice-over Internet Protocol (VoIP) system was used to communicate. Given its popularity and availability, it was determined that Skype will be the VoIP of choice for conducting research. Since Skype did

not offer video or audio recording features, a third-party recording programme was used. The researcher chose to employ the Evaer recording system due to its simplicity as well as the security reinforcement provided by the service. Evaer recordings were both video and audio recordings which, upon completion of the interview, were uploaded to the voice recognition computer software for transcriptions. Finally, the transcription was verified for accuracy by the researcher.

Data has been stored in accordance to the University of York's data storage guidelines. All interview recordings, transcriptions, release forms and supporting documentation will be kept for ten years after the conclusion of the research. In accordance to University policy, all documentation will be kept in at least two locations. The first will be in the University library holdings, compiled under the appendices of this thesis. The second location will be on an internet electronic infrastructure system, commonly referred to as a "cloud". This cloud storage will be password protected and will only be accessible by the researcher or selected representatives from the University of York.

It is expected that at the conclusion of this research, the findings will be held in readily available but secure locations which will allow access to interested parties while keeping in compliance with the University and new GPDR Governmental regulations surrounding data collection.

2.5 Conclusion

Using the Actor-Network approach, this research studies the punctualisation failures of the post War generational knowledge transfer systems as identified by multiple post-war generations of practitioners and educational providers. From the identification of theses failures, the study will suggest translation approaches taken by the current network of practitioners and educator actors in formulating a modern approach for heritage craft training which can operate under current educational frameworks. By examining the historical and current "nature-cultures" (Latour, 1993) of heritage craft training, it will attempt to examine the current translation of training as prescribed by the participatory actors, based on their understanding of the historical basis of their field, as well as their own experiences, juxtaposed against historical evidence of past practices. The correlation between historical data, practitioner phenomenology, and educator hermeneutics will allow formation of a series of proposals for the continuation of heritage craft knowledge to be presented.

Chapter 3: History of Building Craft Training

3.1 Introduction

The education of heritage craft practitioners presents a unique set of principles and challenges. It can be argued that the field rests in a convergence between two sets of different, sometimes conflicting professional routes. The education offerings provided must meet the technical standards that are required to operate in the heritage craft industry, while simultaneously instilling the academic philosophies and professional codes of the conservation field. This amalgamation of requirements necessitates the establishment of specialised programmes that fulfil these objectives, as well as external routes for apprenticeships and graduate placements.

Since the conclusion of the Second World War, the field of heritage craft has seen a period of rapid decline followed by the beginning of a rebirth in its appreciation and use. This rebirth can be identified as being a result of the rise of the heritage conservation profession in an international perspective, as discussed in section 3.3. As the conservation field develops into a recognised mainstream profession, the need for individuals properly trained to perform repair works on heritage buildings will continue to grow. Although the need for these individuals continues to rise, the routes of training remain limited and the futures of those opportunities precarious.

To conduct a thorough analysis of the potential future of heritage craft training in the UK and the US, it is imperative to study the individual components; students, trainers and industry which shape the field to determine the advantages and weaknesses of the historic and modern training systems to properly place the modern applications into perspective. In section 3.2 of this chapter the traditional methods in which craft knowledge was transferred through generations, as well as the changes that system has experienced throughout time is examined. Furthermore, in section 3.3, this research studies the rise of the conservation movement in the UK and US, in which the philosophical foundations and organisational composition vary significantly, as are the approaches both systems have taken to the need for craft practitioners. It is from an understanding of these historical and modern contexts of heritage craft delivery that a greater comprehension of the current issues surrounding the sustainability of heritage craft training programmes can be understood. It is important to note that the UK and US educational structures have marked differences in their frameworks, a subject matter too broad to be studied in this research. A concise explanation of the UK and US educational frameworks can be referenced in Appendix I of this thesis.

3.2 Examination of historical approaches for craft training delivery

The modern perception of training for the trades can be traced to the formation of the European Guild Systems during the Middle Ages. These craft Guilds formed individual and collective networks of consumers and producers and those who regulated both. Guilds formed not only an economic purpose, but also social one, joining members of the same craft together for their own benefit. Guilds, as argued by historian Heather Swanson, were originally established to protect workers from being exploited for their skill by the ruling classes, but evolved into influential organisations in their towns, wielding political and economic power, dictating standards of entrance, training, and promotion locally and eventually nationally, which is argued by some to be the source of their eventual dissolution (Swanson, 1988).

Throughout their transition, the Guild system formed a network of support which proved valuable in premodern English society. Economic historian Stephen R. Epstein notes the complexity of the support network included collective bargaining, quality control and financial reinforcement. Most notably for this research, Epstein argues the importance of the ability to "sustain systems for the transmission of skills and technical innovation" (Epstein 2008: p. 155-156). This complex and interwoven support network which Guilds provided has been noted as the rationalisation behind the longevity of the Guild structure in the UK (Epstein, 2008, and Wallis and Gadd, 2008).

The author of this research contends that the formation and eventual dissolution of the Guild structure in the UK, and the failure of the system to take root into American society has contributed to the shaping of the training systems which exist in both countries today.

Local craft Guilds in England, based around individual trades, had been training apprentices since as early as the 13th century. Indeed, the first formal regulation in law, an Act of Common Council, was written in 1300 to address how London apprentices should be enrolled in their trades (Dunlop, 1911). While many cities adopted individual rules for the training of apprentices, there was no formalised regulatory system until the 1563 Statute of Artificers, which set national standards for apprenticeships. This Act served as regulatory law until it was replaced by the 1814 Statute of Artificers and later passage of the Municipal Corporation Act of 1835 (Elbaum, 1989). Before the Statute of Artificers Act, standards for apprenticeships varied by geographical location, making it difficult to confirm the legitimacy of a person's training. A response to discrepancies in labour availability and skills, the Statute established national rules, including who could take on apprentices and their length of service. While the Act was meant to protect craftspeople, Jocelyn Dunlop argues that it had greater political implications, as statesmen and

leaders turned to the system of training established by the Guilds to help address greater issues surrounding urban centres including labour tensions and rising pauperism (Dunlop, 1911).

According to the 1563 Act, any persons over 24 years of age could take on an apprentice, and that the term of their service should be no less than seven years. Furthermore, the Statute, based on the standards set by the London Guilds, restricted practice of trades to those who served an apprenticeship (Wallis, 2008). Local Guilds then imposed further standards on apprenticeship training, including formalised contracts between apprentices and their masters, dictating fees or 'premiums' paid by the apprentices' families to the masters, along with levels of literacy, health, and skill level at the end of their terms. These contracts between the apprentice and master were then 'enrolled' or registered with the local Guild, allowing legal actions to be taken by the apprentice or master if contract stipulations were violated (Wallis, 2008). The seven-year training system, in which an apprentice can petition for membership into the Guild upon completion, held considerable risks for both the student and master. The standard understanding of apprenticeship training, according to economist Patrick Wallis, is demonstrated by the following diagram:

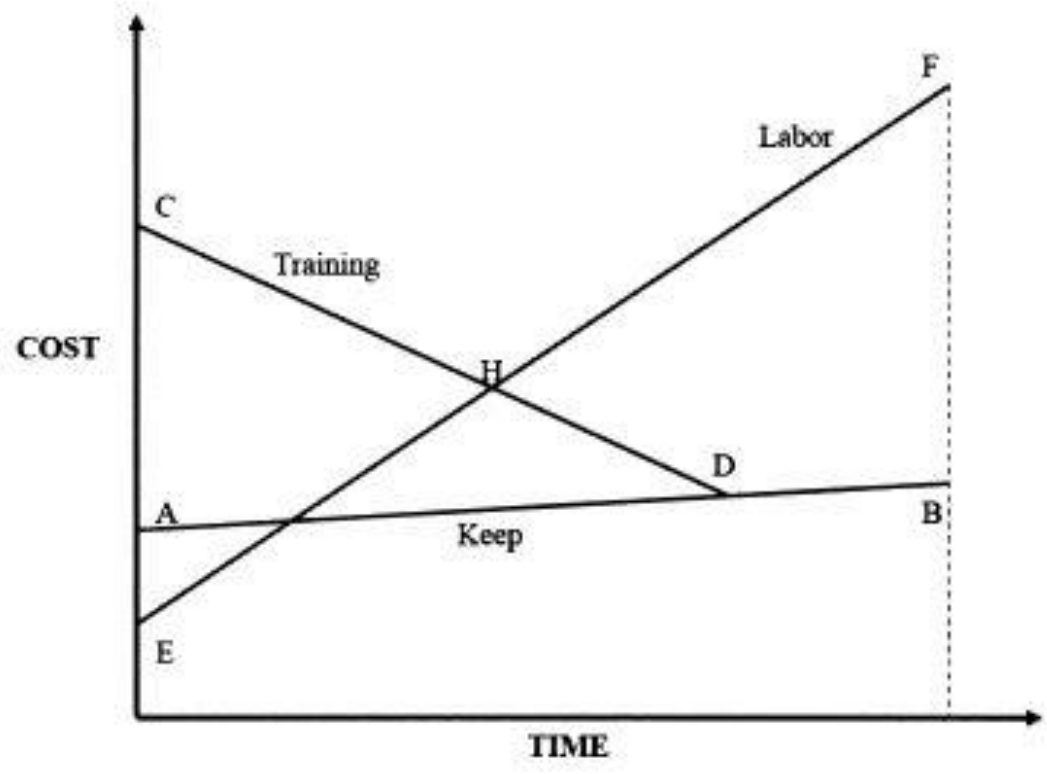

Figure 3.1
The Standard Account of Apprenticeship Training

Notes: Line A to B represents the cost to the master of an apprenticeship keep (board, lodging, and incidental expenses; line C to D represents the cost of the training the master gives his apprentice, above the cost of his keep; line E to F represents the value of the apprentices for the master. Area CHE is that part of the master's expenditure on the apprentices' early training and keep are not met by the value of the apprentice's labour at that time. Area FHDB is the value of the apprentice's labour in his later years, when it exceeds the cost of his keep and training (Wallis, 2008: p.837).

Wallis argues however, that this account of apprenticeships is false. He contends that is was necessary that apprentices' training was conducted in tandem with profitable production, which permitted less vulnerability for the masters in case of default by the apprentices (Wallis, 2008). Wallis further contends that the standard account of apprenticeship training, which distinguished apprenticeships as a two-fold approach process in which the master invests heavily with the expectation of later repayment, disregards several important characteristics of training, notably the understanding that masters could not train apprentices full time, therefore instruction needed to be fragmented over time, with much done through observation and practice (Wallis, 2008). Therefore, work and training in pre-modern apprenticeships, Wallis disputes, were often interchangeable (Wallis, 2008).

Wallis' argument about the common perception of the apprenticeship investment returns is reinforced by research performed by investigators studying modern craft training. Cultural anthropologist Trevor Marchand's study of craft trainees in Yemen, Mali, and London, notes that from the outset of their training, apprentices begin to develop their skills as well as an understanding of their place in the social hierarchy of their craft. Since most training is done on-site rather than in a formalised environment, the apprentice, through meticulous observation of their fellow practitioners, must 'steal' craft knowledge through observation, listening and repetition (Marchand, 2008). Indeed, by doing so, apprenticeship training is inherently piecemeal in nature, as progression in the apprentice's craft can only occur once mastery of preceding techniques is acquired. Furthermore, explaining craft practice has its limitations and must be demonstrated, which again leads to piecemeal instruction. Marchand notes of his experiences with Yemenis masons: "When asked to explicate their skilled know-how and design expertise, however, language quickly met its limits and the masons, like most craftsmen, resorted to demonstration" (Marchand, 2008: p.253).

This non-verbal method of skills acquisition translates into the need for apprentices to be actively engaged with the labours of production from the beginning of their training, as observation can only occur on site. Indeed, upon closer examination, it can be determined that having the apprentice onsite immediately translates into an economic gain for the journeyman or master. By performing the menial tasks such as preparing and transporting materials, the trainee unburdens the more skilled practitioners from performing these responsibilities, permitting them to engage in more financially lucrative tasks, while concurrently allowing the apprentice the develop the somatic understanding of working with their materials.

If the apprenticeship term was completed, the trainee could apply for membership in the local Guild, which could include the passing of examinations as well as the payment of entrance fees. The apprentices could then register as “freeman” of the city, moving into their journeyman stage of their career and enjoying the protections offered by the Guild system. In turn, the former apprentice, by eventually taking in their own apprentices, continued the generational transmission of knowledge which Richard Sennett refers to as Guild “knowledge capital, the source of the Guild’s economic power” (Sennett, 2008: p.57).

Although the Guild offered significant advantages for those completing apprenticeships, it should be noted a large percentage of apprentices that did not complete their term of service. Modern estimates contend that approximately 10 percent of apprentices died during their term, and more were disabled or experienced significant illness during their terms (Wallis, 2008 and Minns and Wallis, 2012). Through studying Guild and town records throughout England, recent research argues that fewer than half completed their terms and became freeman, noting that the London Carpenter’s Guild reported only 39.7 percent completion rates between 1540 and 1590, with 14.6 percent passing away, 1.1 percent becoming wed, and the rest; (44.6 percent) reported as ‘gone”, with their departure reasons being unknown (Wallis, 2008).

Contrary to the opinions of many, which will be discussed later in this study, the formation of the Guild apprenticeship system had a notable rate of non-completion, translating into substantial expenditure for the master with little return if the standard account of apprenticeship training is followed. Given this level of attrition, it would seem uneconomic for masters to attempt to take on trainees. Indeed, as will be demonstrated in Chapter 4 of this study, this complaint is consistent with contemporary experiences of craft practitioners taking on apprentices in their shops. Therefore, as Wallis argues, in order for training to be both financially prudent and relevant for the trainee, practitioners must immediately experience a return on their investment, as a significant proportion of apprentices will not complete their time of service. Given Wallis’ research into attrition rates, coupled with anthropological research into “silent” training in craft, it can be argued that the historical perception of how craft training occurs, which has underpinned Victorian and contemporary opinions of appropriate approaches to craft education, is oversimplified and misleading, which therefore sets false baselines which modern training approaches are expected to obtain, potentially undermining their ability to succeed.

Contrary to contemporary beliefs about the premodern economic system, the transition from journeyman to master, was not always guaranteed. Urban historian Gervase Rosser notes that wage-labour rates in the Middle Ages were significantly higher than commonly believed, and the

number of journeyman found in any locale often drastically outnumbered local masters, as the costs of establishing one's own shop, along with restrictive Guild policies pertaining to local competition, Rosser argues, would limit the ability of journeyman to advance to master status (Rosser, 1997 and Rosser, 2015). Over time, it can be contended, this issue would lead to a notable demarcation in the Guild network of two sets of actors; wage-rate apprentices and journeyman, and masters. As masters sought to protect their status, both internally in the Guild and their families, as well as externally from increased domestic and foreign competition, their restrictive practices would cause tension with their wage-rate Guild partners, on whom they depended to staff their shops.

The decline of the Guild system, it can be contended, was the result of two separate but intertwined phenomena; the introduction of Mercantilist theory and the rise of restrictive Guild practices. Beginning in the sixteenth century, Guilds began to restrict entry by raising fees for potential apprentices and journeymen, thus beginning their own demise. Indeed, by the Stuart era, Guilds began to impose higher fees for membership as well as a requirement for a practitioner to submit a *chef-d'-oeuvre* or masterpiece to secure his freeman status (Rosser, 1997). According to sociologist Elliot Krause, Guilds, who previously worked together, began to either argue over the division of labour or amalgamate into larger Guilds, weakening the power of the individual trades. At the conclusion of the English Civil War, governmental policy of permitting returning veterans to perform work previously retained by the Guilds further weakened their authority. In response to this breakdown of their monopolies, the Guilds began to sell memberships to upper-class society to elicit their support, alienating the craftsmen and further diminishing Guild solidarity (Krause, 1996 and Rosser, 2015).

While Guilds suffered from internal struggles, a rising economic philosophy openly objected to their continuance. Mercantilist theory was espoused by political economist Adam Smith, who stated that not only Guilds, but pre-modern crafts "are archaic institutions that imposed irrational or self-serving fetters on competitive markets" (Epstein, 2008: p.155). Smith and his supporters argued that craft Guilds restricted free market economies by controlling and restricting trade practices, limiting the potential of economic markets. With the rise of industrialisation and the division of labour came the appeal for the reduction of training of apprentices, since Guilds, with their restrictive practices, they argued, limited innovation in their industry. Epstein argues the opposite. He asserts that the regulation of apprenticeships by the Guilds allowed for several unintended positive corollaries, including the development of labour specialisations, which led to technical and market spill overs as well as the diffusion of localised

knowledge and practices by traveling Guild members which helped developed larger human capital markets (Epstein, 2008).

The beginning of the industrial revolution signified the end of the traditional Guild system in the UK. Trevor Marchand notes that the while the transition of the UK from an agrarian to an industrial economy also signified the shift away from the established Elizabethan statutes into a free-market ideology, the perception of an ideal apprenticeship training scheme had been developed. Indeed "a combination of qualities and characteristics of the late-medieval and Tudor systems continues to colour popular-and perhaps romanticised-conceptions of apprenticeship..." (Marchand, 2008: p.258-259).

Today, Guildhalls, or Livery Companies, still exist in London and larger mercantile centres of medieval origins such as York, remnants of their medieval organisations, and several Guilds survived to later form labour unions, but by the beginning of the nineteenth century the medieval Guild structure had almost completely disappeared from the English labour market. Their legacy however, continued through the historicised and romanticised images espoused by Victorian thinkers and philosophers such as Ruskin, Morris and Carlyle, which in turn shaped our modern perceptions of "classical" training techniques, which will be further studied in section 3.3 of this thesis.

In contrast to formalised apprenticeship systems established in the UK, the United States faced significant issues in creating and enforcing a codified apprenticeship system. In British colonial America, apprenticeships were initially trained under the 1563 Artificer Act provisions, although the enforcement was weakened in the rural character of North America (Elbaum, 2008).

Although the Guild apprenticeship system existed briefly in the United States, economist Bernard Elbaum notes the distinctive issues they faced in the New World. Scarcity of skilled labour, along with the promise of inexpensive, readily available land, something unobtainable to many in the UK, inhibited the establishment and growth of the Guild structure in the New World. Indeed he states; "…in many areas there was greater public concern with attracting scarce skilled labour-often from abroad-than with restricting new entry into the crafts" (Elbaum 2008: p.346). Once the urban centres in the US were established, laissez-faire ideology had supplanted mercantilist theory in both influence and policy in both countries (Elbaum, 2008). Therefore, Westward expansion, European emigration of skilled labour, slavery, and a Mercantilist policy can be said to have inhibited the development of an apprenticeship system in the United States, with informal training methods taking precedence over sanctioned training routes.

During the industrial revolution, beginning in the 1830's in the UK and the 1850's in the US, training systems in both countries began the transformations from the medieval Guilds systems to their modern manifestations. Similar to their early dissimilarities, both systems moved down divergent paths to address the need for formalised training programmes.

In the late nineteenth and early twentieth centuries in the UK, training for the building trades transitioned from the Guild system into the realm of individual trade unions and eventually into the framework of state education. As a response to the growing disjointment of training, coupled with the need for a greater number of industrial workers, the 1882-84 Samuelsson Commission recommended a transition of training from "knowing to doing" for school age working class children (Lynch, 2011). Apprenticeship training was reduced to 5 years and began to be administered in newly constructed Technical Schools throughout the country, supported by on-site apprenticeship service. Elbaum describes these new apprentices as "far closer to an arm's length transaction" (Elbaum, 1989: p. 340) than their historical medieval counterparts. It is during this time Marchand notes that this transition away from individualised control of training to a state system radically transformed vocational training (Marchand, 2008). The length of training was significantly abbreviated, and efficiency and economy took priority over individualised instruction techniques, as standardised curricula and examinations took precedence where theory and practice were tested separately. Indeed, the "learning by doing" aspect of craft training was de-emphasised in favour of technical knowledge (Marchand, 2008). Furthermore, this transition reallocated the tuition, once paid to the master by means of the premiums, to the state, removing the financial surety once acquired for accepting the apprentice. Finally, "soft skills" such as professional ethics, business practices, and the understandings of workplace hierarchies were neglected in favour of acquiring as much technical knowledge as possibly in an abbreviated training schedule (Marchand, 2008).

This observation of the late nineteenth and early twentieth century system is not universally accepted. Brick mason and historian Gerard Lynch describes the training as a programme which was "wholly novel" which combined set periods of on-site training and structured education in well-funded technical colleges where materials and processes could be studied at a deeper level than ever possible before (Lynch, 2009: p. 4-5).

The current training framework in the UK, studied in section 3.4 of this thesis, has its roots in this industrial age era adaptation of the established Guild training system in a modern economic and educational framework. The system of apprenticeships, while modified from its original

manifestation, it has been argued by many researchers, persisted in the British system due to its historical existence in society and the valuation of its purpose by the general population based on its historical standing of recognised certification of competency in craft skills upon completion. As Elbaum notes: “Custom was central to the preservation of apprenticeships by virtue of its role in upholding training certification of entry into skilled jobs” (Elbaum, 1989: p.341). It should be noted however, that apprenticeships did not persist uniformly throughout British society, and the transition to an industrialised nation left some traditional crafts, such as blacksmithing, with a reduced importance in the increasingly mechanised building world. Indeed, Elbaum contends that apprenticeship traditions were maintained only when those frameworks could serve an economic function (Elbaum, 1989).

In contrast to the UK, the US system of training followed the course set by its colonial foundations of a small and fragmented training system. In the late nineteenth century, although European immigration of skilled and unskilled labour remained high, companies advocated for the establishment of an apprenticeship system and vocational schools in the US, mirroring a UK based system. In 1894, George Sikes, in writing about the attempts by the American Federation of Labour (AFL) to establish apprenticeship systems declared: “The present condition of industrial training are certainly unsystematic and inadequate” (Sikes, 1894: p.398). Indeed 1900 census data stated that in the building trades, the ratio was just 1 apprentice per 86 craftsmen (Elbaum, 1989).

The American Federation of Labour (AFL), an amalgamated union of trade workers, recognised the problem with the lack of formalised training in 1887. During their 1887 conference, a resolution was passed calling for the establishment of training schools as part of the public-school system, along with organizational-run night training schools to be established (Sikes, 1898). This plan was quickly curtailed due to a series of labour disruptions throughout the US which necessitated the union’s institutional focus and the desire by many union members to limit apprenticeships. Sikes notes the correlation between the rise of trade unions and the dissolution of the older apprenticeship system. He argues that for many trades, the establishment of their unions was to rectify the issues observed in unregulated apprenticeships (Sikes, 1898).

Although smaller unions established apprenticeship rules, the AFL noted that the old system would not be sufficient in modern (Victorian) society. In 1888, the National Association of Builders issued a report rejecting a return to the classic system of apprenticeship, noting that employers were not equipped to deliver training as they rarely had enough experience themselves working in the trades (Sikes, 1898). The report instead called for the establishment of

Mechanical Trade Schools, placed outside the public sector, run instead by the various trades and completed by the passing of final examinations, similar to the British system. Elbaum notes the proposals put forth by the National Association of Builders, had they been implemented, would have been closely aligned with the industrial age British system of Technical Schools (Elbaum, 1989).

Some experiments in this system were attempted, notably the Philadelphia Trade School for Boys, which enrolled its first class in 1906. William Ash, founding principal of the school described the education as not a replacement for established public high or manual training schools, nor was it a preparatory academy for higher education. Instead it was designed to instill dignity in the students' chosen profession and to create "the highest type of American Workmen" (Ash, 1909: p. 85). Other cities including Boston, New York and Chicago also attempted to found similar programmes, with varying degrees of success.

In 1917, the Smith-Hughes Act established a precedent of Federal funding for vocational instruction in public education systems (Mertz, 2011). Unlike the recommendations from the AFL and National Association of Builders, they existed entirely in the public realm. As heritage craft educator David Mertz contended, the involvement of localised matching funds bound vocational training in compulsory education to local communities, and the intermingling of both Federal and state regulations with locally controlled educational institutions significantly shaped the development of trades education in the US (Mertz, 2011).

This filtering of training from Federal funding, through state governments to local entities increased the fragmentation of trade education throughout the US. The current training system in the US, studied in section 3.4 of this thesis, can be traced to the preference of local control of education over national standards, which was reinforced at the beginning of the twentieth century. While the size of the nation and the complexity of the local building environments may be argued as the justification behind the localisation of education, Elbaum proposes that this fragmentation of trades education caused the US to suffer significant long term societal costs as, unlike the UK, it lacked the institutions that could systematically train skilled craft workers (Elbaum, 1989), an issue which many craft practitioners, as will be demonstrated in Chapter 4, lament today as an ongoing issue in the US.

From these examinations of the beginnings of formal training systems in the UK and the US, it can be suggested that the current differences of the two instructional approaches can be traced to their distinctively different historical roots. While the UK experienced several centuries of

refinement of a national apprentice system, the US encountered a disjointed and informal system of training. As a result, the training networks in both countries developed in dissimilar courses. In the UK system, a distinctive framework was formed, with apprentices, journeymen, masters, Guild and government authorities forming a historical infrastructure which could adapt to the industrial age and post war needs. Conversely in the US, the fragmented unofficial training methods, combined with the steady incursion of skilled immigrant labour did not necessitate the formation of a national system. As a result, training delivery remains isolated and independent, often operating within individual state guidelines, with no national training system being established. Therefore, it can be proposed that the historical foundations of the two countries actor-networks of training, and the subsequent problemisation and enrollment of actors in the modifying systems throughout history, coupled with Victorian idealised visions of the Guild structures (below 3.3) form the foundational basis of the current systems and the issues noted by the interview participants studied in Chapters 4 and 5 of this thesis.

3.3 Conservation theoretical approaches in the UK and US

As the building industry and its training practices transitioned from its medieval structure to a modern system, heritage crafts were being replaced by modern materials and techniques. The traditional practices, although threatened, would find a new pathway to practice in the new field of heritage conservation. Along with differences in foundations of their training systems, the UK and US approached the field of conservation in different directions due to variances in age and social constructs of each nation. Within these routes came diverging approaches to the value of craft in conservation philosophies.

In the United Kingdom, the beginnings of the conservation movement, which was later formalised through the works of William Morris and the founding of the Society for the Protection of Ancient Buildings (SPAB), can be traced to the writings of John Ruskin, a sage, social philosopher and medievalist who assisted in the formation of an idealist vision of the medieval, in particular the work of craftsmen in the construction of buildings. Ruskin's early writings on architecture in the 1840's and 50's critiqued modern construction techniques and materials, which he saw as a means of repression of craft. His view of craft practice in medieval society, was one of an egalitarian community in which craftsmen were free to express their artistic talents therefore expressing joy in their human labour (Glendinning, 2013).

His reaction to the new industrialised era is mirrored in his admiration of traditional craft techniques, indicative of the idealism of his philosophies. As Ruskin writes in his work *The Stones of Venice*, modern workmen, in performing the process of modern construction, are degraded by

performing repetitive tasks to ensure the building is uniform in appearance, therefore restricting their ability to express themselves through their work, unlike their medieval counterparts who during their work; “there is a perpetual change both in design and execution, the workman must have altogether been set free” (Ruskin, 1853: p. 165).

Ruskin began giving lectures to craftspeople relating to the value of their work and the issues with industrialisation at the Working Man’s College located in London’s Red Lion Square during the mid 1850’s. During this time the College, founded by Christian socialist Fredrick Dennison Maurice among others, was a leader in the liberal education of artisans, a philosophy Richard Sennet describes as “broadly conceived, applicable to people who use their heads as well as their hands” (Sennet, 2008: p.113).

While espousing the romantic idea of the medieval craftsman as existing in a utopian society of practice, Ruskin had written about the growing concept of restoration that was occurring in UK. The extensive restoration of medieval structures, commonly referred to the “Scrape” philosophy today, called for the changing of the building to reflect a perceived vision of the Medieval style of the structure as well as the intent of the original builder. This included the removal of later additions, and the elimination of interior ornament, which is the origin of the term “scrape” (Tyler,2009). Ruskin, wrote against the restoration of these buildings in his influential work *The Seven Lamps of Architecture*, noting that: “…it is impossible, as impossible as to raise the dead, to restore anything that has ever been great or beautiful in architecture” (Ruskin, 1849: p. 185).

While Ruskin’s writings influenced a generation of conservation proponents, his writings are not without controversy. Architectural historian Miles Glendinning notes Ruskin’s veneration of age and decay left a philosophical dilemma concerning when that decay should be arrested and what techniques should be used. Because Ruskin’s philosophy was that the restoration of a building could cause more damage than destruction, the “logical outcome of Ruskin’s doctrine was to allow a building to decay until collapse” (Glendinning, 2013: p. 121).

This radical view caused a considerable stir in the architecture world, but Ruskin views went beyond the rejection of the restorers’ work. His writings praised the work of the medieval craftsman, and celebrated their survival in a rapidly industrialising society, but simultaneously rejecting the idea that the modern craftspeople could practice their crafts on these venerated structures, which it can be argued, limited their outlets for the craft expression he so admired. His dismissal of the machine-made ornament for natural materials and traditional craft was a vital measure of his philosophy, a belief that was continued by his supporter, William Morris.

Morris, who discovered Ruskin's writings while a student, later apprenticed under architect George Edmund Street, a prominent neo-Gothic designer. During this time, he also became involved in the Pre-Raphaelites, a group of artists whom he formed lifelong friendships and business connections. In 1861, Morris helped form a company, Morris, Marshall, Faulkner and Co. with the intention of reviving traditional methods of production as espoused by John Ruskin (Harvey and Press, 1995).

In 1877, in response to the proposed restoration of Tewkesbury Abbey by Sir Gilbert Scott, Morris and his Pre-Raphaelite associates held the inaugural meeting of the Society for the Protection of Ancient Buildings (SPAB). The Society, which embraced the term "anti-scrape" as its adage, was founded specifically to combat the destruction of ancient buildings by restorers. In their manifesto, SPAB noted the growing interest in ancient monuments, but observed concerns about the treatment of these structures (Morris, 1877). It noted that the restoration (scrape) trend had: "done more for their destruction than all the foregoing centuries of revolution, violence and contempt" (Morris, 1877: p.1).

As an alternative to the heavy-handed methods practiced by the restorers, SPAB proposed protections to be put in place to avoid overzealous restorations by instead initiating maintenance programmes meant to stave off further decay while concurrently avoiding modifying the fabric of the structures (Morris, 1877). Furthermore, SPAB proposed that buildings should not be reallocated from their original purpose or altered to meet a current need, instead advocating to create new structures to serve these purposes while retaining the original structures in their current form, thus preserving them in their current, sometimes ruinous state (Morris, 1877).

The philosophical approaches to heritage buildings represent two opposite ends of the conservation spectrum. The restorers, using their "scrape" philosophy have significantly shaped the form in which many medieval and later buildings take today, while the SPAB philosophy, influenced by the writings of Ruskin, continues as central to the work of important advocacy groups in the United Kingdom, and has served as the basis for modern conservation theory for almost one hundred years. Indeed, the SPAB philosophy helped shaped the international philosophy of conservation. Its concepts of differentiating between new and old in historic structures was the basis of the 1964 Venice Charter, thus assisting in forming the philosophical basis for international conservation theory for over 60 years (Lowenthal, 2015). While the SPAB philosophy has resonated throughout the history of the conservation movement, it has not been without controversy. SPAB ideals of "honest" repairs, in which replacement work can give the sense of "false history" has had critics from the beginning. In 1903, Charles Peers, from the

Government Office of Works, had a discussion with then SPAB Secretary Thackeray Turner about the need for visually apparent modern intervention, advocating replacement stone over tile repairs. The SPAB philosophy, according to Peers, would "find London a city of stone and leave it a city of tiles and cement" (Thurley, 2013: p. 138).

Certainly, in the previous 30 years, international conservation theory has expanded, as non-western cultures contribute to the conservation philosophical discourse. The value of intangible heritage such as folklore, music, and craft have been recognised through such international doctrines as the Burra Charter and the Nara Documents on Authenticity (ICOMOS, 2013 and ICOMOS, 1993). Furthermore, due to the growing understanding of the economic impacts of adaptive reuse of historic structures and urban regeneration, conservation philosophy in the UK has begun the transition away from the rigid approach of the SPAB philosophy, reflecting a larger international movement away from western attitudes towards conservation. Aylin Orbasli describes this movement as a "shift from the conservation of truth to the conservation of earnings in contemporary conservation" noting that modern conservation is based on negotiation rather than absolute certainty, and where authority in conservation is transitioning from government authorities and amenity bodies to private developers (Orbasli, 2017: p. 163-64). This movement however, has not been without its detractors. The UNESCO 2003 Convention for the Safeguarding of the Intangible Cultural Heritage, has yet to be ratified by several countries, notably for this study both the United Kingdom and the United States. After the Convention, one official from a leading heritage organisation in the UK was quoted as saying: "UK has no intangible heritage" (Smith, 2006: p. 109).

The founding of SPAB preceded the introduction of the first statutory protection for heritage in the UK, beginning with the Ancient Monuments Protection Act in 1882, establishing regulations for changes to help protect historic assets. In 1907, the National Trust Act enabled the organisation, which was founded in 1895, to serve as a trustee for historic sites under their authority. Nikolaus Boulting describes the foundation of the Trust as representative of Ruskin's dream of a funded organisation charged with acquiring and protecting buildings and land (Boulting, 1976). While the National Trust was considered a step forward in the protection of historic properties, it was, for many years, often at odds with the Government Office of Works over ownership of sites, drawing the ire of the government in 1950 by testifying they were the only national organisation capable of purchasing and maintaining country estates (Thurley, 2013).

The early history of the UK conservation movement reflects a society which was encountering a rapidly changing built environment through the industrial revolution. The growth of cities and the

modification or loss of heritage buildings and landscapes is reflected through the writings of Ruskin and Morris and the philosophies of SPAB. These philosophies, it can be argued, while protecting historic structures, damaged the practice of traditional craft by limiting the repair work performed on structures. By restricting repairs to stabilisation or modern interventions such as tile repairs, SPAB philosophies restricted the continuation of traditional craft practices which Ruskin, Morris and others so venerated by preventing the practices of repair and renewal which had occurred on these ancient buildings throughout their life at a time when simultaneously these traditional techniques were being supplanted by modern practices in the larger construction world. A case can be made therefore, that SPAB philosophies, by espousing the physical materials over the intangible aspects of craft practices, hastened the demise of traditional skills by limiting their practices on heritage structures.

While is can be argued that the conservation movement and SPAB restricted craft practice, a concurrent movement, championed by many of the same supporters, sought to nurture it. The Arts and Crafts movement, heavily influenced by Morris, was a result of an idealised desire to return to the hand craft of the medieval ages, where he believed the pinnacle of expression of craftsmanship was found in buildings and society. In studying the foundations of Morris and Company, William Morris's decorative arts company, Charles Harvey and Jon Press noted that Morris's medievalism was less fervent than Ruskin's, but he still highly valued the Guild system, continuing Ruskin's idealised view of medieval society. Morris however, was more attracted to the relationship between producer and consumer and the local nature of craftmanship (Harvey and Press 1995). Morris, more so than Ruskin, saw the continuation of craft practices as vital to the health of society. In 1888, Morris, in his work *Useful Work vs Useless Toil* described his perception of craft practice as a conglomeration of memory and imagination, tied to historical applications of the craft. The practice of work, Morris argues allows the "exercising the energies of his mind and soul as well as of his body" (Morris, 1877: p. 3-4).

The inclusion of the acknowledgment of craft and craft workers in the formation of conservation philosophies in the UK is a defining aspect of the early movement, but that inclusion is based on an idealised vision of medieval training and craft, which was attempted to be replicated through the Arts and Crafts movement of the late nineteenth and early twentieth century, that had arguably never existed (section 3.2). Artist and historian Christopher Frayling declares the myth of the happy-artisan, much like the ideal of the artist craftsman, is indeed part of the Victorian romantic reaction to a rapidly transforming society based on industrial capitalism (Frayling, 2011). Indeed, Frayling says; "the history which underpins much of the 'craft revival' is, in fact, nostalgia masquerading as history" (Frayling, 2011: p.68).

In studying the role of the early conservation movement in the UK in the continuance of heritage craft skills, it can be argued that the movement simultaneously promoted and hindered the continuation of heritage crafts. Much like the historical understanding for continuing apprenticeships in educational systems, the nostalgia formed around the medieval training systems and practices celebrated the time in which "every man who produces works of handicraft is an artist' (Morris, 1893: p. 16). The medieval artist was venerated for the quality of his craftsmanship, but modern practitioners could not continue these practices on ancient buildings, since the SPAB manifesto declared it vital to: "...treat our ancient buildings as monuments of bygone art, created by bygone manners, that modern art cannot meddle with without destroying" (Morris, 1877: p.2).

While at the initiation of the conservation movement in the UK the struggle between craft and conservation was not profound, this contradiction would become pronounced after the conclusion of the Second World War, which will be examined further in section 3.4 of this thesis.

In contrast to the UK, the US conservation movement was not founded as a reaction to the destruction of ancient monuments, but rather a desire to use historic sites as a component in the formation of a national identity in a young nation. Author Nathaniel Hawthorne expressed this concern in the early nineteenth century that "No author…can conceive of the difficulty of writing a romance about a country where there is no shadow, no antiquity, no mystery…" (Murtagh, 2006: p.11).

The preservation of its historic sites began early in US history. The first instances of protecting structures and sites of historical significance occurred shortly after the American Revolution. In 1816, the Old State House in Philadelphia, now known as Independence Hall, was purchased from the State of Pennsylvania by the City of Philadelphia to protect it from demolition. This structure was also the first instance of restoration practice in the United States when architect William Strickland was asked to design a reconstruction of the building's tower, which had been removed in 1790, having to pattern the tower in a Georgian style, which was not fashionable at the time (Murtagh, 2006: p.14).

By the middle of the nineteenth century, with internal tensions over the issues of slavery and states' rights developing into the basis for the Civil War, the desire to save sites associated with the Revolution and the Founding Fathers became more prevalent. The figure whose heritage received the largest proportion of attention was first president George Washington. In 1853 the Mount Vernon Ladies Society, considered the first conservation organisation in the United States,

was founded to save Washington's home, Mt. Vernon in Virginia. The organisation serves as a representative model of the early conservation activities in the United States. It was primarily led by women interested in individual sites of historic significance from the founding of the United States. As author Norman Tyler describes, early conservation principles in the United States were based on saving buildings for patriotic reasons more than their architectural or aesthetic significance. Associations with prominent people and events were the primary basis for saving historic structures, rather than preservation for preservation's sake (Tyler, 2000).

This philosophy towards heritage conservation is common in what Robin Winks identifies as "fragment societies" (Winks, 1976), or countries which do not have a long history due to their original founding as European colonies, such as the US, Canada, and Australia. America's rapid expansion across the continent, the steady influx of immigrants from Europe, as well as the speedy adoption of the industrial revolution in the late nineteenth century caused constant change in the "New World". The foundation of the National Parks system in 1872 was a reaction from the Federal government to set aside portions of the rapidly closing frontier to preserve a segment of the nation that less than three hundred years before, was primarily unsettled wilderness. In order to validate the short history of the United States, the conservation movement used heritage sites not just as a remembrance of their past, but as a justification of the future of the young country, embracing the democratic spirit of their ancestors, the potential for success for all citizens, and a moral justification of the purpose of their actions, both past and future. Instead of glorifying the beauty of Gothic cathedrals, US conservation advocates were looking toward vernacular architecture to honour their past. In 1889 architectural critics John Calvin Stevens and Albert Winslow Cobb described the architecture of the colonial Northeast as architecture which exhibits the purest beauty and refinement due to its simplicity, which represented the democratic spirit of the nation (Murtaugh, 2006).

In the early days of the conservation movement in the US, little attention was given to the artisan's role in the drive to save sites. This scarcity of attention can be argued as being a result of multiple factors. The simplicity of the structures being conserved and the constant influx of trained craft practitioners from Europe meant that the need to train practitioners in traditional crafts was low. As noted by Stevens and Cobb, the architecture associated with the colonial era, the focus of the early movement was of basic construction, both out of necessity for shelter and the need to focus attentions to building a larger community caused little architectural detailing in many of the buildings constructed (Murtaugh, 2006). The structures were designed to be impermanent, to be later demolished to embrace a future project. This philosophy was particularly relevant in eastern cities, as shown in the case of Independence Hall (Tyler,2009). The

series of immigration waves from 1850-1930 into the country also produced a constant stream of trained craftsman in search of employment, thus negating the need to decry their demise. Beginning with German and Irish immigrants in the 1850's, through their eastern European counterparts in early twentieth century, the building trades flourished in US, and traditional craft continued, particularly in the rural regions of the country. The desire for progress in the country also de-emphasised the continuation of traditional craft, particularly in industrialised areas. Henry Ford famously described American perception of their past by stating: "History is more or less bunk-we don't want tradition, but to live in the present, and the only history worth a tinker's damn is the history that we make today" (Glendining, 2013: p.225). The sheer size of the nation, and the periods of settlement and construction practices made it difficult to support early national efforts of craftsmanship training, as demonstrated with the attempts to establish Mechanic's Institutes (section 3.1), and training initiatives remained piecemeal throughout the nation.

The conservation movement in the US remained a minor crusade until after the end of the Second World War, with few national organisations dedicated to their cause, and much of the conservation work being concentrated along the eastern seaboard. The Federal government took little interest in conservation, except in the National Park system. Few laws were passed before the Second World War, and those that did had limited focus. For a majority of the country, the promise for the opportunity in the New World was more significant than its short history because, as Winks notes: "For Americans, there has always been, of course, more future than there has been past" (Winks, 1976: p.141-142).

The cultural and historical contexts in which the UK and the US have pursued the current training of heritage craft workers can be traced to the contrasts in their distinctive approaches to conservation practice. In the UK, the movement was simultaneously a reaction to the radical re-design of historic structures to meet a Victorian perception of antiquity, and a rejection of the industrialisation of society. As noted by Glendinning and Frayling, the idealised vision of medieval craftsmanship and society was reflected in the writings and actions of early proponents such as Ruskin and Morris and can be linked to Morris's actions in the SPAB manifesto and the Arts and Crafts movement (Glendinning, 2013 and Frayling, 2011). From the beginning of the conservation movement, the work of the craftsman served an integral component in the valuation heritage sites, as the idealised perception of the "happy artisan" prevailed through the writings of the Victorian conservation proponents and was reflected in the desire to preserve as much of their work as possible. That appreciation of ancient artisans however, was not extended to their modern counterparts, providing a contradiction between the appreciation of craft and the

restriction of practice. By proposing only limited interventions on sites, sometimes in ruinous states, early conservation proponents in the UK inadvertently hindered the continuation of the craft practices they so venerated by limiting those practitioners' involvement on these sites at the same moment their crafts were being supplanted by more modern industrial practices in the larger construction world.

Conversely, in the US, the focus of the earliest heritage sites was their association with an individual person or event, not their architectural significance. This emphasis, along with the architectural simplicity of many of the structures, and the availability of potential workers, produced a conservation methodology which did not value the craft practitioner as integrally vital to the structures as in the UK. The theoretical differences in the two societies have generated differences in the understanding of heritage buildings. Indeed, vocabulary differences, as well as perceptions of age and authenticity also effect the approaches taken to train heritage craftspeople in both societies. In the US, the conservation movement is commonly referred to as *historic preservation*. The term *conservation* is frequently reserved for historic objects or individual components of buildings. In the US, highly decorative architectural pieces, such as wall paintings or stained glass are typically *conserved*, while entire structures, when repaired are typically referred to as *restored*. In these terminology differences also exists cultural differences in the perception of authenticity. In the UK, the historical perception, based on Ruskin and SPAB, has focused on the conservation of structures with minimal intervention, which, while not rigid in its modern application, has served as a theoretical basis for practice in the UK. This basis was often reflected in how conservation work is approached, with a desire to conserve original fabric as much as possible, sometimes at the expense of the continuation of heritage crafts. Since the beginning of the 21st century, UK conservation practice, acknowledging the growing international philosophical discourse on the meaning and value of heritage through international documents such as the 1994 Nara Declaration, along with a growing understanding of the economic impacts of heritage tourism and historic environments, has begun to transition away from a rigid application of conservation philosophies into one which incorporates sustainability and economic development, both in built heritage and human capital, in its goals. Indeed, in 1999 Jukka Jokilehto suggested that the conservation movement which was based on the nineteenth century had ended, proposing that a new conservation movement should be reframed in the larger framework of economic, social and environmental sustainability throughout the world (Jokilehto, 1999).

The UK, coming to a greater appreciation of the value of heritage beyond the conservation of historic materials, has recognised the need for the continuation of craft knowledge as both a

requirement for maintaining these structures and as a value aspect of the nation's intangible heritage. These growing values will be discussed in section 3.4.

Conversely, the US has long possessed a more flexible approach to their heritage buildings, as the constraints of tradition and reputation of being steeped in history do not exist as they do in the UK. This flexible approach, coupled with the impermanent nature of many of the buildings' construction techniques, can often permit additional opportunities to practice heritage crafts in both public and private structures. As the field of conservation in both countries transitioned from an unregulated building practice to a professional pursuit, these philosophical differences between the two countries would affect how both their industry developed, and how they approached the training of heritage craft workers.

3.4 Heritage craft training since WWII

The development of heritage craft training since the conclusion of the Second World War reflects the wider changes in society, mirroring the growth of appreciation for heritage structures and sites, evolving conservation theory, and changes in educational frameworks. While the changes in these separate yet intertwined areas are significant, research in these areas is limited, and incomplete interpretive accounts of these changes have been developed, necessitating a thorough examination of these changes in this thesis.

Before an examination of the transitions that have taken place in heritage craft training since World War II can be initiated, it is important to identify the current award levels and how they correspond across cultural boundaries. A more detailed examination of these two systems can be referenced in Appendix I of this study.

Compulsory education in the UK ends at age 16, at which point students sit for their General Certificate of Secondary Education or GCSE (gov.uk, 2015). GCSE tests determine if students will be considered a school completer or will advance to Advanced or A-levels. A-level completers often advance to Higher Education (HE) programmes, where school leavers commonly attend Further Education (FE) courses or terminate their studies (gov.uk, 2015). GCSE exams are a modern replacement to Ordinary, or O-level exams.

There is a distinct difference in the UK between FE Colleges and HE universities. FE Colleges, which are descendants from the Technical Colleges formulated in the late nineteenth century, offer various awards at both full-time and block or day release apprenticeship programmes. These include Foundation Degrees, National Diplomas and National Vocational Qualifications

(NVQs). Descriptions of these awards along with NVQ level award competencies can be referenced in Appendix I. HE programmes are identified as those which award degrees at a Bachelor's level or higher and closely align with their US counterparts.

In the US, compulsory education is required until the age of eighteen. If a student chooses to leave compulsory education early, they may elect to sit for a GED or General Education Development certificate. Although compulsory education requirements are uniform throughout the United States, the structure of higher education varies from state to state, as described in section 3.2. Unlike the UK, there is not clear demarcation between the terms Colleges and Universities in the US. Colleges can be two-year programmes such as community of technical programmes offering associate degrees or lower, and 4-year institutions which often focus on teaching over research. Universities are strictly 4-year programmes which engage in significant research activities. Community or technical college frameworks vary by state, and offer awards such as certificates, diplomas and associate degrees, whose descriptions can be referenced in Appendix I of this study. The University system in the US closely mirrors their UK counterparts, with two differences. The first being the introduction of the undergraduate "minor" in the US, a set number of classes which is independent of the student's major, and the second being the replacement of the PGDip found in the UK with the Graduate Certificate in the US. Requirements for the PGDip and certificate vary by individual institution.

The evaluation of award levels between the two system is not exact, as the educational systems do not align seamlessly. However, for the purpose of this study, the following comparison table will be used:

UK Award/Academic Equivalent	**US Award**
NVQ Level 1/GCSE Grades D-G	Certificate
NVQ Level 2/ GCSE Grades A* - C	Diploma
NVQ Level 3/A Level	Associate Degree
NVQ Level 4/Undergraduate	Undergraduate Minor
NVQ Level 5/Bachelor's Degree	Bachelor's Degree
NVQ Level 6/Graduate Degree-MA or MSC	Graduate Degree-MA or MS
NVQ Level 7/Postgraduate Diploma	Graduate Certificate
NVQ 8/Doctoral Degree	Doctoral Degree

Figure 3.2
Comparison of Higher Education Award Levels in the UK and US

As demonstrated, the examination of these two systems is hampered by the understanding that the educational frameworks in both countries are not uniform. Acknowledging the differences between the two systems in vital to developing cross-cultural recommendations that will be proposed in Chapter 6 which have the best potential to be adopted across both educational compositions.

Heritage Crafts in the UK since WWII

At the conclusion of World War II, both the UK and US stood at social and economic crossroads. The massive destruction to the built environment suffered by the UK, and the solidifying of the US as a world power caused a shift in priorities for both nations. The shift identified the need for new construction practices and rapid rebuilding or expansion. To meet this new attitude a change in training delivery was required to meet the demands of the new industrial models. The change disrupted the traditional craft training delivery systems and affected the continuation of traditional craft techniques (above 3.1). This loss of craft skills may have gone unnoticed had it not been for the rise of the conservation movement and its transition into a professional practice. This professionalism is reflected in the rise of the heritage craft worker as a subset of the greater construction industry, with certification designed to train parties in the correct care of heritage building materials. While this growth can be observed as being a positive addition to the expanding field, the role of the heritage craft practitioner is sometimes at odds with the conservation professional, as the profession learns to balance practice with philosophy.

After the Second World War, the massive rebuilding efforts undertaken in the UK called for the modernisation of building techniques. Prefabrication of components, and a simplification of the techniques decreased the need for skilled labour on construction sites, relying instead on semi-skilled workers performing repetitive tasks. This transition of construction methods is reflected in the training of four generations of practitioners that have practiced heritage crafts since 1945 (see Chapter 4).

The City and Guilds continued to manage the training programmes and were slow to react to the changes in the industry. The 1963 Industrial Training Act was passed which established the Construction Industry Training Board (CITB) described by Lynch as having a drastically different approach than the City and Guilds system, one that was focused more on students achieving skills in their chosen field over a holistic approach to craft training (Lynch, 2009).

The CITB still serves as the industry training board offering apprenticeships, certifications and continuing education opportunities for various sectors of the construction industry. Its primary

focus however is to develop and monitor training systems in the UK (CITB, 2017, Stanton, 1989 and Wolff, 2011). With this goal in mind, the CITB transitioned away from The City and Guilds Certifications to the National Vocational Qualification (NVQ) system in the 1990's. This transition was based on a concern, similar to that which established the vocational training system one hundred years prior, that the nation was falling behind its competitors on training an adequate workforce for the future. Beginning in 1981, the Manpower Services Commission published a report entitled *A New Training Initiative: An Agenda for Action*, which called for a more flexible and better trained workforce and a new method of training workers (Callender, 1992). This was followed up in 1985 by a government white paper entitled *Education and Training-Working Together* which laid out the frameworks for the establishment of the NVQ system to, in part, assist in establishing a clearer path to qualifications, and to eliminate the "qualifications jungle" which existed in the current (City and Guilds) system (Callender, 1992). In 1988, the Education Reform Act was passed which dramatically altered the UK educational landscape, changing funding mechanisms, eliminating tenure in higher education, and radically reorganising the British educational landscape. Crucial to the changes in the vocational training field was the establishment of Lead Industry Bodies (LIB), which would set the standards for competencies in the NVQ frameworks, relegating the educational providers to a secondary role in the training system. Furthermore, the NVQ system called for a variation of training offerings, eliminating the age limits for apprenticeships as well as moving towards full time education alongside block or day release systems. The time frame for the establishment of the NVQ system was set up by the government to be initiated by 1991, giving the construction industry only three years to completely rebuild their training system. The City and Guilds however, would still exist, as it would award the NVQs which are now formulated by the CITB.

While the NVQ system has many detractors (see Chapter 4), it was seen at the time as an advancement in the formal craft education framework. In 1990 educator Roy Boffy described the City and Guilds system as a "paper chase…If we had given it (certification) to him at enrollment he probably wouldn't have come back" (Bees and Swords, 1990: p.182).

Unlike the former City and Guilds system, which was based on a holistic application of trades education, the NVQ system was based on unit competencies, which can be earned through both classroom and on-site assessment methods and can be compiled to earn an NVQ over time.
As the construction industry continued to transition into an increasingly semi-skilled labour force, the CITB and NVQ system responded to the demands of the greater industry. The number of craft apprentices in the construction industry fell from 24,714 in 1980 to 11,853 in 1990 while simultaneously the average age for a worker in the field was over 55 years of age (Callender,

1992). The length of apprenticeship was reduced from seven to five years, and many of the traditional aspects of the crafts were eliminated from the educational process in order to streamline the system. This restructuring of the educational system, it can be argued, would have a detrimental impact on heritage crafts, reducing opportunities to replace existing practitioners with younger substitutes. While there were still supporters of heritage crafts both in colleges like Bedford, Weymouth, and Building Crafts College, and through cathedral works organisations in places like Salisbury, Lincoln, York minster and Canterbury, most training which was offered in the UK was focused on new build construction techniques, not traditional repair works. This deskilling of the construction industry, coupled with the limited opportunities for traditional craft training would prove problematic for the rising conservation industry.

The short time frame in which the NVQ was given to be designed and implemented also proved challenging in the industry and educational realms. Many in industry were skeptical of the new NVQ system, having been trained in the City and Guilds system (see Chapter 4). Furthermore, information about the new system was not disseminated to the smaller practitioners, who were not represented on the CITB, therefore causing distrust of the new system (Callender, 1992). The initial NVQs were implemented before full industry studies were completed, causing tensions in the industry. Concerns with feasibility of providing on-site assessment were also raised, with issues such as the ability for apprentices to be assessed on-site in the full range of competencies, the progressive cycle of the building industry, and the difficulty in assessing an individual's work in a team oriented environment noted as serious issues with the new NVQs in the construction field (Callender, 1992).

Trainers were particularly resistant to the new NVQ system. Training of trainers in the new NVQ system were limited, as, it has been argued, was the communications between the CITB and the educational providers (Callender, 1992). The need for greater flexibility of their courses required trainers to redesign their long-established courses from a set start and end date to a more flexible role. Indeed, former Chief Officer of the Government's Further Education Unit Geoff Stanton noted that the college education had shifted their roles from teaching to tutoring, and a redesign of their teaching methods needed to be implemented (Stanton 1989). These missteps at the beginning, it can be said with hindsight, would have long term ramifications on the reputation of the NVQ system (see Chapters 4 and 5).

Changes in funding the NVQ system, it can be contended, dissuaded educational providers from adapting to the new system, as they would not receive funding for a student until they completed

their NVQ. This funding system has since been modified, but the perception of this funding stream still exists throughout the industry (see Chapter 4).

The first higher education training programme in conservation began in 1976 with the establishment of the Hamilton Kerr Institute at the University of Cambridge, focusing on fine art and artefact conservation, (Leigh, 2009) which was followed shortly thereafter by the establishment of the Institute of Advanced Architectural Study at the University of York (Leigh, 2009). Since that initial founding, the educational field has grown drastically. According to the Institute of Historic Building Conservation (IHBC), there are twenty-seven programmes currently operating in the UK (IHBC, 2015). The reputation of conservation training in the UK is high, and the graduates of these programmes are highly desired internationally (Leigh, 2009). Although their graduates are decidedly sought after, the programmes themselves are precarious in their existence. In response to the University of Southampton's decision to close their Textile Conservation programme in 2009, David Leigh's study *Securing Conservation Education in the United Kingdom* noted the uncertain future of some of these courses. While Leigh's study did not specifically focus on heritage craft training, many of the issues raised in this study can be applied to vocational training programmes. Small cohorts, due to the limited number of professional posts in the field coupled with high space requirements in comparison to class sizes, place programmes under considerable financial strain, leaving them vulnerable to closure (Leigh, 2009).

Although some of the programmes have specialisations, such as West Dean's Conservation of Clocks and Related Objects, Buckinghamshire New University's Conservation of Furniture and Decorative Arts and the Weald and Downland Open Air Museum's MSC in Timber Building Conservation, many serve as "generalist" programmes preparing graduates for entry level positions in the conservation industry, which can vary from governmental positions, amenity bodies or private practice. Since the career pathways which graduates can pursue are so varied, there is little standardisation of training that can be adapted to meet the needs of the growing profession. Leigh noted this lack of standardisation in training and therefore professional routes makes it difficult to define and defend training programmes, as the skills acquired in these programmes vary and are difficult to compare (Leigh, 2009). The Institute of Historic Building Conservation (IHBC), in their certification scheme for courses, have identified key areas which students must be competent in to achieve professional accreditation (IHBC, 2016), which along the 1993 ICOMOS Guidelines for Education and Training in the Conservation of Monuments, Ensembles and Sites (ICOMOS, 1993) (Appendix XXV) serve as the basic framework for many Higher Education courses in the UK.

Before the establishment of conservation education programmes, the education of the professional conservator could be found through a variety of backgrounds including architecture, archaeology, history, geography, and art history. Since the formation of these programmes, the conservation field has crystallised into a more formalised profession. Indeed, the IHBC now offers a recognised professional accreditation scheme through identified routes of entry, as do the professional institutes for architecture, engineering, and object conservation for their individual fields.

Although the conservation profession has progressed significantly in the previous thirty years, this growth has not been without criticism from the traditional building trades. Since a large portion of the repair works that heritage craft practitioners are commissioned to perform are in listed or otherwise protected structures, the professional conservators and heritage craft practitioner must interact on a continuous basis. The approaches and philosophies that these two groups follow are often at odds. Sian Jones and Thomas Yarrow have been studying the interaction between building conservators and traditional craft practitioners at Glasgow Cathedral, authoring several papers on the subject (Jones and Yarrow, 2013 and Yarrow and Jones, 2015). They note that the different actors involved in the repair works on the building; the stone masons, conservators, and architects, all view the building works and its authenticity in different spectrums. While all the actors operating in the conservation works have a voice and a role in their planning and instigating of repair work, their opinions are sometimes at odds. In describing the opinions concerning building conservation when addressing the failing remnants of a stone gargoyle they write about the philosophical differences between team members and the tensions it caused (Jones and Yarrow, 2013). The member of the cultural resource team, with formal archaeological training, argued for a replacement with an uncarved block, a technique specified by Historic Scotland and following a SPAB methodology, to ensure continuity of the evidence embodied in the structure. Conversely, the architects and mason teams argued for a "sympathetic contemporary style" stating this would continue the long-standing tradition of the masons adding evidence to the building throughout its history. Eventually, a comprised was agreed to in which the stone mason was permitted to carve a new gargoyle based on historical examples, thus allowing "the tenuous nature of the evidence is counterbalanced, which can be accrued throughout the involvement of the masons, as embodiments of a craft tradition" (Jones and Yarrow, 2013: p.17).

While the compromises that are formed at Glasgow Cathedral represent the interaction that occurs regularly on conservation sites, the negotiation process between practice and theory, often embodied as tensions between practitioners and specifiers, has yet to be resolved. Sophie

Norton, in studying the process of training of NHTG apprentices noted the divergences of opinions which permeate the sector which often do not include the craftspeople, therefore leading to non-fabric based decisions, but lacking in a corresponding framework process for decisions about conservation (Norton, 2017).

While the conservation profession can still be considered a modern field of academic study, it has grown substantially both in size and prominence in the last seventy years. While the field primarily has focused on the training of professional conservators that serve in numerous capacities, very little focus was spent in its earliest days on the training of traditional craftspeople to repair the buildings. While the successive generations of heritage craft participants' views have softened over the years, the conservators have slowly realised the importance of maintaining a workforce capable of handling correct repair techniques for these structures. Indeed, despite the ideological differences which exist between conservators and practitioners, it was the conservation field which has led the drive for the establishment of heritage craft training programmes, through the foundation of organisations such as the National Heritage Training Group and the commission of studies relating to the condition of the trades.

As demonstrated, the respect for traditional craft has been a cornerstone of the conservation movement in the UK since the writings of Ruskin and Morris came to distinction. After the conclusion of the Second World War, traditional crafts were still being taught in recognised training programmes such as the City and Guilds system. As early as 1959, when the Conference on Training in Architectural Conservation (COTAC) was first convened, the understanding of a lack of qualified persons was acknowledged. Until the 1980's however, their focus was almost entirely on professional conservators and university programmes. In the 1980's COTAC became a more active participant in developing masterclass and higher NVQ levels for heritage work. While COTAC still primarily serves to advocate for professional conservation training, it promotes craft programmes and maintains databases of current training opportunities (http://cotac.global/courses/craft/).

Architects and contractors in the UK assisted in leading the charge in the reintroduction of traditional craft skills. Proponents such as Bernard Feilden, who co-founded COTAC, served as a lecturer at the University of York's Institute for Advanced Architectural Studies in the 1960's and 70's, later lending his name to a fellowship at the University to assist in advancing technical training and authored his most well-regarded book *Conservation of Historic Buildings* in 1982 (Fidler, 2008 and Rizzi, 2009) and Ian Constantinides, through his writings and the masonry work performed by his company, St. Blasie from 1982 to 2002 (Cecil, 2013) championed the need for

craft workers, not only conservators. While Feilden and Constantinides, along with others, were early to note the need for these workers, they had little influence on the removal of traditional skills from formal training programmes after the introduction of the CITB and the streamlining of the education system in the late 1980's.

At the turn of the twentieth century, more focus was being placed on the training and retention of qualified heritage craft workers. Indeed, the shortage of these subsections of both the conservation and construction industries was noted in several reports from English Heritage, the CITB, and Department for Culture, Media and Sport (DCMS). Perhaps the most significant acknowledgement of the need to focus on heritage craft worker training was a series of reports released by the National Heritage Training Group (NHTG) in 2005. The reports, entitled *Traditional Building Craft Skills: Assessing the Need, Meeting the Challenge*, studied the current situation of heritage crafts workers across the four countries of the United Kingdom; England, Wales, Scotland and Northern Ireland. The National Heritage Training Group, which was funded by English Heritage, Historic Scotland and the CITB, represents a significant change is the appreciation of the potential loss of heritage craft workers in the conservation industry. The extensive reports, which were updated in 2008 and 2013, revealed an ominous outlook for traditional crafts in the UK. The report noted that the over a series of successive generations, the loss of knowledge and experiences of traditional building techniques in the larger construction industry had reduced the availability of skilled practitioners available to engage with historic buildings (NHTG, 2005). Of great concern, they noted, was the lack of workers aged 30-45, with the industry currently being supported by the older generations. If these issues were not addressed soon, a "retirement time bomb" would occur, exacerbating the skills shortage (NTHG, 2005: p.11).

In speaking to practitioners about recruiting new workers, researchers from the study noted that 56% of the contractors interviewed had difficulty recruiting new practitioners, and 71% said new applicants lacked the skills needed (NHTG, 2005: p.57). Their reasoning for these issues was less certain, with only 27% saying the sector does not train employees and only 12% stating there was a lack of apprenticeship and training courses (NHTG 2005: p.57).

The report's findings on the opinions of the current educational offerings was just as dismal. While many contractors interviewed about the current offerings noted a lack of training opportunities, distances in which apprentices have to travel, and the inability to send them on course releases due to work, perhaps the most distressing opinions about the field came from the trainers themselves. It was noted that although specialised training materials for them was

readily available from several organisations such as English Heritage, SPAB and the Trade Unions, many trainers were either not aware of the materials or were deficient in the skills to teach these practices (NHTG, 2005: p. 76).

The report called for significant changes not only in the training of heritage craft workers, but also of the construction field itself. Goals included the modification of procurement systems for heritage craft workers, development of a database of qualified practitioners, introduction of outreach programmes and career advice, and the modification or addition of training programmes to ensure proper preparation for the industry (NHTG, 2005). These goals were admirable in nature, but very difficult to achieve. The difficulty of achieving these objectives has allowed the NHTG to expose itself to criticism for its inability to achieve its aims. Plasterer Jeff Orton refers to the NHTG as "a half-hearted attempt to get people trained, but it's certainly not serious enough" (Orton, 2014: p. 9).

This view, both by contractors and trainers of the heritage craft training field reflects a larger disillusion with the apprenticeship system in the UK at the turn of the 21st century. In 2011, the Minister of State for Further Education commissioned a report on the current condition of Further Education. While not directly related to heritage crafts, the report, authored by Allison Wolf, offered a pessimistic view of the current vocational offerings for learners aged 14-19 years old. It called for the simplification of the education system and the elimination of certificates that provide no career advancement. It shows major issues with lower level awards, particularly Level 2 NVQ's. The report noted the NVQ 2's often generated poor or negative returns and are of very low value (Wolf, 2011).

The report pointed to a much more alarmingly issue in the education field, one that has the potential to cause irreplaceable damage to heritage buildings. It stated the original funding mechanism, in which the schools were awarded funds for a student who completes a course, inadvertently gave incentives to these schools to direct students to easier qualifications they could pass, therefore not preparing students to enter the field with the skills they need and thereby damaging the long-term health of the industries they are training students for (Wolf, 2011). Furthering the issues raised by Wolf, it can be argued that the societal push towards university training over vocational skills has damaged the health of these training initiatives (see Chapters 4, 5 and 6).

The English Heritage, NHTG and Wolf Reports have been key factors in the examination of not only the importance of heritage craft practitioners in the conservation industry, but the issues in

the system in which those who perform work on heritage are trained. While the reports acknowledge there are significant modifications that must be made, the commissioning and submission of these studies have represented significant preliminary actions in the reintroduction of heritage building crafts into formal education programmes.

It is interesting to note the often-paradoxical relationship which craft practitioners still have with the conservation field. Although they are often discounted in the planning phase, where decisions are made concerning value and schedule of works are determined (Norton, 2017), it is in working with conservation which that heritage craft practitioners often find the most employment, as will be seen in Chapter 4. It is only in the last two decades that the conservation field has come to recognise the need to train incoming practitioners in traditional crafts to address a perceived "retirement bomb" (NHTG, 2005). Through a series of commissioned surveys and reports, the conservation and heritage craft communities have begun working together to addressing this matter, although the progression of this work is still in its infancy. While the addressing of the concerns raised in the NHTG reports is just originating and is often drawing criticism from practitioners (see Chapter 4), the collaborative work that has been initiated in the UK to identify the problems in heritage craft training can be seen as considerably advanced in comparison to their counterparts in the US.

Heritage Crafts in the US since WWII

At the conclusion of the Second World War, the US found itself in a unique global position. Being the only manufacturing superpower unaffected by war, the country experienced an economic boom. Coupled with this boom was the introduction of the GI Bill, which was designed to assist returning veterans reintegrate into civilian life. The GI Bill provided financial assistance to veterans to return to college, begin businesses and purchase homes. Indeed, after the war, it was estimated that the US needed 3,600,000 new homes (Mason, 1982). Builders responded by constructing 1,023,000 in 1946 alone. Between 1946 and 1975, builders constructed more than 40 million new homes (Mason, 1982).

The construction of 40 million homes could not have been possible without the introduction of new construction methods. According to the U.S. Bureau of Statistics, in 1938 the typical builder constructed four or less single-family homes per year, and even fewer had the capacity for constructing ten a year (Transportation Research Board, 2012). The individual often credited with the restructuring of the construction industry is William Levitt, a builder from New York. Levitt, who was a builder before the war, gained experience in mass construction techniques while serving in the navy, where he was credited with building 2,350 war workers homes in Norfolk,

Virginia (Halberstam, 1993). During this project, Levitt studied the construction processes to address the shortage of skilled craftsmen due to war service. He determined that the construction processes could be broken down into 27 separate processes which teams could perform repetitively (Halberstam, 1993). Levitt, who followed Henry Ford's production line model, moved his crews from site to site performing their assigned tasks. This production model provided a successful one, and by 1950 his company was producing one four bedroom home every 16 minutes (Transportation Research Board, 2012).

To achieve these goals, Levitt shunned the traditional composition of the building industry. He avoided the use of subcontractors, which he called "graduate carpenters and bricklayers" (Halberstam, 1993: p.132), employing his own crew of semi-skilled labour. He eliminated the construction of basements, reducing the need for extensive trenching and masonry work. Most importantly, he offered only three choices of home, allowing his workers to produce them more rapidly than their pre-war custom home counterparts.

After the success of Levitt's first post war project, the community of Island Trees, later renamed Levittown on Long Island, New York, other builders followed suit. To respond to this mass production style of construction, suppliers increasingly standardised their construction materials. Framing lumber, doors and windows, and drywall (plasterboard) became uniform sizes to meet the production standards. The quality of construction, and the earnings of those employed in the industry fell, as did the training for the field. Indeed, the state of the American construction field is internationally recognised, with the NTHG noting in their 2005 report that the skills shortage in the UK is in danger of adopting a US style solution to the skills shortage, replacing skilled workers with less skilled, low paid replacements (NHTG, 2005). They described the US system as a "vicious cycle", in which productivity and wage rates have decreased, thus spurring less investment in fixed and human capital (training) (NHTG, 2005 p.62).

This "vicious cycle" drove many away from the field in the US, opting instead to pursue college careers, particularly in STEM (Science, Technology, Engineering and Math) occupations. Schools, it can be contended, exacerbated the problem by "tracking" students. Tracking is an educational term used to determine the student's best course for their occupation. Those who performed poorly on standardised tests were encouraged to enter vocational occupations, where tactile skills were emphasised over problem solving skills. Educator Dave Mertz noted the issues related to tracking, in which holistic trades education was replaced with simple skills which could be easily memorised and repeated, saturating trades training with underperforming students, thus producing an underperforming workforce (Mertz, 2009).

As interest in pursuing the trades fell, vocational programmes in high schools, who were already suffering from increased budgetary pressures, closed, leaving the role of training to technical and community colleges or on-site experience. While formalised training in institutions still exists, many who enter the construction industry learn their trade through onsite education. A 2005 report by the Department of Labour identified 12 categories of associate degree majors that have been granted, and construction was the lowest performing of the study. Furthermore, out of seven categories where short-term certificates were awarded, construction ranked sixth (Mertz, 2005). Although the construction industry has always been a high-growth industry in the US, the desire to attend formalised training in the field remains low. Indeed, in the US, there are no national training standards for heritage crafts and no certification processes to be employed in the industry.

The changes in the construction industry also had a drastic effect on the conservation field in the US, mobilising it to become an influential political and professional force, as it became energised against the substantial suburban migration, the decay of traditional urban cores, and the government's support of these "development" schemes through its national policies.

In 1967, the National Trust for Historic Preservation commissioned a report to study the current state of conservation (preservation) education. A limited number of training programmes existed before the study, beginning with the University Virginia's preservation course, led by Fredrick Nichols in 1959, followed shortly thereafter by a course at Cornell University in 1963 and at Columbia University programme led by James Marston Fitch, in 1964 (Tomlan, 1994). These courses were not free-standing programmes and were offered as supplements to traditional education courses in architecture. Known as the Whitehill Report after its chairman, the study, released in 1968, identified various issues in the emerging conservation field, notably the lack of formal education programmes in higher education.

While the study, much like the conservation movement, focused on the academic training of the conservation professional, it did take note of the current state of heritage building crafts in the US. The report concluded that the burgeoning movement in using prefabricated and artificial building components had supplanted the traditional craftsperson, and that the preservation of these crafts was imperative to the ability to conserve historic structures (Whitehill, 1968). The report called for the development of craft education programmes at all levels of education through joint government and private initiatives. It furthermore noted that no training systems, either through formal education institutions, unions, or preservation agencies existed throughout the country which addressed conservation or heritage skills training, and that those who possess

these skills have either apprenticed under a traditional craftsperson in the US or abroad, or are self-taught (Whitehill, 1968).

The Report also called for the establishment of a permanent crafts council in the United States, and the formation of regional training centres where interested parties could study heritage crafts. In 1971, a conference on the Training of the Building Crafts was held in Washington to study the Whitehill Report's findings. The conference findings supported the Whitehill Report's recommendations by stating that the ultimate objective of the proposed regional centres should be to: "provide instruction for the generalist as well as the specialist and be flexible enough to offer various types of training for individual needs" (Haupt, 1977: p.7). In 1973, the National Trust rejected the idea of supporting regional centres instead opting to sponsor short course programmes as a replacement. The crafts council never formed again and the regional centre proposal was abandoned.

Much like the UK system, the majority of US conservation training programmes exist in the undergraduate or graduate level. Indeed, in the 1967 *Report of Committee on Professional and Public Education for Historic Preservation to the Trustees of the National Trust for Historic Preservation* it was noted that "specialisation in restoration and preservation is most effective at the graduate level (Ogle, 2009 p.35). Today, there are 59 Historic Preservation programmes in the US, and only 4 are located in Technical or Community Colleges and one, the American College of the Building Arts, offers a specialty in craft at the Bachelor's level (NCPE, 2015).

The training of heritage craft workers through formal education was first initiated in the US through the founding of two separate programmes. The first programme was established by the National Park Service under the direction of Jim Askins. The course, which was an extension of a two-week training programme held at the Mather Centre in Harper's Ferry, West Virginia to train Park Service employees, was established at the Williamsport Training Centre in 1977. The programme was designed to maintain an experienced staff of tradespeople in the National Park Service system, with the goal of placing these graduates in parks and regional offices where they could train further employees in traditional craft skills as well as maintenance techniques. (Sasser, 2014).

The programme still exists, but is only open to Park Service employees and it concentrated on educating employees on Park Service policies and procedures, thus having a limited scope in the greater heritage craft field.

The second programme was founded in 1979 by John Fugleso at Durham Technical College in Durham, North Carolina. The programme, which was offered as a one-year diploma, was the first in the nation to offer formalised heritage craft education. The programme, which struggled for several years before transitioning into a residential construction certificate in the mid 1990's, is often overlooked in the study of heritage craft training programmes due to its limited existence and enrollment. Other early attempts to found programmes existed at Asheville-Buncombe Community and Technical College in North Carolina, Indian-Meriden Vo-Tech in Oklahoma, and the Augusta Centre at Davis and Wilkins College in West Virginia (Preservation News, 1989). None of these programmes are still in existence. The first programme which is considered successful in the US is Belmont Community College in St. Clairsville, OH. The programme, which was founded by Dave Mertz in 1990, is still in operation and is widely regarded as the inaugural historic preservation programme in the US. In 2014, Dean Emeritus of the American College of the Building Arts Simeon Warren called Professor Mertz; "the most influential figure in trade education this side of the Atlantic" (Warren, 2014: p.1). He further explains Professor Mertz's national influence by stating: "Every academic professor who has built a programme in these United States has referenced this man and his work. Which means that every student who has been through an academic trade education programme has been influenced by this man" (Warren, 2014: p.1).

Since the inception of these programmes, the US has seen the attempted founding of numerous programmes throughout the US, many of them have met with failure. Programmes in Maryland, California, Colorado and Pennsylvania have all become redundant in the past decade. Redundancy causes are as varied as the institutions, but some of the most common issues facing programmes are examined in Chapter 5 of this thesis.

While the tensions between practitioners and conservation professionals can be profound in the UK industry, their US counterparts can be noted as expressing enthusiasm with the growth of the industry but experiencing tension between traditional craft practitioners and their modern construction counterparts (see Chapters 4 and 5). While the US movement has progressed rapidly in the last fifty years, the formal study of heritage crafts in the US is still is in its infancy, with few programmes in existence and little focus from the overall conservation community to support new offerings. This issue has existed since the Trust rejected the plan for regional training centres, and indeed there has been little formalised study into the status of heritage craft training in the US since the submission of the 1968 Whitehill Report. While there have been some attempts to study the contemporary condition of heritage craft training, notably through organisations such as the Preservation Trades Network and the Association for Preservation

Technology, there is little data in existence surrounding the issues and successes experienced by heritage craft education since the proposals in the 1968 report.

3.5 Conclusion

In viewing the progression of heritage craft skills education through the lens of the Actor-Network Theory, it can be observed that both system have experienced modifications of the punctualisation of their network practices, thus leading to the process of *problematisation*, *interessment*, *enrollment*, and *mobilisation* identified by Latour as steps in the *translation* process of networks (Chapter 2). In the UK, two major reconfigurations of the training networks took place before the Second World War. The first occurred after the 1563 Statute of Artificers Act, which set the national standards for craft training. During this time, the government, identifying the problem of inconsistencies in craft training, worked together with the Guilds to establish guidelines for the training of apprentices. The Guilds, masters, and apprentices all identified their roles in the system and worked together with their allies; merchants, government officials, and customers to ensure the system remained. This continued until the rise of mercantilist policies, along with ever tightening Guild memberships caused the Guild system to break down, but the training system remained. The UK went through a second reconfiguration of its training system after the 1882-1884 Samuelson Commission Report and the founding of the technical schools. In this system, new actors: teachers, replaced Guild masters in the formalised training, and the government took a more active role in the system. Since the Second World War and the rise of the professional conservation field, heritage craft, after experiencing a significant downturn, has been undergoing a renewal in the appreciation of its value, both as an employment opportunity and an aspect of the UK's intangible heritage. Against this backdrop, the reconfiguration of the educational system with the introduction of the NVQ system has caused a third modification and translation of the field of heritage craft education in the UK. To address this problemisation, the UK Government introduced a new levy system for apprenticeships, which was inaugurated in May 2017 (Department for Education, 2016). As this new system is in its infancy, it has not been studied for this thesis but warrants additional further study in the future to monitor its effects on the industry.

Conversely in the US, this thesis argues that the country never had a codified system of training, instead relying on localised education initiatives, often acting independently with little contact with their counterparts. Furthermore, the short history, localised control and transient nature of American society permitted a less stringent application of conservation standards first espoused by Ruskin and Morris, with practice being more closely aligned with Nara Document ideals. The US however, never experienced a breakdown of a national system, as a formalised national

system never existed, instead the networks were primarily local, reflecting the fragmented nature of the American building and educational systems. Over its history, several attempts have been made to initiate a formal system, including the Mechanics Institutes of the nineteenth century and the 1968 Whitehill Report, but true interessment and enrollment on a national level has not occurred.

The issues identified with heritage crafts in the UK and the US, follow a common theme; the reduction or elimination of traditional crafts from the modern building industry, causing a change in the training systems which exist in both countries. The changes which have occurred in these training systems, which are designed to meet the needs of the greater industry, have exacerbated the loss of traditional crafts and thus have put heritage sites at risk due to increased potential of inappropriate repair techniques or materials. Simultaneously, trades education has been reduced in time and competency requirements, further making the introduction of heritage crafts into standard curriculum more difficult. The growth of the conservation industry in both countries has assisted in providing opportunities to study and practice heritage crafts, and the future of these trades exist firmly in this field. The training networks for traditional crafts, which have been continued throughout the greater changes in society, have transitioned from an internal training network, in which actors involved; masters, apprentices, Guilds, all practiced directly in the craft industry, to one which operates in a larger framework of formal education. It is in these new networks that a new series of actors; lecturers, tutors, along with school and government administrators have been inserted in the adapted network, in which they hold significant authority while often having no direct experience with heritage crafts.

While the challenges that face both countries are very similar, the approaches taken by both nations in regard to addressing these problems, and the issues they face in the industry are markedly different (see Chapters 4 and 5). While the US recognised the need for traditional craft practitioners as early as 1968, and early attempts to establish training programmes and systems occurred, the training field has progressed little since that time, with limited formal training opportunities currently existing in the country, as most conservation programmes are theoretical in nature. The UK, conversely, has continued their traditional training systems, which support, although through condensed delivery, traditional craft practices, and the advancements made since the conclusion of the Second World War can be seen as far exceeding the steps taken by the United States.

The exception to the advancements in the UK system is the integration of craft practitioners into the conservation world. The tension which exists in the roles that the practitioners and the

conservator perform has decreased over the generations (Jones and Yarrow, 2013 and Yarrow and Jones, 2015), but still exist in the industry regarding decisions and practices on sites (Norton, 2017). The craft practitioners' embracement of the conservation field, and their potential positions as valuable actors in this network, are an acknowledgement of the potential for the continuation of their crafts in this industry which will permit greater interaction between practitioner and professional (see Chapter 4).

The period since the end of the Second World War can be classified as the embryonic stage of the professional conservation field in all its facets. The swift expansion into conservation specialisations, both in academic study and professional practice has required the rapid formation of philosophies, processes, and roles within heritage sites. While some of these roles have been created from the growth in the field, others, in particular traditional crafts, are still labouring to define their role in this new industry (see sections 3.3 and 3.4). The establishment of heritage craft training programmes, which are recognised and supported by the conservation field, in which students are trained in the skills needed by the industry, a central argument to this thesis, is vital for both conservation professionals and practitioners to operate effectively. The historical development of an effective method in achieving this goal, which will be studied in Chapter 4, has yet to be fully achieved in either country.

Chapter 4: Generational Responses to Traditional Craft Education

4.1 Introduction

As reviewed in Chapter 3, the field of building, both in repair work and new construction, has been substantially transformed since the end of the Second World War. Coinciding with changes in the new construction sphere, the rise of the heritage conservation field as both an academic and professional practice has created a subsection in the industry which emphases the conservation and repair of heritage structures. It is from this transformation that a new subset of the construction industry focused on the repair of historic structures has formed: the heritage craft worker. This specialisation has been reflected in higher or further educational settings which now offer diplomas and degrees, at various levels of study, in conservation of specific heritage crafts.

Given the comparatively fledgling aspect of heritage conservation as a professional and academic study, it is important to establish an understanding of how several generations of practitioners approached their careers during the formation of the modern heritage building craft industry, their opinions of the discipline, and their reflections on the current educational offerings' ability to produce apprentices to enter the heritage craft fields. The representative sample of participants studied in this chapter permits a greater understanding of how practitioners have approached the field of heritage craft over the previous fifty years, and their opinions of the future of these trades as a profession. It is from this enhanced understanding of the transitions that have taken place in the industry that issues facing the current network, as well as the roles individual actor groups have taken in the translation process can be ascertained.

Generational compositions

Four generations have been identified by the researcher as having operated in the field since the conclusion of the Second World War: The *Germinal, Intermediary, Transitional,* and *Inaugural.* These four generations have been formulated by examining the approaches available to practitioners during their formative years of study. Because of these variations in training, along with the growing heritage industry, each of these generations have experienced differing levels of interest in, and practice of, heritage crafts during their careers. The experiences of these generations have shaped their roles in the modern training network and have also influenced their opinions of the current educational opportunities for their crafts. Generational compositions are identified in figure 4.1 below.

Generation	Training years	UK participants	US participants
Germinal	Pre-1965	Bernard Feilden Ian Constantinides	Jim Askins John Fugleso
Intermediary	1965-1985	Dr. Gerard Lynch Jeff Orton Richard Harris	Ken Follet Rudy Christian Lisa Sasser
Transitional	1985-2000	Alan Toyne Nigel Copsey Paul Ellis Simeon Warren	Amy McAuley Tom Russack Patrick Webb
Inaugural	2000-present	John McRitchie David Wilkins Henry Orton	John Ecker Katie Purcell Michael Laurer

Figure 4.1
Generational Compositions

The *Germinal* Generation [Training years: 1945-1965] was instrumental in the formation of various organisations relating to heritage craft while simultaneously advocating the study of heritage buildings in a time of minimum public and governmental interest through personality driven activities. Members of the *Germinal* Generation in the UK include Bernard Feilden, whose early leadership in the field included the founding of COTAC, serving as the Head of UK ICOMOS, lecturing at the University of York, and authoring multiple books and articles about conservation throughout the world (Fidler, 2008), and Ian Constantinides, who's work with groups such as COTAC and the Building Limes Forum was instrumental in the "lime revival" in the UK (Cecil, 2013). In the US, *Germinal* Generation participants include Jim Askins and his founding of the Historic Preservation Training Centre (HPTC) in the National Park Service (Sasser, 2014) and John Fugleso and his early attempt at trades education at Durham Technical College in North Carolina (Russack, 2014). This generation was responsible for positioning heritage conservation and traditional crafts into a recognised specialisation in the building trades. Representatives from the *Germinal* Generation have not been interviewed for this research due to the inability to identify sufficient individual participants to gain a comprehensive understanding of the generation's personal opinions of the current field, as many of this generation are elderly or have passed on.

The *Intermediary* Generation [Training years: 1965-1985], is represented by three practitioners from the United Kingdom and three practitioners from the United States who were the first post war generation to enter the building field during the formation of the specialisation of heritage building crafts. Many from this generation were trained under older, pre-war craftsman who retained much of the traditional construction knowledge and therefore offer an interesting perspective of their direct experiences with *Germinal* Generation members. The *Intermediary* Generation participants are sixty years old and above, and many are approaching the end of their professional careers. This generation is frequently identified as having limited formal education in

the practice of heritage crafts, but an extensive applied knowledge of their fields gained through a significant number of years practicing. While this identification is prominent in this generation, there are three exceptions in the interview set; Dr. Gerard Lynch, Richard Harris and Lisa Sasser all have formal educational qualifications in addition to a significant number of years in practice. Interview subjects in this generation have self-identified in the interview process as follows:

- United Kingdom participants
  - Dr. Gerard Lynch: Master brick mason, author and educator
  - Jeff Orton: Traditional plasterer
  - Richard Harris: Current Course Director of the Timber Building Conservation programme at the Weald and Downland Open Air Museum. Former Research Director for Weald and Downland Open Air Museum. Building Archaeologist.
- United States participants
  - Ken Follet: Historic Building Consultant
  - Rudy Christian: Timber framer
  - Lisa Sasser: Historic architect

The *Transitional* Generation [Training years: 1985-2000], which consisted of three practitioners from the United Kingdom and three practitioners from the United States, are the first generation to study in the modern educational structures in both countries. The interview contributors from this generation have commonly trained in formal academic settings in related crafts and have independently pursued heritage crafts as a profession. This generation can be defined as the first generation which did not have the option to pursue traditional craft training opportunities that were available to the previous generation, instead having to enter the field through circuitous routes. In addition to the defined representative sample of participants, an additional interview was performed with Simeon Warren, a practitioner who was trained under the United Kingdom educational system but practices in the United States. This additional interview participant was selected due to the unique insight he offers. *Transitional* Generation participants have self-identified as follows:

- United Kingdom participants
  - Alan Toyne: Carpenter/Joiner
  - Nigel Copsey: Stone mason
  - Paul Ellis: Stone carver
- United States participants
  - Amy McAuley: Traditional sash joiner
  - Thomas Russack: Historic Preservation project manager
  - Patrick Webb: Plasterer

- Independent interview
    - Simeon Warren: Stone carver

The *Inaugural* Generation [Training years: 2000-present], which consisted of three practitioners from the United Kingdom and three practitioners from the United States, are the first generation to specifically study heritage crafts or conservation in their academic study. This generation is frequently identified as the first to have the opportunity to study heritage craft as an academic discipline, while concurrently having the least opportunity to interact with tools and materials, or the knowledge of such opportunities before their college career. They are also the first generation in which the heritage conservation profession was an established and viable career path which could be chosen to pursue directly after completing their obligatory schooling. While this identification is prominent in this generation, there are two exceptions in the interview set. Henry Orton did not choose to pursue his profession until after completing his university studies and John Ecker, who did not attend a college or university and instead entered his family practice. *Inaugural Generation* participants have self-identified as follows:

- United Kingdom participants
    - John McRitchie: Carpenter/joiner
    - David Wilkins: Architectural carving student
    - Henry Orton: Plasterer
- United States participants
    - John Ecker-Project supervisor
    - Katherine Purcell-Maintenance worker
    - Michael Laurer-Plasterer

The participants form a representative sample from which inferences and conclusions can be drawn regarding the past and current approaches to heritage craft training, and industry professionals' opinions of the current system of training apprentices in the heritage crafts.

Interview process

Each participant was interviewed by the researcher using the guidelines and processes set out in Chapter 2 of this study. In the interview process, three general themes were discussed with the participants.

Approaches to entering the field

Each participant was asked to describe how they entered the heritage conservation or traditional craft field. This includes the apprenticeship systems, academic, or self-study routes that they

choose. These descriptions include their opinions on the training system that they pursued, and whether they consider that system to be still appropriate in today's society. Personal decisions about alternative career paths, and the aspects of their profession that they consider the least and most enjoyable, as well as common misconceptions of their profession were also discussed.

Opinions of the current education offerings

Each participant was asked a series of questions regarding their opinions of the current educational offerings for traditional craft practitioners. Some of the interview participants are active in the current training system, either as instructors or external assessors, and have a greater understanding of the current system. Others have been disengaged with formal education for an extended period of time. Regardless of their current role in the educational system, their opinions of training are relevant for an understanding of how current training is perceived in the professional realm. In these questions, a specific probe was developed for both UK and US subjects. Participants from the UK were asked their opinions about the National Vocational Qualification (NVQ) system, while US participants were questioned about their opinions about current issues with US based training programmes including the limited availability, as well as placement and support issues identified in Chapter 3. Since both subjects are unique to the society in which the participants operate, the answers cannot be reflected across transnational boundaries, but are vital to understanding the pertinent issues or concerns which both countries encounter.

Structure of the ideal programme or system

At the conclusion of the interview process, each participant was asked to envisage their ideal programme or system to train heritage craft practitioners. Topics in this question include how to promote and market a programme, instructor qualifications, geographical location of the programme, on-site apprenticeship requirements, and length of the programme. Participants were also queried as to whether their ideal programme could operate under the current educational system, and if any current programmes met their requirements for an ideal training system. Responses to these questions diverged significantly, with individual participants concentrating on specific aspects of their ideal programme. Although none of the participants could give a complete and detailed description of their ideal programme, the answers given are essential to understanding the aspiration of the level of knowledge that practitioners desire from those entering the field, as well as their ideal solutions to the issues that they have observed in the current educational offerings.

These three themes will initially be examined by generational response, and further analysed by nationality to produce a synthesis of information regarding heritage craft professionals. The representative cores of the three generations examined in this chapter will then be analysed to develop an understanding of how, from the opinion of practitioners, the field of heritage craft has evolved, both in the academic and professional settings over the past fifty years.

4.2 Approaches to entering the field

Participants were asked to describe what their profession is, how they learned their trade, and potential alternative career paths they considered or pursued. Each generational response reflects the choices that were available during their formative training years and the progression of the heritage craft field as an academic pursuit.

4.2.1 Intermediary Generation

The United Kingdom participants included a plasterer, a brick mason, and an architect who described himself as a buildings archaeologist. When questioned about their training opportunities the participants pointed to the fact that there was no training field in building conservation or heritage craft. Richard Harris, a building archaeologist who studied architecture at the Architectural Association in London described his programme as "very advent garde…not a very nuts and bolts programme" (Harris, 2014: p.4). Richard Harris's experience in the late 1960's can be seen as reflective of the nascent academic study of conservation in the architectural fields, as described in Chapter 3. This experience is understood to have encouraged him and others in the field to establish guidelines and structures of professional operation in the industry. Indeed, as Research Director for the Weald and Downland Open Air Museum, a profession which Richard described as "only existing in one job. It's not a recognised profession" (Harris, 2014: p.2), he spent a substantial quantity of his professional career performing research in heritage craft. Richard portrayed his early career as a period as "…just in the hiatus between the ends of peoples' career where they learnt this as part of their crafts training, and where people relate it as part of building conservation. It was a sort of dead period really" (Harris, 2014: p.2).

Gerard Lynch was formally apprenticed in brick masonry and studied brick masonry at Bedford College on day release between 1972 and 1977, where he earned his City and Guilds certificate. He explained his education as; "very well rounded. It's one thing laying a brick on a workshop floor, it's another thing laying it down in a trench" (Lynch, 2014: p. 8). While Lynch described his programme as focused in the study of new build construction, the instructors touched on traditional craft, as it was still in practice in the field, but he did not receive an historical context

for such practices, because: “I think these teachers didn’t know about the historical background of their craft” (Lynch, 2014: p. 11).

While studying under craftsman who were trained using the traditional methods and were adapting to new technologies and techniques of the day, Lynch was able to experience the concluding years of traditional craft training in standard craft training programmes in the United Kingdom.

Jeff Orton’s experiences with his training as a plasterer mirror Gerard’s encounters with the United Kingdom vocational training system of the early post-war period. Jeff began his career in 1963 at the age of fifteen, beginning his classes at Leicester Technical College in 1964. Jeff, who is several years older than Gerard and Richard, described the continuous succession of craft knowledge that was still in existence when he trained. He stated:

> When I served my apprenticeship, I was taught by men that had been taught by previous craftsman and they’d been taught by previous craftsman. So a lot of what I was taught was not something that the person suddenly thought up at the time, it was something that was handed down. So the skills were handed down, but some of the actually (traditional) concepts of why we do the work was handed down (Orton, 2014: p. 17-18).

In contrast to their UK counterparts, US participants that were interviewed did not attend formal technical training programmes to learn their craft. Lisa Sasser, who was the first graduate with an historic preservation certificate in her architecture programme at Texas Tech University in 1977, portrayed her experiences with the conservation world and traditional craft while at school as limited. She described the minimum interaction with historic preservation (conservation) during her education, noting that there were: “There were not many programmes in preservation either academically and certainly weren’t with any type of trades orientation” (Sasser, 2014: p. 3). Given the relatively minor interaction Lisa had with the trades during her formal academic study, she later gained training while employed in the National Park Service at the Williamsport Preservation Training Centre in Williamsport, Maryland under the guidance of Jim Askins, becoming the first female graduate of the programme in 1986. See Chapter 3 for Jim’s role in the continuation of heritage craft knowledge as a member of the *Germinal* Generation.

Rudy Christian, a timber framer, discovered his trade through a serendipitous route. After working with his grandfather in carpentry at a very young age, he attended the General Motors

Institute, a college specifically designed to train workers in the General Motors Company and its affiliated industries, to study engineering. Realising he was not suited for the programme, he exited the Institute to serve as a plant engineer for an electronics company. Later he left the plant to found his own carpentry company, performing new home construction and repair work. It was not until 1982 at the urging of his wife, he attended a course in timber framing at Canyon College. That workshop served as an epiphany for Rudy. He looks back on that moment as a turning point in his career, describing the participants in the workshop as:

> …these guys from Vermont, New Hampshire who were just obsessed with this work that they were doing. And they were there at dawn, they worked until dusk, everyone, it was 120 degrees in the parking lot at least, it was awful, and I realised that the one thing that was different about those people all they, every single one of them, they all did exactly the same, they smiled, all fucking day long. They were happy. They were really happy to be doing what they were doing all day long. And you know, that when I realised; ok so this is it, that's it. I don't know what it is but, I want to do whatever it is that will make you smile all the time. You know it makes you happy what you're doing. So that was a transition (Christian, 2014: p. 8).

Rudy, like many of his generation, learned his trade from research and practices. In the 1980's he was one of the founding members of the Timber Framer's Guild, a non-profit organisation dedicated to the craft of timber framing. But as Rudy noted: "the revival of timber framing from the beginning was more like a reinvention…there weren't many people who were interested in the revival of the craft insomuch as the reinvention of the craft" (Christian, 2014: p. 10). This use of ancient craft in modern applications, it can be understood, helped spur the greater industry of timber framing, in which repair work for heritage structures became a subset.

Ken Follet, a building consultant who specialises in historic masonry, also blended his traditional stonemasonry skills with modern conservation techniques to develop a specialised niche in the conservation field. Follet, who has no formal academic training, learned his craft through the process which he identified as "mentorship", or learning from others on the jobsite, experiencing the tradition of "stealing" knowledge (Marchand, 2008). Ken, like Rudy and Lisa, sought out the education about traditional crafts from non-academic sources. While traveling throughout the mid-Atlantic region performing work, he informally apprenticed with stone masons, construction managers and architects to learn various aspects of his trade. He stated; "when I need to know something, then I will find it out" (Follet, 2014: p. 32). Using his system of mentoring and self-

study, Ken currently serves as a consultant for major conservation projects throughout New York City, serving on teams with colleagues with more extensive formal academic training.

Education approaches for The Intermediary Generation

These participants can be characterised as the *Intermediary* Generation between the continuous transmission of traditional craft knowledge from one generation of practitioners to the next and the formalised craft training in modern educational systems which exists in today's industry. While the United Kingdom participants often continued the formal apprenticeship system of the past, their United States counterparts had limited availability of such options. In both societies, the traditional craft information still existed through informal interactions with older artisans, where knowledge was transferred casually through daily interactions, in a process which Ken Follet referred to as "riding around in the truck" (Follet, 2014: p. 36), denoting the time spent conversing whilst travelling to job sites. The base of traditional knowledge which still existed in their older associates was still disseminated, although it was not acknowledged as a scholarly activity but a transfer of practical skills in which their colleagues were proficient and that their younger associates needed to be successful in their trade.

The superficial treatment of conservation philosophies and techniques which were experienced by interview participants of this generation who did attend formal academic programmes are reflective of the diminutive stature of the heritage conservation field in the greater spheres of architecture and building during the 1960s-80s. The lack of formalised academic opportunities for members of this generation, it can be argued, is representative of the embryonic nature of the heritage conservation industry at the time. As the industry developed, the need for further trained practitioners grew, thus spurring the development of specific programmes dedicated to conservation and heritage crafts. This relegation of heritage conservation in academic settings, coupled with limited access to university programmes during this period caused members of this generation to pursue traditional craft knowledge through unconventional avenues, whether be through the "mentorship" system, workshop participation or self-study. While these methods do not typically conclude with the awarding of an academic certification, it can be argued that these methods of edification were more pragmatic for the industry in which these practitioners operated, and that the lack of formal qualifications should not discount these professionals applied knowledge or their ability to disseminate this information to interested parties. The knowledge which was conserved by this generation allowed them to mentor future generations, notably the *Transitional* Generation, to expand the offerings of heritage craft education in academic settings.

The *Intermediary* Generation's experiences relating to how they approached the field of heritage crafts is insightful for the development of the subset of traditional craft and heritage repair in the greater construction industry. Members of this generation trained in their crafts through new build and developed their enthusiasm for historic buildings and techniques through field experience rather than the conventional training routes which are prescribed today. This generation was influential in the formation of short-course training opportunities to develop a greater understanding of traditional techniques. The "lime revival" which was experienced in both countries during the 1990's (Harris, 2014), along with the revival of traditional timber framing can be credited to the work that the *Intermediary* Generation did to collect and disseminate the knowledge which was not being imparted through recognised training schemes. This cohort produced a written and practical continuation of craft traditions which could then be used by future generations to formulate teaching programmes for heritage crafts through recognised academic routes.

4.2.2 Transitional Generation

Transitional Generation participants from the United Kingdom included a joiner/carpenter, stone carver, and mason. In addition to the specific United Kingdom participants, independent interviewee Simeon Warren, a stone carver, has been categorised with the United Kingdom participants for the purpose of this subject due to his formal training in the United Kingdom educational system. This generation experienced the end of the City and Guilds certificate as the dominant awarding body, being replaced by the National Vocational Qualification (NVQ) system. While members of this representative sample completed their studies before the transition, they now are active in the NVQ training schemes, both as employers and external assessors, and have strong opinions about the new system.

Alan Toyne, who currently serves as the Carpentry and Joinery Team leader at Lincoln Cathedral, came to the industry through an apprenticeship with a local building company which later earned him a City and Guilds certificate from Lincoln College. His original life goal was to join the army, but attempted the aptitude test for carpentry and joinery, which led him into the field. Although he had years of experience in the field, Alan, who trains apprentices in his current employment, noted the importance of the aptitude test in regards to comprehending a student's ability to grasp the field, thus enabling their potential success in their training, as it did his. He spoke about the importance of these tests, which are still a vital aspect of career selection:

> It was all in the mind, which was quite interesting really because now we do try, especially here, when we do look at bursaries and stuff like that for the

> apprentices, we give them a little practical test to see what they're like with their hands and at the end of the day it's no good having it all up here and not being able to do it with these (hands). But with that it was just sheer aptitude test and that was done just to see what level you was at (sic), to see if you could properly digest the information to learn about carpentry (Toyne, 2014: p. 3).

Paul Ellis, who currently works alongside Alan in the Masonry Department at Lincoln Cathedral, also considered joining the army as a career before choosing stone carving as a profession. Originally trained as a plant engineer in a production factory, he became redundant two years after completing his apprenticeship. He was prepared to join the army when a conversation with his brother led him in another direction. He then enrolled as a full-time student at Weymouth College to study architectural stone carving, although he never contemplated it as a career before. He remembered his discovery of Weymouth College:

> I was registered on the unemployment at the time, there was, in the jobs section, there was a course being offered at Weymouth College, down in Dorset, for architectural carving. I'd never done any stone carving, never shown any interest in it, well I used to do a little bit of whittling in wood, carving and stuff just in wood. So I thought; stone, wood, same, it's just a different medium, and I thought yeah, I'll give it a go…. And that's where I started, and I never looked back (Ellis, 2014: p. 2-3).

The programme at Weymouth was designed to train apprentice stone masons at the nearby Portland stone yards, which then expanded to include a two-year full-time course which ran concurrently with the traditional block release system defined in Chapter 2. Ellis described his education as a mix of practical and theoretical, with a mixture of the different facets of stonemasonry and instructors (Ellis, 2014), which prepared him well for his first career after college; stone carver at Wells Cathedral.

Nigel Copsey, a self-employed stone mason from Yorkshire, also attended Weymouth College to study stonemasonry at the same period as Paul. Copsey, who took an interest in stonemasonry after completing a university degree in politics from the University of York, expressed his decision to attend York to study as a social custom:

> Because I had no idea what I wanted to do. I mean at the time, quite rightly education for its own sake was the norm and I did A levels, I went to University

> and I was quite political, which [sic] I did politics but of course it's a different thing but it was just there and at the time we got grants so we didn't have to pay for ourselves obviously so it was there, and it was something doing of its own sake (sic) but it wasn't something with a career idea. No, I had no idea what I wanted to do (Copsey, 2014: p.4-5).

After practicing dry stone walling in Cornwall for several years after graduation, he began the course at Weymouth College full time in 1989. He described his experience at Weymouth, in which his graduating class was the last to achieve the City and Guilds certification that was being phased out for the NVQ, as a rewarding experience, with students from varying backgrounds that all wanted to study stone carving (Copsey, 2014). He noted the enthusiasm of his fulltime class compared to the apprentices from the Portland stone yards who: "they were grown up (sic) on Portland they did it because it was there it was a job that you did but you weren't necessarily engaged" (Copsey, 2014: p.5).

Simeon Warren, a classmate of Copsey's at Weymouth, came to the programme after being rejected for an apprenticeship at York Minster because he was considered too old, at the age of eighteen, for the Cathedral to receive a government subsidy for training, since the system at the time was set up for fifteen to sixteen-year-old apprentices. Having an interest in 3D sculpting and modelling, his original goal was to be a model maker for the movie industry. When he found it difficult to find training in that field, he decided on stone carving. Simeon described his education at Weymouth as being almost solely focused on carving skills. He said about the programme:

> I never did any install [sic] at Weymouth, and we did a little bit of conservation, but not a lot. And so it was mainly the carving side of it. But I think the instructors were good. I think they really didn't have that much academics [sic], in the sense that we did maths and we did drawing and we did technology, can't remember the specifics but it was very simple, simple stuff that you had to do to get you City and Guilds (Warren, 2014: p.8).

Warren recounted that he later apprenticed at Lincoln Cathedral, and after completing his apprenticeship, he returned to College to study environmental art, first at Leeds College and then at Glasgow School of Art. After his graduation, he returned to stonemasonry, becoming deputy yard foreman at Wells Cathedral before moving to the United States in 2001.

While their UK counterparts were experiencing the transition out of the older City and Guilds system into the modern NVQ based educational format, interview subjects in the US were undergoing a cultural transition which valued further education through academic courses higher than vocational training. Patrick Webb, an ornamental plasterer who worked in the field before attending college to study civil engineering, noted the pressure put on him by his parents to attend a programme he was not interested in. He remarked: "I wasn't very well supported to pursue what I pursued, as far as sometimes your parents have something in mind. You know a three-letter word for failure is art" (Webb, 2014: p.4). Although his father was a professional decorator, and Patrick worked alongside him and his associates for many years, his father's opinion about his desire to succeed in a professional career is representative of a larger national momentum to encourage more young people into university settings and away from manual skill-based employment. This push, which many will argue continues, drove many who may have been interested in heritage crafts into a college setting, where programmes in conservation and heritage craft were only beginning, while the technical trade programmes at the time suffered from image issues, which also affected UK participants (See Chapter 3).

Another interviewee who followed a similar path to Patrick is Amy McAuley, a traditional sash joiner who works only in hand tools. Amy, who received a fine arts degree with a specialisation in technical drawing, found that employment in her degree field was difficult to find. After transferring from one profession to another for several years, Amy found herself in the employ of a carpenter for a summer job. She spoke candidly about her transition into the traditional crafts domain: "To tell you the truth, when I started working for that general contractor in '96 I was out of work and I needed a job." (McAuley, 2014: p. 6). She continued "…when I was feeling around for work, I didn't want to close any doors because oh, this is construction, you know there's so many prejudices against those blue-collar workers" (McAuley, 2014: p.6). The prejudices that Amy spoke of are can be seen as reflective of the national transition away from the skills-based trades, considering them "blue-collar" or seemingly less than appropriate for a person with higher education.

Tom Russack, a third-generation union mason from New York, trained in the bricklayer's union apprenticeship training system, where he was employed for many years. After taking a break from masonry for several years, he found himself practicing again in Vermont in the late 1970's, where he saw an advertisement in the local paper for a graduate programme in historic preservation at the University of Vermont. Tom described his experience at the University of Vermont programme; "…I thought I died and gone to heaven" (Russack, 2014: p.5). At the encouragement of one of his professors, Tom left the University and attended the first historic

preservation trades programme in the United States at Durham Technical College in North Carolina which was begun in 1979 by John Fugleso and only remained in existence for few years. John's role in the continuation of heritage craft knowledge as a member of the *Germinal* Generation, can be referenced in Chapter 3. Later in his career, Tom completed his higher degree in historic preservation while working in the heritage conservation field in New York City.

Tom, who labelled himself as "born in the age of wanderlust" (Russack, 2014: p.3), followed an exceptionally casual route to the heritage conservation field. While continuously using the masonry skills he learned while apprenticing with the Union, Tom's experiences into formalised conservation training took numerous years to complete through multiple early conservation programmes in the United States. His experiences at Durham Technical College, being one of the first graduates of its one-year degree, makes him a unique case in the history of heritage craft education, given the distinctiveness of the programme focus as described in Chapter 3 and the brief existence it experienced.

Educational approaches for the Transitional Generation

The experiences of the participants in the *Transitional* Generation outwardly appear distinctly different between the two countries. The United Kingdom participants all gained formal qualifications in the trades, while only one in the US, Tom Russack, obtained such qualifications. Upon closer examination, it can be observed that their experiences share more common aspects than it would appear. All participants entered the field after initially choosing an alternative career choice. All attended some form of higher education training, many had little to do with conservation. Although some, such as Alan and Tom, originally chose to work in their trade, they did not study conservation initially in their field. The significant number of interviewees that attended Weymouth College to study stone carving is representative of the minimal opportunities for formalised training in the field, as does Tom's experiences at the short-lived programme at Durham Technical College. While this generation all held formalised degrees, they still relied on work based experiences, whether through recognised apprenticeships, as is the case with Alan, Paul and Simeon in the UK and Tom in the United States, or through independent employment, as is the circumstance of Nigel in the United Kingdom and Patrick and Amy in the US. The transfer of conservation philosophy and heritage craft skills was still primarily conveyed in the industry and not formal programmes. This generation can be defined as being heavily influenced by the knowledge based retained by the *Intermediary* Generation, while obtaining the certifications and academic awards that are believed customary in contemporary society. It can be characterised as the *Transitional* Generation between the end of the traditional system, whether it was through the formal move away from the City and Guilds system to the NVQ

standards, or the societal prejudices against manual labour, and the modern training schemes for heritage crafts. The formation of specific heritage craft programmes during this time, although few in quantity, reflect a transition into the formalisation of heritage craft skills in academic settings, and a wider societal effort to formalise learning through structured environments.

4.2.3 Inaugural Generation

United Kingdom participants for the *Inaugural* Generation include a plasterer, carpenter/joiner, and a student of stone carving who was formerly employed by the National Trust. This generation was the first to be trained specifically by the NVQ system, attending colleges and universities for their craft or related studies. They are also the first to have entered the field which had established methods of entry through formalised education programmes and certifications.

An important aspect of this generation is the absence of information about traditional crafts in their formal education at a young age, with participants describing having little to no exposure to the fields during their initial education, which, it can be contended, is representative of the larger societal progression away from vocational skills and into the post-industrial economy, which was investigated in Chapter 3. As a result, this generation has a large proportion of re-trainers, or craft practitioners who have studied or trained a different vocation, before becoming disenchanted with their career paths, and finding traditional crafts later in life.

John McRitchie, a traditional carpenter/joiner from Dunfermline, Scotland, always had an interest in building from a young age, and at age sixteen he began a programme to train to be an architectural technician, commonly referred to as a drafter in the United States. Although he did well, he was drawn back to building trades because, as he stated:

> I was good at the work and being trained on the job, but when it came to college and they handed me big, thick folders that size (sic) of paperwork, and I was dyslexic, I was like, nah…I felt I was learning more on the job, but I wasn't learning enough about building services. I wasn't learning enough out of books (McRitchie, 2014: p.5).

John noted that he was influenced into the architectural technician field over joinery by a careers advisor at his school. He described about his opinion of the school:

> The school's problem here is they think that like people that are dumb should go to a trade and that's not the case, eh. And people, different people

> are challenged in different ways in life, eh…. By building stuff on site, it made me relate to what I was trying to read in the books, when I was actually seeing it getting done in front of me (McRitchie, 2014: p.5).

John later left his course of study to work for a local builder, earning his Scottish Vocational Qualification (SVQ) in carpentry and joinery. Later he joined the large building firm of Taylor Wimpey House Building, performing new build construction work to complete his apprenticeship. During the recession of 2008, he was made redundant by the company, and his college lecturer directed him to apply for a bursary from the Heritage Lottery Fund to join a course offered by the Prince's Foundation for Building Community. He completed the course in 2009, opening his own company, McRitchie Traditional Carpentry in 2010, while also serving as an assessor for the SVQ system.

David Wilkins, currently an architectural carving student at City and Guilds College, came to the heritage crafts industry later in life after a career in the retail industry. His job, as a visual merchandiser in the seasonal department for a large DIY retailer, required him to design and build stands to display products in the stores. He noted his dissatisfaction with the work he performed and how it led into stonemasonry:

> They demanded long hours from you at work, the projects were temporary as in the time invested in that would range, especially in the seasonal in which change every year, and the quality of the implementation….for all that hard work, it was only temporary to maximise the sales for a corporate company, and I was really of the opinion that my time invested could be better suited to something that I almost can give something back that can last, rather than being temporary… (Wilkins, 2014: p. 5-6).

David left the retail industry and began studying banker stonemasonry at Weymouth College on a full-time course. At the end of his first year, he received an apprenticeship with the National Trust, based in Hardwick Hall in Derbyshire, and performing repair and maintenance work throughout the East Midlands area. He then attended York College on a block release to complete his educational requirements for his NVQ certification, which took an additional two years. Upon completion of his qualifications, he continued his employment with the Trust for an additional year. Since no major works were planned on his Trust site for a further three years, he decided to move on to continue his studies at City and Guilds of London Arts School because, as David stated:

> So essentially we could be working piecemeal on small repair jobs for the next three years and knowing I've got those skills already I want to improve on gaining some new skills in that time and that's why I moved to City and Guilds to study carving because a: I think I've got skills in carving and b; I think I would resent myself for not going to college if I was working on jobs where I think I could be gaining new skills rather than just potentially going through a routine of work that I do know how to do it to a high standards as well (Wilkins, 2014: p.4).

Henry Orton also pursued his craft through an arts and design training. The son of *Intermediary* Generation participant Jeff Orton, Henry attended Birmingham School of Art to study visual arts. After one of his classmates started studying the craft of woodworking due to his father's career, Henry became inspired to do the same for plastering. An accident that forced his father to retire from work put a renewed focus on the plastering craft. In his final project he replicated the cornices throughout an Arts and Crafts building at the College. Since there were no skilled plasterers in the faculty and staff at the college, Henry had his father assist him in the project. After completion of his degree, he turned towards plastering as a career. He remembered:

> I guess it opened my eyes to what my dad did so that would have affected me, that's probably why I chose to do the cornice work for my final piece. Because I was exposed to my dad's work…. I mean that was sort of the reason I went into plastering because I thought well, here's my dad, who's got all this knowledge, and all these contacts, I'll be sort of daft to turn that down really (Orton, 2014: p. 8-9).

After the completion of his art degree, Henry received a bursary from the Traditional Skills Building Scheme in 2007 to study pargetting under master pargetter Bill Sergeant, an associate of his father. When looking back on his education, Henry feels that although the degree trained him to be critical and observant he believes:

> …like three years might have been a waste of time…it kept you in a bubble for three years. You really like had this worst of ideas that yeah; I'm going to be an artist when you leave school. But at the end of the day you need to earn money (Orton, 2014: p.7).

He also noted the push from schools to attended university over vocational careers:

> I suppose our generation, yeah you're about the same age as my brother. Yeah from my brother to a couple of years younger than me it was like go to Uni, go to Uni, and it's like, there's not the work. …But yeah you kind of wish that, because I think A-levels now I think they've made that compulsory, that you have to go into you're A-levels or go into vocational qualification. But I always sort of wish that they sort of pushed the sort of trades when we were younger. It's not just for dropouts and things like that. You can have a successful career (Orton, 2014: p.16).

Henry's path towards the plastering trade is a notable case study of the position in which heritage crafts exist in educational and societal settings. Although he was exposed to traditional plastering throughout his life, it was not until during his formal art education that he then realised the potential for a career in the trade. This, it can be argued, is indicative of the lack of information provided to this generation regarding heritage crafts as a rewarding and prosperous career, which was noted in the 2005 NHTG Report (NHTG, 2005). Henry, like David and John, approached traditional crafts through other fields of academic or vocational study, which heavily focused on design as a basis for learning.

In concurrence with their UK counterparts, many of the US interviewees also approached their craft through a design focus. Katie Purcell, a maintenance worker at Fort Pulaski National Monument, was exposed to conservation as a career after first pursing a degree in metals and jewelry at the Savannah College of Art and Design. She remembered:

> I went to school for two quarters to be a metal smith, but it turns out I'm allergic to copper dust, so that is just not going to pan out. That and a lot of really small scale stuff is really sedentary which I actually don't like…So it was like, oh preservation that would help save buildings and the planet etcetera, etcetera and I like old buildings so maybe that's my next choice. (Purcell, 2014: p.4).

Katie received a Bachelor's degree in Historic Preservation with a minor in Architectural History while simultaneously working as a preservation mason first with a local non-profit organisation and later with the National Park Service. She continued with the Park Service after graduation, attending the PAST (Preservation and Skills Training) programme in the Park Service which trains

employees in conservation philosophy as well as traditional crafts. She remembers the programme as a: “step in the right direction. I would like to see that specific aspect be developed. I think it could be a real asset to the park” (Purcell, 2014: p.5). Regarding her academic training in conservation, she is under the impression that it: “…isn’t worth the paper it was printed on…I don’t think it prepared us very well for the field” (Purcell, 2014: p.4-5).

When compelled to explain why she felt the programme did not prepare graduates for the field, she noted her problems with the course:

> It had one lab. And no place for lumber storage. Absolutely no…we didn’t have saws, we didn’t have joiners, we didn’t have any of that stuff. Absolutely no practical space in which to do anything other than documentation and lab analysis which is a huge failure on their part. In my opinion, anyways. Some people would say not (Purcell, 2014: p. 6-7).

Katie’s experiences in her academic study identify issues that have been raised in Chapter 3 of this thesis. Since the conservation field encompasses aspects of numerous other professions, different programmes will focus on one aspect of the profession over another, due to issues such as space and faculty expertise. Katie’s dissatisfaction with her academic training is indicative of concerns the field that will be examined later in this study.

Unlike Katie’s experience with her training in the heritage crafts, Michael Laurer, a plasterer who lives in Charleston, South Carolina, attended a programme which was focused specifically on his intended craft. After attending the University of Dayton to study visual communication, he spent nearly a decade serving as an art director for a variety of design boutiques. Much like David Wilkins, he felt: “I had a pretty strong art background and I didn’t feel I was really utilising those skills to the best of my ability by sitting down at a computer” (Laurer, 2014: p. 4). Michael researched training in the craft and discovered the American College of the Building Arts in Charleston, South Carolina. The school, which is the only College in the United States to offer bachelor’s degrees in traditional crafts, appealed to him. He stated:

> I knew that plaster, specifically ornamental plaster, kind of fit in the realm I was looking to do. You know it was hands on, it was artistic, it was, there was some mechanics behind it, there was a little bit of engineering, all types of aspects to plastering that really made it appealing. And it just made sense (Laurer, 2014: p.4).

Michael's experiences mirror that of David Wilkins in that they both are individuals who chose to change careers later in life after working in their first choice of industry but becoming disheartened with their initial decision. Both Michael and David can be classified as re-trainers, or individuals that are seeking to find a greater satisfaction in their work and seeking it in heritage craft practice.

Unlike other *Inaugural* Generation participants, interviewee John Ecker did not complete a college degree before practicing heritage crafts. A project supervisor for Tidewater Preservation Company, a company owned by his father, John was working in the field from a very young age. He recollected:

> "I was kind of born into the industry. I was working at a very young age. I think a few years ago they checked the payroll and I was twelve or thirteen when I started sweeping the floors and emptying trash cans. And I did that for a long time. Summers in between schools and holidays and anytime my dad could get me out of school to go with him basically (Ecker, 2014: p.2).

Although already being secure in employment in the field, John followed the path of many in his generation and attempted to obtain a college degree. John noted of his formal academic experiences:

> "I didn't go the traditional four-year college route even though I tried a couple of times. I kept trying, you know, I would get a phone call from my dad saying; oh we started this amazing project you know and I'm stuck in a dorm room and that just drug (sic) on me and I couldn't do it. Honestly, in the field that I'm in I learned a helluva lot more (sic) in the field than I did in the classroom. You know some of the business aspects I kinda wish I would have stayed in school for but as far as actually getting out there and doing work for me it wasn't beneficial (Ecker, 2014: p.3-4).

John's training history consists of primarily informal workshops sessions and short-term classes at non-degree granting training centres, such as Yestermorrow Design Build School in Vermont, where he attended several classes. Unlike other interviewees in the *Inaugural* Generation, John did not receive any formal accreditations in conservation or heritage craft. His experiences are more closely identified with participants of the *Germinal* Generation, following the traditional on-site, informal information exchange which was experienced before the introduction of formalised

training programmes. In his mind: “Honestly I learned ninety percent of what I know from working with some of the old-timers I grew up with” (Ecker, 2014: p.3). John’s experience is unique within the *Inaugural* Generation participants, but is important to recognise that the traditional, informal methods of information transfer still exist in today’s training methods, however it is much less prevalent than formalised training programmes.

Educational approaches for the Inaugural Generation

The *Inaugural* Generation’s experiences in training for heritage crafts are very similar between the two societies. All interview participants attempted higher education after completion of compulsory schooling, many of whom pursued artistic or design qualifications after being dissuaded from following vocational training. This generation is the first to have the opportunity to study conservation and heritage crafts in formalised academic programmes on a specialised scale. Participants such as David and John in the UK and Katie and Michael in the US attended programmes specifically relating to their field, while Henry and John returned to family traditions in the crafts after attending college. The variety of programmes and paths this generation has pursued represent the growth of the heritage craft training field and may potentially represent the acknowledgment that these skills are in high enough demand to warrant multiple avenues of training.

This is also the first generation to have access to training programmes and funding streams that have been made available through the work of the *Intermediary* and *Transitional* Generations. They can be characterised as the *Inaugural* Generation in the modern methods of heritage craft delivery, be it through formalised trainings schemes, short-course training opportunities or bursary placements. The *Inaugural* Generation has had the greatest opportunity to study heritage crafts since the end of the Second World War but is also the generation which had the least exposure to vocational options in their initial education seemingly due to established societal prejudices against such occupations. Much like other inaugural groups, this generation has experienced the issues which are common amongst untried or untested methods of training delivery.

4.2.4 Findings

The experiences of the interview subjects in the four generations that have practiced conservation and heritage crafts since the end of the Second World War reflect the growth of the conservation industry and the academic response to this development, which coincides with the growth of the higher education realm in both countries beginning in the 1970s. The generations all have played a vital role to the continuation of heritage crafts and the transfer of knowledge to

the subsequent cohort. The understanding of how they have approached their trades and the roles they have accepted in the networks is central to the understanding of the issues which they perceive the modern networks are experiencing along with how to address these problems.

The *Intermediary* Generation's role in establishing organisations specialising in heritage craft, as well as the formation of short course training, served as a critical link between traditional knowledge transfer and modern academic training schemes. The *Transitional* Generation experienced limited access to formalised training systems, but still earned qualifications in craft or related subjects. The *Transitional* Generation experienced the conclusion of the traditional training methods and the introduction of contemporary approaches to educational delivery, thereby having the most inclusive understanding of both. The *Inaugural* Generation are the first to be exclusively exposed to the modern training delivery schemes, having limited opportunities to experience traditional methods. The *Inaugural* Generation has had the most access to potential training opportunities, both in availability of courses and funding streams, but has the least exposure to the opportunities in these fields at a young age. The *Inaugural* Generation have also experienced the issues which arise in a nascent educational field attempting to define its role in a modern society, which will be examined in section 4.3 of this chapter.

The experiences which these generations underwent affect their perceptions on the educational offerings that exist today as well as their concepts of a suitable method for training delivery in these crafts. While their experiences and philosophies vary, the generations of heritage craftsmen share more in common in their opinions than it would initially be observed, which will be clarified in sections 4.3 and 4.4 of this study.

In examining the roles each generation has played in the growth of the heritage craft profession through the lens of ANT, it can be noted that each generation has, throughout the years, identified problems which they have seen with the industry (problematisation), whether it be the *Intermediary* Generation's role in founding organisations to continue the craft knowledge, the *Transitional* Generation's earning of related qualifications, or the *Inaugural* Generation's acquisition of formalised training certifications. All have taken their positions throughout the years to continue craft practices (interessment and enrollment) and have assisted in expanding networks of interested outside parties; artists, architects, and others to support heritage craft (mobilisation). Therefore, it can be argued that the actor-networks of heritage craft training and practice, as noted in Chapter 3, have been modified, primarily by outside forces such as economic factors or changes in educational frameworks, and the actors in these networks, with varying

degrees of influence and success, have assisted in reformulating the network to correspond with modern societal contexts.

4.2.5 Representation bias in survey sample

As stated in Chapter 2, these participants do not represent the breadth of the heritage craft industries in either country, and many crafts have not been studied for this thesis. A significant limitation to this study which must be acknowledged is the disproportionate imbalance between male and female interview participants, notably in older generations. Although attempts were made to identify and engage with as many female practitioners as possible, it was impossible to obtain a balanced representation between male and female participants. There were zero UK female participants represented in the study (0%) and three female US participants (25%). This lack of balance may be perceived as a gender bias in the findings of this study.

It is important to note that historically the construction industry has been dominated by male participants, and females are still under-represented in the field. In 2015, the CITB released a performance report on the construction industry which noted that females only incorporated 13% of the construction industry (CITB, 2015 p. 9). This number is projected to increase to 26% by 2020 (Prince, 2018), but females are still under-represented across the entirety of the construction industry, and no formal studies have been conducted in the UK specifically regarding women in heritage crafts.

The imbalance is similar in the US, with the US Bureau of Labor Statistics reporting in 2018 that females comprise approximately 9.1% of the construction industry in the United States (US Bureau of Labor Statistics, 2018). Given the lack of research on heritage crafts in the US since the 1968 Whitehill report, the US, similar to the UK, has not performed formal examinations of females in the heritage crafts.

This lack of gender equality in the construction trades is not a new phenomenon. Construction Science researcher Yalmiz Hatipkarasulu, and Architect Shelly Roff note that throughout history, females have been discouraged from entering the construction fields, through a combination of the Guild and industrial systems and social stigmas of females working outside the home (Hatipkarasulu and Roff, 2011). Although these stigmas existed, females were still employed in the construction fields, but were often unreported, as it was considered the husband's role to earn the income to support the family, and females working on a construction site were considered "One step above the class of prostitutes" (Hatipkarasulu and Roff, 2011).

Prejudices still exist for females in construction today. Civil Engineers Salman Azhar and Miranda K. Amos Griffen described five major issues which females encounter in the construction industry which may dissuade entering or staying in the field. These include work/life balance, unfair perception of females' capabilities, male dominated culture, slow career progression, and sexual harassment (Azhar and Griffen, 2014). These issues have been reiterated by the experiences by interview participants Lisa Sasser and Amy McAuley throughout their careers (Sasser, 2014 and McAuley, 2014).

While the issues facing females in construction are great, it should be noted that the initiatives are being taken by various organisations in both countries to address this gender imbalance. Azhar and Griffen noted an increased number of specialised organisations dedicated to females in construction (Azhar and Griffen, 2014), and female interview participants noted a growing acceptance of females in the industry (Sasser, 2014 and McAuley, 2014). While advancements have been made for females in building crafts, it can be argued that the gender inequalities which exist within the building trades have made the it exceedingly difficult to achieve balance of interview participants for this study, and selection of the practitioner interviewees may have influenced the findings of this research. By selecting these participants, the research may be observed as failing to adequately address the unique issues females face in the workforce, and could be interpreted as reinforcing the gender bias which has historically taken place in the building industry.

4.3 Opinions of current educational offerings

Participant opinions to current educational offerings in their own networks are reflective of their own experiences during their training, as well as their current roles in the training network. While generational participants have varying opinions regarding their own training networks, their own ideas about the current training networks mirror each other in many respects. The transition from full apprenticeship and on-site learning experiences to a formalised academic certification system which the generations experienced is reflected in the responses given to the questions posed.

4.3.1 Intermediary Generation responses

Members of the *Intermediary* Generation hold a discerningly dim view of current training offerings in their countries. UK members of the *Intermediary* Generation in particular have concerns of the transition into the NVQ system of qualifications. When presented with the topic of the current condition of plastering education in comparison to his own experience, Jeff Orton recalled his own training, noting in his education there was a balance between modern and

traditional practices, which transitioned into a focus on modern materials shortly after his apprenticeship (Orton, 2014). In his opinion: “anyone who started after 1975 would not have had a thorough training at College” (Orton, 2014: p.4).

Dr. Gerard Lynch, who served as the Head of Trowel Trades at Bedford College from 1981 to 1992, supported Jeff’s opinion of the subject. In his opinion, the system has transitioned into a fast-track learning structure, which lacks the depth that the former system possessed (Lynch, 2014). Lynch believes that the current training schemes are insulting younger generations by assuming they would not be interested in obtaining a higher level of understanding and discipline, and because of these shortcomings, both the students and the general public do not believe in the quality of the current educational system (Lynch, 2014).

When questioned about the reasons behind the changes they perceive, both Jeff and Gerard place the blame on the Construction Industry Training Board (CITB), which Jeff contended was on a “programme of de-skilling all the building trades, basically because they didn’t think they needed them anymore” (Orton, 2014: p.6), which has caused the current perceived issues in the heritage craft industry. While he acknowledged that the need is greater for new construction practices, he noted his concerns on the ability to repair heritage buildings if training opportunities are unavailable for future generations (Orton, 2014). Gerard faults the CITB for moving from education to training, which he argued are drastically different. When comparing his training programme to its modern incarnation he stated:

> …I learned brickwork and associated studies. That was my course. Brickwork and Associated studies. What it’s morphed into now, because the CITB and NVQ have basically bludgeoned the City and Guilds into accepting it, what it’s become is bricklaying. Not the same thing at all. And what they’ve done is corrupted it to some other needs because that’s the what they are… they’re the, you know the big contractors and what they’re interested in is if there is enough supply to feed their house building needs (Lynch, 2014: p. 10).

When examining the current training system in comparisons to their own experiences, it can be argued that Jeff and Gerard have idealised visions of their own experiences, which may not reflect the issues with the City and Guilds system that initiated the transition to the NVQ system, as studied in Chapter 3. While this idealism may taint their opinions of the current system, it is important to understand the effect that these negative conations have on the modern training networks. If Jeff and Gerard’s opinions are representative of the sentiments of many of the

Intermediary Generation, it may affect their willingness to assist these programmes, which can affect the long-term health of the network. Given the importance this generation has played in the safeguarding of the network during its transition to its modern framework, along with its link to the older methods of training, the continued interessment of the *Intermediary* Generation can be seen as essential, but also potentially at risk due to their negative perceptions of the current system.

Unlike his UK *Intermediary* Generation colleagues, Richard Harris, who has no personal experience with the City and Guilds and NVQ systems, viewed the current training opportunities in a more positive light. While admitting that he is concerned about the NVQ system and believes the older system of apprenticeship may have been better, he contends that there are more opportunities now than ever before to obtain training in heritage crafts (Harris, 2014). Harris believed that the abundance of short course training which is currently available at many different levels allows for a greater number of people, both for those looking to begin in the trades as well as those looking to upskill, and is a positive progression of the heritage craft training network (Harris, 2014). While Harris admitted that these short course trainings are not a replacement for the older system of apprenticeships (Harris, 2014), his opinions on the greater opportunities in the modern system present an important aspect about the progression of the heritage craft training network. As training opportunities continue to adapt, the potential for more parties to be introduced to heritage craft skills also continue to grow, thus allowing a greater exposure to best practice techniques, which will potentially benefit the field in the long-term. While it can be argued that the lack of depth in these short courses is not a replacement for traditional training systems, it can also be contended that the enhanced opportunities for exposure to these techniques is beneficial to mobilise others to support the network.

Mirroring their UK counterparts, US participants of the *Intermediary* Generation also hold a downbeat view of current training offerings, but their reasons behind their opinions is quite different, given the lack of formal training system which existed in the US. When asked about current training, Rudy Christian noted issues with both attracting students to, and gaining industry support for the existing programmes. Rudy mentioned that the compulsory educational system in the US is not designed to teach young people the trades, but the failure of that system is the lack of exposure students have to opportunities in these fields. He said:

> The solution isn't changing the programme, it's getting the awareness of what trades education means in the minds of those young people. Because that's what's going to enable trades education programmes to exist because then you're going to

> have young people who are making a conscious decision about whether or not they go into the trades or they go into law or whatever. But if it's not there, how can the system work, you know? (Christian, 2014: p.21).

On the opposing end of the spectrum, US *Intermediary* participants spoke strongly about the lack of interaction between industry and education. Ken Follet described heritage craft education as a Venn diagram of communities. In his words: "They overlap…but in certain respects, the needs of each community don't necessarily complement each other" (Follet, 2014: p.36). The lack of direct communication, in both Ken and Rudy's opinions, can have a detrimental effect on the sustainability of these programmes. Unlike their UK counterparts, US participants equally blame industry and education for the failure to communicate and support each other. Rudy noted that the interplay between industry and education currently does not exist in a meaningful way, which is essential for the continuation of the training network (Christian, 2014). In his mind, training programmes hold an integral place of transitioning young people from compulsory education to available employment (Christian, 2014). Ken noted issues in communication about the health of programmes as an issue for the sustainability of the network, observing that conversations about why programmes are failing rarely occur. By creating better lines of communication between industry and other educational organisations, the network, in his opinion, could assist in maintaining the health of the few programmes which do exist (Follet, 2014).

Ken also mentioned the need for industry to promote the trades as a viable career, which would in turn support the promotion of the educational programmes (Follet, 2014). Lisa Sasser, drawing on the recommendations of the Whitehill Report, suggested that the Federal government or heritage groups such as the National Trust need to assist in building the visibility of the programmes in a more substantial way to help attract a sustainable number of students (Sasser, 2014).

When asked about the reasoning behind the scarcity of programmes in the US and to why they are placed in rural areas, Christian mentioned the dependency on an individualisation of a programme in order for it to succeed, which, in his opinion, is tied to the lack of understanding by young people of the opportunities in the trades and the lack of support from industry and government. He stated:

> In the United States, the programmes that exist all exist because they have an individual's name on them. Steve Hartley's programme, Dave Mertz's programme. It's because the only way to works is when a champion accepts the challenge of

> trying to do it even though everybody tells them; this isn't going to work…. But they do it anyway. And that's the unfortunate truth. It should work the other way around. You guys have to build them from the ground up. You've got to make them exist…We need the next level. We need to have government, we need to have business, and you need to have other players involved that are supporting this… Programmes like yours (Savannah Technical College) are destined to struggle because there's only a handful of young people out there that have any interest whatsoever. And it's not because it's something they wouldn't enjoy, wouldn't find rewarding, wouldn't enjoy for the rest of their lives. It's not because of anything of these things. It's because they just don't fucking realise it's there (Christian, 2014: p.23-24).

While US *Intermediary* Generation members expressed some pessimism about the current health of the heritage craft training network in the US, unlike their UK counterparts, they all expressed support for the programmes which do exist. Lisa said that when she was younger, the opportunities which currently exist in the US were: "just not even considered possible. It wasn't something that I even imagine could exist" (Sasser, 2014: p.13). While US *Intermediary* participants admit that some programmes are better than others, or train people in ways which prepare their students better for employment in the field, they believe that any opportunity for students to learn about heritage crafts is a positive addition to the current training network (Christian, 2014, Follet, 2014, and Sasser, 2014).

When examining the responses of the US participants in comparison of their UK counterparts, it can be argued that the more positive outlook of US participants regarding their network is based on lack of established traditions in the network from which to draw comparisons. Because the US system has traditionally been so fragmented, the formalised training system which UK participants were engaged in did not exist, therefore preventing US participants developing the idealistic visions of a former training system that UK participants may have formulated. Because these biases against a modern system do not exist, they are more supportive of the limited number of programmes which do exist than their UK counterparts. It should be noted however that while they are more supportive of opportunities in the current network, they also raised significant issues with its framework which should be addressed.

Intermediary Generation perceptions of current educational offerings

Members of the *Intermediary* Generation hold a distinct position regarding their opinion of heritage craft training opportunities today. Being the last generation that completed the

traditional training programmes in the UK or having to define a rebirth of heritage craft in the US, they often, particularly in the UK, hold a rather idealistic view of their training system, which can be argued is based on nostalgia of their youth, similar to the Victorian perceptions of a bygone era of training of the medieval period, as noted in Chapter 3. Regardless of the amount of nostalgia involved, it is vital to acknowledge that this generation is the last to train before the transition away from the City and Guilds apprenticeship programme in the UK, and the rebirth of heritage craft training in the US. Their experiences and opinions vary greatly between the two countries, but an overarching theme has been noted in all participants; the need for industry involvement in programme development and management. While this programme exists in the UK under the CITB, it has been contended that the CITB is primarily based in new build construction and is headed by companies and organisations which represent the largest builders in the UK and, according to participants, the smaller firms and heritage craft practitioners are underrepresented in this system, which is affecting the training opportunities for traditional crafts. Since the US has no principal training board which determines curriculum, the quality and delivery are much less defined, and more difficult for smaller firms to get involved on a national level.

The responses from the *Intermediary* Generation regarding the issues they see in current educational offerings note a significant understanding of the problematisation of current training offerings. These issues include strong opinions of the NVQ system in the UK and the lack of support in the US. Their direct enrollment in the current systems is low, which may be due to the fact that many lack obligatory educational requirements to actively participate in systems, or it may due to their negative attitudes towards the systems which discourages them to engage, opting instead to recruit and support others which are actively engaged directly in these programmes. It is important to note that what is lacking in the *Intermediary* Generation's approach to addressing these issues is not the acknowledgment of the issues, but the understanding of how to create the mobilise allies to address the concerns they have identified.

4.3.2 Transitional Generation responses

Members of the *Transitional* Generation stand at the intersection between traditional and modern training practices. Being in this apex, they had the most limited opportunities for academic training in traditional crafts, and many now serve as trainers and assessors for the modern system. Because of detachment from the traditional framework and their roles in the current system, they often offer a view of both systems from a balanced perspective.

In speaking of the current state of the UK system, carpenter Alan Toyne, who went through a modified four-year apprenticeship through City and Guilds, a replacement for the earlier five-year programme undertaken by Gerard Lynch and Jeff Orton, and currently serves as an external assessor for the NVQ system described a perceived "gap of learning" in his industry between what is taught in the NVQ and what is needed for the field (Toyne, 2014: p. 5). He believes his training prepared him to enter the field, while today's training seems "…a bit diluted…it seems a bit like bums on seat now" (Toyne, 2014: p.12, 14).

As an external assessor, Alan described his frustrations in the current framework for assessment claiming that they lack the ability to be critical of the apprentice's work, stating that is has become increasingly difficult to fail students for their work (Toyne, 2014). He, along with his UK *Intermediary* counterparts believe that the City and Guilds system was structured differently, and more was expected of you on the job site during your apprenticeship (Copsey, 2014, Ellis, 2014 and Toyne, 2014).

The idea of "bums on seats", or the concept of passing students to earn qualifications, was reiterated by Paul and Nigel (Ellis, 2014 and Copsey, 2014). Both Paul and Nigel described issues they have had with apprentices in their shops, and how those experiences have shaped their perceptions of the modern training systems of passing students in order to gain funding. It is vital to note that both Paul and Nigel completed their courses at Weymouth as full-time students and were not required to complete an apprenticeship during their careers, and therefore may possess idealistic perceptions of how apprenticeships operate. Paul described an experience with an apprentice stone mason's failure to grasp basic concepts even though he had a NVQ Level 2 by stating:

> …someone should get their arse kicked for that. But there are colleges out there, because it's all about numbers and funding, they want to pass all the students …. So, but that goes back to the reflection on the college that gave him that certification for them years because he wasn't even going to attend them, they just ticked all the boxes and stuff (Ellis, 2014: p.14).

Paul's experiences reflect a considerable concern for college courses in their industry. If the perception of industry is that the students leaving their programmes are not prepared to enter the field, then the reputation of the College, and the NVQ, could suffer, making it difficult to gain support from practitioners. Indeed, it can be argued that this "bums on seat" or "ticking boxes" perception has already permeated the industry, thus damaging the reputation of the current

training network. Indeed, Nigel Copsey observed that in his network of practitioners, the widely held belief is that a majority of those earning qualifications in the NVQ system do not deserve them, instead they are being pushed through due to the desperation for funding at the colleges (Copsey, 2014).

While members of the *Transitional* Generation's roles in the network are different from those of the *Intermediary* Generation, it can be argued that the participants, being some of the last practitioners to gain a City and Guilds qualification before the transition, are beginning to formulate idealistic visions of their own training in relation to the modern frameworks. While potentially not as pronounced as their *Intermediary* counterparts, their responses to the questions posed reflect the disdain for the NVQ system and a desire to return to the previous framework. If the interview participants' responses are indicative of the opinions in the larger network of *Transitional* practitioners that the NVQ system is "ticking boxes" to receive funding, it can be argued that the current heritage craft training network is suffering from a serious perception issue surrounding the quality of training delivered. Much like their *Intermediary* counterparts, the need to ensure that members of the *Transitional* Generation are supportive of the current framework, both as trainers and as employers, is crucial to the continuation of the network, and it can be argued that more should be done to address this perception in the field.

Simeon Warren, who also trained at Weymouth at the same time as Nigel and Paul and now works in the US, bridges the differences between the two countries current training delivery. Warren noted the lack of a system in the US compared to the UK, with a reliance on quick learning through short course training (Warren, 2014). Acknowledging the lack of a national framework, Warren stated that most of the programmes in existence are operated in the Technical or Community College systems in individual states. In those systems, he specified they could operate as generalist programmes set up to meet the needs of a local industry, which therefore become dependent on that industry to survive (Warren, 2014).

The need for industry support for programme to become sustainable was a recurring theme for US *Transitional* participants. Tom Russack observed the lack of exposure of programmes in the United States, which he ties to a lack of industry support. The lack of awareness of the opportunities in the craft, Russack believes, it the biggest detriment to the growth of the heritage craft sector in the US. He noted:

> There's not enough money from the private sector, to do it. These programmes need, besides money, they need publicity, they need to get the word out…. we

> don't have to reinvent the wheel…It's just a matter of making it presentable here (Russack, 2014: p.14-15).

Amy, who lives in Oregon where work is limited but they have one of the only training programmes in the US, described a different problem, where people are trained but have no avenues of employment. Because, as she described, companies are not regularly hiring, students get discouraged with the field: "…and they throw up their hands up and say I can't…so they go down to Burger King and are flipping burgers, with their degree" (McAuley, 2014: p.17).

Patrick sees the lack of support coming from both industry and society, observing that the millennial generation which is entering college now must be cognisant of the cost of college and their careers upon completion. Because, he believes, these students' parents were encouraged to move away from working in the crafts, the moral support is lacking for students to enter the field (Webb, 2014). Without patronage to support and promote these programmes, he is uncertain if any framework is sustainable (Webb, 2014).

When questioned about why the limited programmes in the US are commonly placed in rural environments where students may struggle to find employment during and after their studies, both Simeon and Amy described the potential for smaller schools to have idealistic visions about what these courses can do for their school and community (McAuley, 2014 and Warren, 2014). Simeon and Tom further described the issues in building a programme in an urban environment, including time, cost and space (Russack, 2014 and Warren, 2014). The need for programmes to be located in areas in which gainful employment can be found however, is an essential aspect of ensuring programme sustainability in Patrick's mind. He expressed the need:

> We need schools in the areas that have work. I think the trades, trades education would be so beneficial to the inner-city. And some of the young people here who are really having difficulty finding meaningful employment (Webb, 2014: p.16).

Like their *Intermediary* colleagues, *Transitional* participants note significant problems regarding communications between education and industry and the subsequent lack of support from the field, and often hold a positive perception of the programmes which exist and express their willingness to support it. Simeon believes that the US network is moving away from the negative cycle which it had been experiencing since the conclusion to the Second World War to a more positive cycle in which political players and funders can identify the value of this type of training and are willing to support it (Warren, 2014). The positive outlook held by US *Transitional*

Generation participants, it can be argued, is indicative of the progression the training network has experienced since this generation sought their training. Unhampered by apprenticeship traditions that often frame their UK counterparts' perceptions, the US system, although small and fragmented, can be contended as having a more positive industry perspective than the UK system, due to its scarcity and fragility. As Patrick described it: "So we have this flame, we're protecting it" (Webb, 2014: p.15).

Transitional Generation perceptions of current educational offerings

This generation, as previously stated, holds a unique position in the progression of heritage craft education's post-war transformation as the *Transitional* Generation. Because of their positions in current training programmes, and their greater detachment from the nostalgia of the former systems, they have the ability to observe the transition from an objective viewpoint.

In the UK participants, two common themes of dilution of training and "ticking boxes" was raised regarding the NVQ system. Much like their *Intermediary* counterparts, they feel that the NVQ system is not adequate in training new practitioners, primarily due to the perception that funding is tied to graduates, which encourages simplification of training to maintain programmes. Their disdain for the current system, it can be argued, is having a negative effect on the sustainability of the network. Because they believe that the students are not properly trained, they have the potential to hold pre-conceived prejudices against their abilities, potentially limiting graduates' ability to practice in the field. While the apprenticeship tradition continues in the UK, it can be contended that the idealised perception held by the *Transitional* Generation participants of their experiences discounts the current system, which has been adapted to meet the needs of a changing industry.

In the US, the perception of a lack of industry and government support for the few programmes in existence, along with the placement of programmes in unsustainable geographic areas mirrors the concerns of their *Intermediary* colleagues. The concept of creating a system in the existing academic environment is a primary focus of this generation, with many, like their UK counterparts, participating in the current training programmes. Much like their *Intermediary* counterparts, members of the *Transitional* Generation have, it can be argued, identified the issues in the current network, but have yet to formulate a strategy to engage the support from ancillary networks which have been identified as being essential for the sustainability of the network.

4.3.3 Inaugural Generation responses

The *Inaugural* Generation hold a specific view of current training opportunities. Being the generation that was only exposed to one method of training delivery in their country, they hold little knowledge or experience of the former systems. Because they are the first generation to complete the current system, they experienced the modern frameworks through the perception of the student, not the trainer or industry member. The opinions of current and former students are vital to understanding the current state of heritage craft training. Because they are newer to their careers, their opinions about current training opportunities in relation to the industry are not as extensive as their *Intermediary* and *Transitional* counterparts, and they often frame their own training in comparison to their older colleagues' recounting of their experiences (Orton, 2014, Wilkins, 2014, Laurer, 2014 and Ecker, 2014).

David Wilkins, a stone carver who, at the time of interviewing, was a student at City and Guilds Art School, attended programmes in York and Weymouth. An example of a re-trainer, or a student which entered the field after another career, David viewed the current educational offerings as having both positive and negative aspects. While he believes the college training is adequate, he sees the failure of the system is in the opportunities for apprentices to gain the work experience on-site to support their classroom instruction (Wilkins, 2014). While he agreed that the NVQ system coursework is there to "tick boxes" (Wilkins, 2014: p.13), he believed it is the industry that is cheating itself out of qualified stone masons by denying many of those in training the opportunities to practice their craft. He remembered some of his classmates at both Weymouth and York:

> …. I get the impression that businesses are given the opportunities to get subsidies to hire an apprentice…that individual having that qualification they can't apply in their normal working life unless they change jobs…they're not really interested in what they're doing… they just know they need to get the qualification but they're not working with it every day (Wilkins, 2014: p.7).

David therefore, placed the blame for the failures on the NVQ system not on the Colleges, but on industry's disengagement with the training process. His perception raises an interesting argument into the failures of the system. While members of the *Inaugural* and *Intermediary* Generations blame the NVQ framework and the educators for not properly training apprentices, it can be argued that the industry is also at fault for the shortcomings in the system by constraining apprentices' ability to practice their craft. These limitations, it can be contended, are based on changes in the industry in which companies do not engage in the breadth of work

typically needed to effectively train apprentices. It can also be stated that, if David's assessments of some of his classmates is correct, that the standards pertaining to who can accept apprentices in their company may be too lax, and because companies are accepting apprentices who will not be practicing their craft on-site, it devalues the entire training system. Henry Orton agreed that the on-site training is vital to the holistic training of an apprentice, and without proper exposure on site, the classroom training alone is never adequate (Orton, 2014).

John McRitchie, who earned his certification under the Prince's Trust, and currently serves as an assessor in the SVQ system, noted a larger, societal problem of recruiting qualified people into the trades. He described the recruitment for the trades as: "basically, they're just trying to dump people into the trades. But if you value trades like that, you're not going to get good tradesmen" (McRitchie, 2014: p. 17). Henry Orton, who did not receive his NVQ qualifications, opting to instead learn through bursary placements and onsite training, also described issues with the quality of the students that are getting recruited. He recalled working with an apprentice on site who did not have the mind-set or skills to be a plasterer. Although the student had an NVQ 2, Henry believed he would never make a good plasterer, and having that apprentice still working in the trade, in his opinion "…sort of devalues the quality of the actual education" (Orton, 2014: p.13).

While members of the UK *Inaugural* Generation are in agreeance with their *Intermediary* and *Transitional* colleagues that the NVQ system in its current form is not adequate, they are quick to point out that the failings of the system are not entirely in the realm of the Colleges. In their opinion, industry is also failing to provide adequate on-site experience for these apprentices to gain the skills they need. Additionally, a larger societal low regard for trades, they believe, is hampering the ability to recruit quality students into the industry, further affecting the perception of apprentices and therefore the quality of the education system in the field.

Much like his UK counterpart Henry Orton, John Ecker did not receive any formal certification in the heritage field, so his experiences in the recognised training schemes is limited. He noted from an employer standpoint that many graduates of traditional conservation (historic preservation) programmes rarely last more than a few months on-site, growing frustrated with the pace in which they advance both in the company and with their own skill level (Ecker, 2014). He is supportive of craft-based training programmes, acknowledging that they cannot teach the breadth of knowledge required on the jobsite, but instead providing students a solid base of skills of which to build on in the field (Ecker, 2014). Katie, who graduated from a traditional academic programme, agreed with John's perspective of that traditional academic programmes do not

prepare graduates to enter the heritage craft field: "…our curriculum a lot of it was based on documentation and research and to be honest I really don't think it prepared us very well for the field…" (Purcell, 2014: p.5). Katie believes that trade programmes, in order to be sustainable, must engage with the older generations of practitioners to ensure they have the opportunity to confer their knowledge to the next generation (Purcell, 2014). By retaining the knowledge which still exists in the older generations, she contended, education programmes can serve as repositories of potentially lost knowledge which can then be effectively transferred to future generations (Purcell, 2014).

Michael conversely, attended one of the only trades-based programmes in the US, which he believed prepared him well for entering the profession. He admitted that college programmes are not the same as the traditional methods of training, but he considers them a viable alternative in modern societal frameworks (Laurer, 2014). The biggest drawback for these programmes, he believes, is the lack of marketing of the programmes which do exist. In his opinion, the biggest failing in the current network is that:

> People just don't know about it. It's the marketing behind programmes like that (sic), letting people know they are out there. That there's an avenue for people to pursue their idea of following one of these trades (Laurer, 2014: p.11).

Much like their *Intermediary* and *Transitional* counterparts, members of the *Inaugural* Generation while supportive of the programmes which do exist, believe that the current network is failing to effectively communicate between various actor groups, which is limiting their ability to engage with potential allies to expand the opportunities in the network.

When questioned about the reasoning behind the placement of the few existing programmes in the network, all participants noted the cost prohibitive nature of placing these programmes in urban environments, and the availability of space for large scale projects in rural settings (Ecker, 2014, Laurer, 2014, and Purcell, 2014). Katie however, argued that the issue is not placement of the programmes, it is instead the integration of the existing programmes into a system which already exists (Purcell, 2014). In her opinion, existing programmes must do a better job of engaging with industry to ensure they not only train them appropriately, but their reputation is established enough to ensure their students are able to be employed in the field after graduation. If the existing programmes can achieve these goals, she contends, it will be easier to initiate additional programmes in the network (Purcell, 2014).

The opinions of the US *Inaugural* Generation about the issues surrounding the heritage craft training network are consistent with those of the *Intermediary* and *Transitional* Generations. Communication between industry, programmes and potential students is lacking, as is support from allied networks. Much like their *Intermediary* and *Transitional* counterparts, while *Inaugural* Generation participants have identified the problems in the network, it can be argued that they have not formulated approaches to address these issues.

Inaugural Generation perceptions of current educational offerings

Members of the *Inaugural* Generation have limited exposure to the wider educational offerings outside their programme of study, and therefore have limited responses to the questions about current educational offerings. While their knowledge of the greater field is limited, their perceptions from their experiences as students and practitioners is vital to understanding how the current offerings are perceived in the industry. From the interviews, reoccurring themes of lack of confidence in the NVQ system in the UK and a lack of wider support in the US continue from the *Intermediary* and *Transitional* generations' interviews. Unlike members of the UK *Intermediary* and *Transitional* Generations however, members of the *Inaugural* Generation cast the blame for the failings of the NVQ system on a wider framework of actors, including industry. Since many of them are at the beginning of their careers, their involvement in the wider actor-network of training is currently limited, but it can be contended that their perceptions of the problems in the current training realm are perhaps the most valuable of any of the generations, as they are the only ones who have directly experienced the system first-hand as a student.

4.3.4 Findings

The perceptions of the interview subjects regarding the current educational offerings transcend the identified generations. Two themes emerged throughout the interview process. First, the NVQ training system is not highly regarded in the UK, with many practitioners under the impression that is lacking in depth and stringency. These issues, according to the interviewees, are directly related to the tethering of funding with graduation numbers, encouraging the "ticking boxes" syndrome that many of the interview subjects noted. This "ticking boxes" perspective can be seen as particularly harmful for the NVQ system's reputation and the students which earn the certifications. A lack of respect for the system, it can be maintained, directly translates to a lack of respect for the trainers and graduates of the programmes. The rapid transition into the NVQ system in the early 1990's, described in Chapter 3, may also play a role in these perceptions, as the hasty introduction did not allow a cohesive educational campaign about the changes to permeate throughout the industry, thus causing widespread misconceptions and distrust.

In the US, the major theme which emerged was the lack of industry and governmental support for the limited programmes which exist. Since governmental and industry moral and financial support is lacking, the programmes only succeed due to individuals which dedicate themselves to their success, which can be referred to as the "personalisation" of a programme. In a programme personalisation, it is asserted, long term sustainability is in question, since the programme is so closely tied to a single individual.

4.4 Structure of the ideal programme or system

At the conclusion of the interviews, participants were asked to propose their concept of an ideal heritage craft training programme. Through interviewee's responses, two themes were prevalent throughout the generational members and across cultural boundaries.

4.4.1 Higher engagement with industry and lower schools

A major prevailing theme with many of the participants is the need for better communication and integration between trainers, industry professionals, and "feeder" institutions. While the UK NVQ system requires a level of interaction between trainers and outside assessors, it has been noted by interviewee Alan Toyne that assessors have limited authority and control over the training process (Toyne, 2014). Participants also observed the lack of interaction with young students while in their formal studies. Jeff Orton recalled that during his compulsory education, the school's career office distributed leaflets on professions in crafts. He argued that young people today should be offered the same opportunities and proposed having demonstrations at schools to attempt to attract young people into the trades. He contended; "you've got to appeal to the youngsters before they get past the age where they've left and they think well I'll just sit in front of a computer all day" (Orton, 2014: p.16).

Participants in the US also described the need for greater interaction with young people to ensure the continuity of heritage crafts. Rudy argued that guidance counsellors in high schools are an important group in which to communicate with, as many of them have little knowledge of heritage craft opportunities (Christian, 2014). Tom Russack also maintained the need for greater interaction with potential allies. He stated: "…We've got to mingle more. We need to connect the people who know with the people who don't know" (Russack, 2014: p. 16).

Members of the *Inaugural* Generation, who described not having exposure to heritage crafts in their compulsory education, also argued for increased engagement with younger students (Orton, 2014, McRitchie, 2014, and Ecker, 2014). Henry Orton noted the many students he

observed that wanted to work with their hands gravitated towards art education, and that certain trades should attempt to appeal to those students. He argued:

> … you had folks there that had about more about them (sic), and they went into art because there was not really much of an option to go into the building trades. That was usually considered for the dropout at school… (Orton, 2014: p.6).

While the introduction of the younger generation into the trades can be seen as a vital component to the longevity of heritage craft education, many interview subjects also remarked on the greater need for communication between industry and education to ensure students are being trained for the jobs which exist. Alan Toyne, when describing his ideal programme, explained the need for local colleges to have direct communication with their local firms to ensure they are training students for the needs of the local industry, rather than the national framework (Toyne, 2014).

Ken Follet, who has assisted in setting up programmes throughout New York as an external advisor, expressed the need for schools to encourage situations in which practitioners are made visible to the students, who can gain inspiration from them. Ken argued that: “There’s no perfect path, but if you get that spark going, and that vision, and you feed it and enable it…I learn from them and they learn from me” (Follet, 2014: p.41).

Simeon Warren also argued for more direct engagement of industry in the educational process, noting the courses should be training practitioners for a certain industry, using specifics which are defined by that industry (Warren, 2014). By engaging industry in the process of formulating programmes, industry will have a greater investment in the training network and may be more willing to support it (Warren, 2014).

The perception of a disconnection between industry and education has been central to the generational participants’ problematisation in the actor-networks in both countries. Without proper industry support, which many of them argue, can only be gained through communication between the two entities, the identified disconnection concerning training and industry will continue, further diminishing the potential impact of heritage craft training programmes in both countries. While the participants’ observations regarding the need for greater communication are meaningful to address the issues in the current networks, it is important to note that many of the respondents observed the need for educators to initiate these communication efforts, even after

several identified failings in the industry to provide adequate opportunities for those entering the field.

4.4.2 Increased integration between academic and field experience

A second theme, which is intrinsically tied to the first, was the need for increased integration between academic and field experience. For many participants, this integration is best served through the establishment or expansion of apprenticeship schemes for students. In the UK, where the apprenticeship is required for all block and day release students earning NVQs, the apprenticeship system is perceived by many interviewees as too short or not intensive enough (Orton, 2014, Lynch, 2014, Toyne, 2014, Ellis, 2014, Copsey, 2014, and McRitchie, 2014). Those participants who were trained under the City and Guilds system are particularly vocal about the length of the apprenticeship programmes today. Gerard Lynch described his desire for a return to modified City and Guilds system, in which the traditional apprenticeship would be required, but extra components specifically relating to heritage would be added (Lynch, 2014).

Jeff Orton is more adamant about the return of the older system of training and apprenticeship, saying that the since the modular system was introduced through the NVQ framework "it's been downhill ever since" (Orton, 2014: p.15). While Jeff noted the need for modern construction workers, which in his opinion do not need as extensive level of training, he argued that attempting to structure heritage craft training in the same framework as modern construction is inadequate for the needs of the heritage craft industry (Orton, 2014).

While it can be maintained that Gerard and Jeff's opinions may be based on a nostalgic view of their training system, members of the *Transitional* and *Inaugural* Generations share their desire to see changes in the apprenticeship structure. Alan Toyne described his ideal apprenticeship programme as a balance of half academic, half site training, where students gain site experience with different companies (Toyne, 2014). In the industry, Toyne argued "…you are expected to know a good, varied amount of carpentry and joinery. And if you haven't gotten them (sic) in your learning stages, it's very hard to get them out there" (Toyne, 2014: p. 14-15).

Co-worker Paul Ellis supported Alan's perception of varying experiences through apprenticeships. He argued for a more expanded version of the City and Guilds system, in which students have the opportunity to be exposed to a more diverse set of skills by studying at different schools and different companies, throughout various regions (Ellis, 2014). Paul's ideal system, he believes, should be structured "Like the old journeyman sort of system. Yeah, so I think more. More and more diversity they should have (sic)" (Ellis, 2014: p.13-14).

Stonemason Nigel Copsey, who accepts apprentices from the local college, had a dimmer view of the future of the apprenticeship programme in the UK, pointing out what he feels are fundamental flaws in the system. In his mind, the apprenticeship system does not work in the modern UK building industry, as it has been exploited by companies as a way to obtain inexpensive labour. In his mind, companies are not investing in their apprentices' future, but rather using them to help drive down wage costs to assist them in the low-bid tendering process (Copsey, 2014).

Structuring of on-site apprenticeship learning outcomes was raised by David Wilkins as well. He noted that the primary drawback of the current system is the inability of industry to provide adequate experiences on the job-site to support their training (Wilkins, 2014). He recalled his experiences as an apprentice for the National Trust at Hardwick that during his time, major repairs on the site had ceased, and he was tasked to perform minor maintenance works. When speaking to his master mason, he encouraged David to continue his training elsewhere, believing that if he had been aware of the of the work which was scheduled to occur onsite:

> … he probably wouldn't have set up an apprenticeship for stone masons because he doesn't feel I left with sufficient banker experience and fixing experience that he would expect a qualified stone mason to have (Wilkins, 2014: p.4).

David's experiences, along with those of Alan and Paul, represent a significant concern with the structure of the current apprenticeship framework. If a student, through his employer, cannot receive the adequate on-site training, either through a lack of specified work or an inability of the company to support their continued learning, apprentices may complete their training without properly being exposed to the breadth of knowledge which industry demands. As apprentices enter the field without this required exposure, they may be deemed by others in their field as unprepared, which may be attributed to the training system which educated them.

Henry Orton, who took a circuitous route to his craft and therefore does not have any personal experience with the apprenticeship system, offered a solution to the issue of students being unable to obtain the necessary training on the job-site. He proposed that Colleges obtain projects or sites on where the students can gain the necessary experience if it is unavailable for them in the field (Orton, 2014). Orton believed the balance of practical and academic is essential for holistic training of apprentices, stating: "…I think it would be important to have an onsite (sic) at the same time as college" (Orton, 2014: p.17).

Orton's opinions about the need for a mixture of practical and academic in the college experience mirrors the US interviewees closer than his UK counterparts. Since formal US apprenticeship schemes are rare outside trade union programmes, the ingrained concept of a block release or a subsidised apprenticeship through a company are not entrenched in the academic structure, which it can be argued, can have both positive and negative outcomes. Because there is no institutional knowledge of apprenticeship schemes, they can be formulated without embedded perceptions or prejudices. However, this lack of knowledge can hinder the development of such programmes. Ken Follet, when speaking of the establishment of the conservation programme at Mather High School in New York City, believes that training programmes need to begin with the basics of working on the job site, such as using a shovel and a broom or pushing a wheelbarrow (Follet, 2014). A significant drawback, Ken thinks, is programmes currently attempt to overlook the basics and teach their students more advanced topics without the valuable underpinning of the trades. As an employer, Ken noted problems with these students when they arrive on a project. He argued these students finish a programme: "…then I have to deal with un-educating, de-programming someone that's been filled with a bunch of knowledge but can't handle the wheelbarrow" (Follet, 2014: p.45).

John Ecker agreed with Ken's perspective on students entering the field. He described recent graduates as "glorified labourers" (Ecker, 2014: p. 10). His philosophy of teaching students mirrors Ken's when he stated: "I guess I should start someone with broom" (Ecker, 2014: p.10).

While some practitioners have their doubts about establishing an apprenticeship system (Follet, 2014, McAuley, 2014, Warren, 2014, and Ecker, 2014) others expressed positive viewpoints on their role in educational system. Lisa Sasser considered apprenticeships inside programmes as a critical component of training a craftperson, noting: …" you can only really become a fully qualified tradesperson by working in a work environment with all the stresses and everything else that that entails" (Sasser, 2014: p.15).

Although apprenticeship systems are not commonplace in the US, they are beginning to gain importance in educational settings. Patrick Webb, who works part-time in the trowel trades programmes at the American College of the Building Arts, spoke of his experiences in locating placements for the students, noting that the biggest issue is the companies' desires to obtain their skills for free, with Patrick describing that, when students are placed, the companies are "…at least breaking even if not making a profit off of our interns that we send out (Webb, 2014: p.18). While this may be perceived as a positive step forward in establishing a limited apprenticeship scheme in the US, it can also be argued that by these companies requesting

students for no compensation, it restricts placements to those students who are financially stable enough to work without pay. This may have the potential to de-value the craft, with companies using unpaid student labour to assist them in receiving low-bid tendering contracts, similar to what Nigel Copsey has observed in the UK.

When examining the concept of greater integration of academic and field experience, there are marked differences between the approaches and opinions between the two countries. In the UK, the established apprenticeship framework along with the block release system allows for a greater flexibility in training opportunities as opposed to their US counterparts. The disconnect exists where educational providers and employers do not ensure the students have enough exposure to their craft through their prescribed apprenticeship assignments, as some of the companies use apprenticeships as a form of inexpensive labour, or practice a limited scope of the skills that students are required to learn on site. In the US, the situation is virtually non-existent, with many organisations and practitioners observing apprentices as "glorified labours" which need to be "un-educated" to perform work on site (Follet, 2014 and Ecker, 2014). While some educational providers, such as the American College of the Building Arts require apprenticeships (referred to as internships) for their students, the structure for a national system has not developed. This lack of development can be observed as having both positive and negative influences on the industry. The absence of such a system limits the ability of students to receive adequate on-site training during their education, therefore entering the field without the level of field experience desired by industry, thus considering them "glorified labourers" (Ecker, 2014: p. 10). Conversely, this lack of a structured system allows the US to potentially develop a unique model for the blending of on-site and college training, which is unencumbered by tradition and bureaucracy and able to adapt to the regional needs of the country.

4.5 Findings

In examining the progression of trades training and education in these three generations, it can be noted that the phenomenological perspectives of research participants' training have influenced their opinions of modern educational frameworks. Upon examining the participants' responses triangulated against the historical background of heritage craft training in both societies, it can be argued that perspectives of many participants of the superiority of their own method of training may be based on an idealised assessment of their education, which may not be based in the realities of their experiences. These viewpoints have influenced their opinions of the current training system and by extension younger generations of craft practitioners. These opinions have the potential to have long term ramifications of the maintenance of the training network, as older generations often view the modern system with disdain.

Each generation has found its own way to enter the heritage craft field. The *Intermediary* Generation participants were provided the opportunity to train in the traditional crafts during the infancy of the modern conservation movement, but according to many of the participants, did not gain either the historical background of their craft, or an understanding of conservation philosophy in their education. This absence of historical background and conservation philosophy led members of this generation to take an active role in researching and supporting the continuation of these practices in the field, thus influencing the *Transitional* and *Inaugural* Generation's educational experiences.

Members of the *Transitional* Generation experienced the evolution of the training network from its traditional structure to its modern framework. In the UK, this progression was found through the modification of the City and Guilds system into the modern NVQ structure. In the US, where a national training system has historically been non-existent, participants noted the societal impetus to attend traditional college over pursuing a career in crafts. Because of the changes in the systems in both countries, members of the *Transitional* Generation, building on the research and advocacy performed by the *Inaugural* Generation, took leading roles in founding and supporting formalised training programmes in collegial settings, using their academic qualifications and personal experiences to adapt the former training system into modern societal frameworks.

Inaugural Generation participants, training under the programmes developed and supported by the *Intermediary* and *Transitional* Generations, are the first to be trained in a modern system. This generation has had more opportunities to study heritage crafts than the former generations, as the network has become recognised in modern educational frameworks. While this generation, it can be argued, has had more opportunities to study heritage crafts in formalised academic settings, they have, in their own opinions, less exposure to heritage craft careers in their compulsory education, with many entering the field after attempting more "conventional" careers.

Because of these changes in the training network, the opinions of generational participants in this research about the formal education processes reflect their own personal experiences, which may be obscured by idealised perspectives of their own education. While members from all generations have noted issues they have observed in the current opportunities, many of which transcend the generational boundaries, it can be argued that the system has progressed significantly in the past three generations.

By reviewing the experiences of these generations, it appears that there is not now, nor has there ever been a shortage of craft knowledge, but the opportunities to gain craft knowledge have changed significantly. The shortcomings in the education system come from the lack of opportunities for practitioners to understand their value in the educational processes and a push for training providers to overlook the basics for the higher end techniques in the field (Lynch, 2014 and Follet, 2014).

As Jones and Yarrow argue, the process of working traditional materials has changed little over time (Jones and Yarrow, 2015). While the knowledge has remained constant, the paths to obtain the knowledge over the years have been altered. The craft "time-bomb", the simplified perception of a much more complex issue, which was espoused in the 2005 National Heritage Training Group Report (NHTG, 2005: p. 2) therefore can be claimed, does not exist. A central argument of this research however maintains that the means of disseminating information needs to be improved to prevent obstacles to pathways of learning craft knowledge that have occurred in the past. The training networks in both countries have been adapted from their historical contexts to meet modern educational forms, as demonstrated in Chapter 3, and the current actors in industry have identified significant problems in the field, taking their own roles, in various forms, to address the issues. It can be asserted that what is currently lacking in these new networks is not an understanding of the issues facing the training field, or a lack of interessment or enrollment in the network, but a failure to mobilise allies outside the craft network to assist in addressing these shortcomings. Approaches taken by educational providers to address the obstacles to pathways of learning will be addressed in Chapter 5 of this thesis.

Chapter 5: Higher Education Programmes

5.1 Introduction

As reviewed in Chapters 3 and 4 of this study, the transition of craft knowledge dissemination in the post war period can be traced through three generations of practitioners which reflect the changes in both the building industry and educational systems. These generations, the *Intermediary*, the *Transitional*, and the *Inaugural*, have all taken their role in the current heritage craft training network. A vital component of the new training system for heritage craft practitioners are the formal academic programmes which exist with both societies. These programmes, which exist in a variety of forms across the spectrum of Higher and Further Education, represent the commencement of heritage crafts being studied in the academic realm. As demonstrated in Chapter 4, the generations which have engaged in heritage craft practices have had limited exposure to formalised training in the academic spheres regarding heritage crafts. The exception to this is the *Inaugural* generation, which was the first to enter higher education since the introduction of conservation studies.

Acknowledging that the teaching of heritage crafts is a recent academic field of study, it is important to examine the circumstances in which the existing programmes were created, the composition of the courses, programme demographics, and issues facing these courses. The representative sample of interview participants have identified a series of country specific and cross-cultural issues which face formal academic training of heritage crafts.

Interview Composition

A selection of educational providers were interviewed from both countries to form a cross sectional representation of programmes in both societies. Representatives from the UK were selected from personal knowledge of the researcher, as well as suggestions from generational participants and representatives from the National Heritage Training Group. A target of six interviewees was pursued for this research. However, despite repeated attempts by the researcher, representatives from the National Heritage Training Group, and others, only five UK providers responded to the request for interviews. Requests for interviews from established programmes in the UK academic realm, including West Dean College, Weymouth, and the City and Guild College went un-answered. One issue which was noted in UK programmes was the lack of direct contact capabilities to individual course instructors through college websites, with emails often being directed to a general enquiry addresses. It is unknown whether contact through these general enquiry addresses had reached the desired department. This lack of contact could be seen as a barrier not just for this research, but also for recruiting, as interested students may not have direct answers to their questions when exploring their options for study.

Interview participants represent a cross section of programmes from diverse regions and academic levels in the UK. Also included in the study is one administrator to provide a representation of managerial perceptions of heritage craft training. Representatives from the UK educational providers are as follows:

- Simon Sandusky-Head of Education, Prince's Foundation for Building Community-London
- Graham Lee-Heritage Manager, Building Crafts College-London
- Scott McGibbon- Architectural Conservation/Stonemasonry Instructor, Glasgow City College-Glasgow, Scotland
- Harriet Devlin-Course Leader, Conservation of the Historic Environment, Birmingham City College-Birmingham
- Ian Billyard-Principal, Leeds Building College-Leeds

Representatives from the US were selected from personal knowledge of the researcher, as well as references from the National Council for Preservation Education (NCPE) (Appendix XXVII). A target of six interviewees was pursued by the researcher. Six interviewees however, represent the total number of programmes which exist throughout the United States. Two programmes in that number were not interviewed. Savannah Technical College in Savannah, Georgia was excluded from the interviews due to the researcher's personal role in the programme. Edgecombe Community College in Tarboro, North Carolina was also excluded due to a lack of response to a request for an interview. To obtain the targeted six interviews, two additional programmes which have associations to heritage craft training were substituted. A representative from College of the Redwoods in Eureka, California, which operated a historic preservation programme until 2015, along with a representative of West Kentucky Community College, who attempted to initiate a programme between 2008 and 2012 were substituted for the two excluded programmes. Representatives from the US educational providers are as follows:

- Dave Mertz-Programme Chair, Belmont College, St. Clairsville, Ohio
- Lucien Swerdorff-Department Head, Clatsop Community College, Astoria, Oregon
- Natalie Henshaw-Educational Programme Manager, Historicorps/Lamar Community College, Denver, Colorado
- Bill Hole-Director, College of the Redwoods, Eureka, California
- John Moore-Associate Professor, West Kentucky Community College, Paducah, Kentucky
- Lt. General Colby Broadwater (retired)-President, American College for the Building Arts, Charleston, South Carolina

These participants form a representative sample in which illustrates the current state of heritage craft education, issues facing programmes in both societies, and innovative approaches taken to

the field. Unlike interview participants in Chapter 4, educational providers form a distinct group in the heritage craft network. Their position as trainers in the newly defined training networks can be said to serve as substitutions for the master's role in the traditional training scheme, while operating in a larger framework of formalised education, an idea espoused by Richard Sennett, who suggests that modern teachers have increasingly taken on a role of surrogate parenting in modern society, much like the medieval master did when taking on an apprentice (Sennett, 2008).

Interview Process

Each participant was interviewed by the researcher using the guidelines and processes set out in Chapter 2 of this study. In the interview process, three general themes were discussed. Two themes will be studied in greater detail in this chapter. The third theme will be studied in Chapter 6 of the thesis. The general themes which were developed are:

Programme structure and demographics

Participants were asked to describe the structure of their programme. This included programme content, length, graduation and job placement rates, and industry connections. Interviewees were also asked to describe their student and faculty demographic and its effects on their programmes. Furthermore, they described the reasons behind the formation of their programmes, how they operated within their school structures and any significant accomplishments and failures that they believe that they had during their tenure.

Concerns facing the programmes

In the interview, probe questions explored the issues or concerns the participants deemed affecting their programmes. These questions were structured in the general interview composition described in Chapter 2 of this study. Interviewees were lastly asked a country specific question, which was also raised with generational participants. UK interviewees were asked their opinion on the NVQ system, while US participants were asked their opinion on programme placement within rural settings. Societal and cross-cultural concerns raised in these responses are studied in sections 5.3-5.6 of this thesis.

Innovative approaches to heritage craft training

During the interviews, participants noted processes and projects which they have adopted which are unique to the participants' individual frameworks. At the conclusion of the interview, participants were asked what the future plans for their programmes were. These include definite

plans as well as what future aspirations they have for their programme. Innovative approaches and future plans for the field will be studied in Chapter 6 of this thesis.

5.2 Structure of interviewee programmes

Interviewee programmes vary greatly in their structure and approach to the field. While their structures and approaches may be different, several prevailing themes were observed throughout the interviews which relate to their individual cultural approaches to heritage craft as well as cross-cultural issues in heritage craft education.

5.2.1 Programme characteristics

UK Programme characteristics

UK interview participants represent a diverse range of award levels and subjects across the heritage craft field. A concerted effort was made to include representative from various geographical regions and focuses throughout the UK. Programme characteristics for UK participants are as follows:

Historic Building Conservation-Building Crafts College

Building Crafts College, located in Stratford in East London, was founded in 1903 by renowned architect Sir Bannister Fletcher and financed by the Worshipful Company of Carpenters (Thebcc.ac.uk, 2016). The College offers programmes in construction, stonemasonry, wood occupations (site and bench joinery and carving) as well as conservation programmes. Currently, the school offers NVQ levels 2 and 3 in heritage craft and supervisory roles in the conservation field. The College also offers courses in Conservation Construction Site Supervisor and Management at NVQ levels 4 and 6 (Thebcc.ac.uk, 2016).

The primary focus within Building Crafts College is its Foundation Degree in Historic Building Conservation, which it offers in partnership with Kingston University (www.thebcc.ac.uk/conservation/foundation-degree/). Graham Lee, Heritage Manager for the College describes the programme as:

> It teaches, from a standing start, building conservation, based mainly in the UK and using the ICOMOS training and education guidelines…it's a generalist programme, so it covers all aspects of conservation (Lee, 2015: p.2).

The programme, which is offered only as a full-time course, is run one day a week to accommodate working professionals. Graham describes the programme as running from 9 a.m.

to 8 p.m., in which the students are expected to complete a full-time level of study, even if the direct contact time is limited (Lee, 2015).

Through their partnership with Kingston University, graduates of the foundation degree have a clear progression plan to continue their studies. Graham noted the affiliation with Kingston University, which awards the foundation degree, will allow the students to earn their BSC in conservation by attending another year after their foundation, and an MSC will be awarded for an additional year of study (Lee, 2015).

Although the course is academic in nature, its location in a practical, craft based educational institution allows the students access to craft training alongside their studies. Lee described this as an advantage for the students:

> …we also offer them alongside the doing the degree, so they have to come in another day to do that, but we don't charge them any additional fee for that so that's a bonus of doing the foundation degree, so they can do carpentry, they can do stonemasonry alongside doing the degree…We've got sort of a dream in Len (the principal) and mine (sic) eyes to, what we'd like to do is run a parallel stream with more hands on craft skills as part of the foundation degree and make it less academic... It's always a difficult thing to get through the authorities, the university authorities (Lee, 2015: p. 5-6).

The Historic Building Conservation programme at Building Crafts College is illustrative of a system operating in a Further Education college. Although the college is an independent institution, they must partner with a degree awarding organisation to award its foundation degree, necessitating them to adhere to standards of another body to ensure continuation of the programme. While an academic programme in nature, the existence of the programme in a craft focused college allows a unique opportunity to balance theoretical and practical knowledge in the programme. Although the programme does not require craft training, the ability to offer this training at no additional charge through the support of tutors in other programmes allows students at Building Crafts College to develop a comprehensive understanding of the conservation field.

Building Craft Apprenticeship Programme/Young Heritage Apprentices Programme-Prince's Foundation for Building Community

The Prince's Foundation for Building Community, based in London and founded by His Royal Highness the Prince of Wales, is a Non-Government Organisation which focuses on sustainable

development and urban regeneration. The Foundation runs multiple courses, including design services, short courses and Master's programmes in conjunction with professional and academic partners. Included in their programmes are two courses centering on heritage craft education (http://princes-foundation.org/educating-people/heritage-skills-building-crafts). Separated by age group and award level, the Foundation's year-long Young Heritage Apprentices programme focuses on 16 to 18-year-old school leavers, and graduates earn a NVQ Level 2 in multi trade repair and maintenance, while the eight month Building Craft Apprenticeship programme is aimed towards more experienced learners who wish to gain mastery of their craft, earning an NVQ Level 3 in heritage craft (Sandusky, 2015).

Partnering with North Nottinghamshire College as their awarding body, students enrolled in the courses spend limited time at the college. Head of Education Simon Sandusky noted the students spend only one week at the college studying business skills, with the rest of the programme being based on on-site assessment and training (Sandusky, 2015). Unlike a traditional block or day release programme, students attend a 3-week intensive training and are then placed with companies in the field. Simon describes the Building Craft Apprentices programme:

> …the generic structure is that they start with our three-week summer school, which is a combination of both sustainable and traditional architecture and craft training…a wide range of classroom based and activity based…before moving on to Dumfries House Estate…where we do one week of craft week…and ending the last week with a design week as well call it. So then after the summer school they do an additional ten weeks at Dumfries House Estate working together, twelve students building a structure. And then following that ten weeks we send them out on placements to sites… (Sandusky, 2015: p.2).

When comparing the Building Craft Apprentice to its Young Apprentices counterpart, Sandusky noted that the Young Heritage Apprenticeship programme operates for a full year rather than the eight-month structure of the Building Craft Apprentices. Although the programmes follow similar structures, the Young Apprentices are employed on two five-month placements close to their homes. These placements give them experiences in the wide range of craft necessary to earn their multi-trade NVQ's (Sandusky, 2015).

The Prince's Foundation programmes can be seen as a unique approach to training in today's current educational structure in the UK, as it is affiliated with a college but operates its own off-site training centre. The programme is also unique as it provides its apprentices with a £1000 a

month bursary for their apprentices, along with allowance for tools for Young Apprentice participants. Although it has unique qualities, the Prince's Foundation can be identified as an example of the on-site assessment-based learning component of the NVQ awards system as well as an important case study in the value and role of on-site trainers and assessors in the UK.

Stonemasonry- City of Glasgow College

City of Glasgow College was formed in 2010 as an amalgamation of three separate colleges; Central City Glasgow, Glasgow Metropolitan College, and Glasgow College of Nautical Studies (Cityofglasgowcollege.ac.uk, 2016). Before the merger, Glasgow Metropolitan College was created in 2005 as a merger between the Glasgow College of Building and Printing and the Glasgow College of Food Technology (Cityofglasgowcollege.ac.uk, 2016). It is from the College of Building and Printing, which was established as the first UK FE College in 1886, that the stonemasonry course derives its history. Stonemasonry Instructor Scott McGibbon described the College's composition through the years, as the school transitioned into its current incarnation, while continuing its tradition of running apprenticeships. He noted the school had experienced a shift in its focus away from the apprenticeship model over the years, which was beginning to regain importance in the modern school composition (McGibbon, 2015).

City of Glasgow's Stonemasonry department operates under the Scottish Vocational Qualification, which operates independently from the National Vocational Qualification system found in England and Wales (https://www.sqa.org.uk/sqa/65792.html). McGibbon described the nature of the programme:

> Well, the makeup of the award itself is quite complicated. What we have, we have an overarching sort of seven main component parts of the qualification… It's bog standardisation from SQA. Scotland only has Edinburgh, Forth Valley in Stirling, Inverness and Glasgow as training centres…But within that what we have is, it's kind of broken up into what we call seven units. Five are mandatory, and two are optional, which we call optional but most college run with the same options. (McGibbon, 2015: p.2).

City of Glasgow College runs two stonemasonry courses, SVQ Level 3 and an Advanced Craft Certificate based on a block release system over two years with an additional year of training available to earn an Advanced Craft Certificate. Unlike the NVQ system, there is no full-time course available for crafts, and qualification can only be obtained through apprenticeship. The

programmes in Scotland therefore, are only open to students who have already received a placement as a stonemasonry apprentice. McGibbon explained the structure of the training:

> …. The programme is approximately twenty weeks in the first year, sixteen weeks in the second year, and then the advanced craft course is optional because in Scotland once you reach NVQ Level 3 you can be classified as a fully qualified stone mason, but most companies tend to send their guys back to do advanced craft, and that's ten weeks (McGibbon, 2015: p.4).

City of Glasgow College can be identified as a representational example of the independent Scottish Vocational Training system, which shares many of the same characteristics as the NVQ system, such as responding to the needs of the Construction Industry Training Board (CITB) and formulating programmes which balance college-based training with on-site apprenticeships and assessment. Advantages and shortcomings of the SVQ and NVQ from the perception of the educational providers warrants further study to compare the experiences of the educational providers with the perceptions of generational participants (see section 5.3 below).

Leeds College of Building

Leeds College of Building was founded in the 1960's as the UK's only FE Construction College (Leeds College of Building, 2016). Leeds offers courses in a wide range of subjects and delivery methods, including HND and HNC programmes, and some apprenticeships at Levels 3, 4, 5, and 6. (https://www.lcb.ac.uk/study-with-us/careers-a-z/). Principal Ian Billyard observed that many students in the building crafts begin their studies by enrolling in a 2-year NVQ level course, with approximately a quarter of those graduates being sent back to school by their companies to earn an NVQ 3 in their craft (Billyard, 2015).

Leeds, like many FE Colleges, responds to the needs of its industry partners, which often translates into a variety of training delivery methods. Ian noted that the school offered a assortment of training opportunities, including full-time students, and day and block release programmes for apprentices (Billyard, 2015). While economy and scale denote how programme offerings are structured, Ian stated the school attempts to meet what industry requires for their students (Billyard, 2015: p.2).

While this response to industry has led to the development of specific courses in various engineering, infrastructure, and building programmes, the construction fields in the Leeds area have not requested the establishment of a stand-alone heritage course at the College. Although

the school does not tender heritage qualifications in their current offerings, they do incorporate heritage modules in their coursework. Billyard noted their approach to heritage craft courses:

> …they do bits of heritage, like I said we don't do the full heritage qualification, because there's not a demand for it in Leeds…What we do is parts of heritage in terms of oak frames, sash windows and other various aspects of it in masonry and things that we do, and in some cases stone slate and stuff that we've done before. Linked to heritage work, but we don't offer the full heritage range
> (Billyard, 2015: p.1).

Leeds College of Building is can been seen as emblematic of a college responding to the needs of its service area, which does not demand a heritage qualification in its building industry but does desire specific aspects of the heritage training. Leeds's approach to heritage craft training can be seen as indicative of the varying degrees of heritage craft practice in certain areas of the UK and the educational system's responses to the local building industry's needs.

Conservation of the Historic Environment-Birmingham City University

Birmingham City University's Conservation of the Historic Environment is a postgraduate course offering MA, Post-Graduate Certificate (PGCert) and Post-Graduate Diplomas (PGDip) awards. Recently transferred from the University of Birmingham, the programme was founded by current Programme Course leader Harriet Devlin. Harriet describes her reasoning behind the founding of the programme in 2004 as a reaction to what she observed in the field, noting a lack of correct maintenance practices and skilled tradespeople to engage in Heritage Lottery Fund (HLF) projects (Devlin, 2015).

When the University of Birmingham moved to close the programme, which formerly operated out of the Ironbridge Institute, Birmingham City University chose to continue the course in 2014. Since the programme is new to the University, it currently has limited dedicated space in the school, and most classes are run off site at various locations which carried over from the programme's time at the University of Birmingham.

The programme has a unique structure, holding its classes on weekends and comprising of two five weekend core modules and ten practical workshops of which the students must complete six (http://bcu.ac.uk/courses/conservation-of-the-historic-environment-ma-pgdip-2018-19). The course is run on a part time, two-year model. The first year, students are required to complete core module one, in which they study basic conservation concepts. In the second year, students

are required to enroll in the second core module, studying various aspects of heritage conservation including remediation techniques, financing, and project and heritage management. In the summers, students have a choice of practical workshops to select from (Devlin, 2015). Using almost entirely external lecturers, Birmingham's programme has only one permanent faculty member (Harriet) who spends limited time at the University, instead being at various off-site locations with her students (Devlin, 2015).

While Harriet espoused the unique aspects of the programme, she was quick to acknowledge its limited scope regarding practical skills:

> We're not training people to be joiners or to be carpenters or to be blacksmiths. We're not doing that…It's a tip of an iceberg. We're showing them techniques, we're giving them vocabulary, we're showing them how long it takes…but you're training a conservation officer who might have to specify, you know (sic) what's good work (Devlin, 2015: p.7).

The Birmingham City University's programme can be identified as indicative of the role of craft training in graduate education, the area in which most programmes, according to the IHBC accreditation, are located (Ihbc.org.uk, 2016).

US programme characteristics

In contrast to their UK counterparts, interview participants in the US are drawn significantly from the technical and community college systems for their respective states. The six interview participants represent the total number of programmes which operate in the US. Due to the scarcity of the offerings in the US, it is impossible to draw from all geographical regions and award levels. Programme characteristics for US participants are as follows.

Building Preservation/Restoration Technology-Belmont College

Belmont College, located in St. Clairsville, Ohio, is the longest operating heritage craft education programme in the US (http://www.belmontcollege.edu/bpr/). Founded by current Programme Chair Dave Mertz, the course has been existence for twenty-six years, and has seen many programmes begin and cease operations during that time. Dave noted his biggest accomplishment as:

> Surviving twenty-six years. Yeah if you think how many programmes have started and gone in those times that's big…And the programmes, what I've seen over

> twenty-six years, you know a lot of times what happens is the person that starts it up has the energy and they're got everything and too often when they've left, for whatever reason, the programme just folds in that regard (Mertz, 2015: p.19).

An identified generalist programme, Mertz's model has been revised through the years to adjust to modifications to the Ohio educational system. The Belmont structure is based on an amalgam of class and lab instruction and fieldwork classes. Dave described the two-year programme as primarily technical work. During the student's sixty-three credit hours in the programme, they take two architecture classes, along with courses in preservation theory, construction methods and drafting. The reminder of their courses are based in the material sciences, which the students chose four out of the six offerings. Offerings include wood, decorative finishes, masonry, plaster, stained glass and metals classes. Students are also required to take community field labs during the summer where they participate in a community-based fieldwork project (Mertz, 2015). Dave noted that the programme is constantly changing because: "when the state changes things we have to change things too so, you know, as soon as you get comfortable someone changes the rules, so you have to address things" (Mertz, 2015: p. 2).

Mertz's programme, being the longest operating programme in the US, can be considered the model for heritage craft education in the US. Due to his duration in the field, Dave has played a significant role in the wider preservation education field, including serving as President of the National Council for Preservation Education for eight years. He has developed multiple working relationships with academic partners which allows his students to continue their education. Mertz describes some of these relationships:

> …over the past 26 years, I've developed a lot of relationships with a lot of people in the graduate schools, and the undergraduate schools…. we've got a good relationship, an ongoing relationship with Eastern Michigan. I've had multiple students go up there… we've had multiple students come down, probably more come down to us after they've gotten their graduate degrees. And you know it's mutually, (sic) but I've got that pretty much everywhere (Mertz, 2015: p.18).

The Belmont College programme is an example of an established programme which has been able to adapt to changes in the industry as well as the educational system. The flexibility of the Belmont programme and its longevity have established the programme as a cornerstone of heritage craft education in the US.

Historic Preservation and Restoration-Clatsop Community College

Located in Astoria, Oregon, the Clatsop Community College programme is the only operating programme on the West Coast (https://www.clatsopcc.edu/preservation). Similar to the Belmont College programme, the Historic Preservation and Restoration programme is a two-year course functioning out of a regional community college. Department Head Lucien Swerdorff describes Clatsop Community College as one of the smallest in the state, located across the river from Washington State, allowing it to draw students from both locations. Even with this draw, the school is small, with only 1500 full-time students and approximately 3000 students in total (Swerdorff, 2015).

In existence for seven years, the Clatsop programme runs on a quarter system rather than a semester structure, which necessitates a greater number of credit hours. Currently operating at ninety-two credit hours, the programme rotates its offerings bi-annually. Lucien described the reasoning behind alternating classes as being based in a concern for resources, as the programme is not large enough to support all the classes every year. He did note that some of the more introductory courses are offered every year to ensure students have a basic understanding of the field before working with advanced subjects (Swerdorff, 2015).

Being a relatively new programme, Clatsop does not have a dedicated instructional space at the institution, which limits the amount of instruction which can be performed on campus. Lucien described the lack of a dedicated space for the programme as a goal which he was working towards, with the programme currently sharing space in the art department's building to teach stained glass and faux finishes and working in the field to teach the remaining trade skills (Swerdorff, 2015).

This absence of dedicated workshop space has necessitated the expansion of the programme's offerings to sites in the community. Because to this restriction, material specific classes are run on a workshop basis rather than quarter-long classes. Lucien explained how this structure operates:

> …we do a lot of courses, courses change all the time because the way they have them the core classes are the same, but the workshops, the way we have them set up, they're very general. So it's a big category like plastering or finishes…
> A typical workshop will vary between one and three credits. So we set them up variable credits, and we set them up in general categories. We have techniques and materials courses we can do, so we've got wood, metals, things like that. So

> we can kind of juggle things around and be pretty flexible, and we can offer a course that's one credit or three credits as we want to do that (Swerdorff, 2015: p. 8).

The programme flexibility at Clatsop Community College can be argued as an example of how a programme can develop a malleable structure which serves the needs of the community due to the lack of dedicated instructional space. This flexibility allows the programme to develop expanded relationships with community partners and contributes to the overall perception of the College in its service area. This flexibility also necessitates an increased dedication of faculty members to secure and execute projects in the community, a position which invites further examination of the effects of budgetary and space restrictions have on programme content and course sustainability (see 5.4 below).

Historicorps-Lamar Community College

Operating through Lamar Community College in southwest Colorado, the Historicorps programme operates entirely on an on-line and site based instructional model which is unique in American education (https://historicorps.org/). Offering short certificates as well as a two-year Associates in Applied Sciences (AAS) degree, the programme is a partnership between Lamar Community College and the NGO Historicorps. Educational Programme Coordinator Natalie Henshaw described the programme as based on Historicorps projects in the field. Projects, which occur on public lands, either state or Federal, last anywhere from two days to six weeks. To obtain their AAS degree, students must spend a total of fifteen weeks on field projects or internships, along with taking on-line academic classes in a variety of subjects including conservation theory, construction materials, and law. This flexibility allows the students to access the course throughout the country, eliminating the necessity of relocating to enroll in the course (Henshaw, 2015).

Working with Federal and state governments often requires the programme to operate in remote areas in public lands, performing projects on isolated structures such as log cabins and fire towers, requiring their students to camp on site for the duration of the project. While this composition gives students the opportunity to work on significant structures in distinctive locations, this educational model does have notable drawbacks. Henshaw specified what she believed is a substantial issue with the structure being their lack of ability to instruct students on the use of stationary shop tools, which can be a determinant in demonstrating competence in the industry (Henshaw, 2015).

The programme can be seen as unique to the American education system and has experienced some tensions with the institution due to the distinctive structure of the partnership. Henshaw noted the dichotomy of the desires of the college:

> …one of the reasons that they wanted to do this programme, and do it with Historicorps is that they didn't have money to build more dorms, so they wanted a programme that wouldn't be Lamar based…But at the same time that's what the President said, but the Vice-President was always trying to steer us to do Lamar based projects and recruit Lamar students, and get them to the Lamar area. So they kind of wanted both at the same time (Henshaw: p.10, 2015).

Along with issues dealing with college administration, the programme must adapt to confirm their structure adheres to accreditation guidelines, ensuring the programme can award college credit for classes. Henshaw described some of the issues faced when encountering accreditation standards, as she is listed as the teacher of record on multiple classes which often operate concurrently across the country, with the field supervisors acting as the actual instructors on-site. Natalie, who issues the grades based on the feedback of these instructors and the work the students submit, ultimately determines the grades for the students, often never working with them directly (Henshaw, 2015).

The Lamar Community College can be argued as sharing more in common with the Prince's Foundation programmes than a standard US educational model. While it can be seen as sharing some of the same characteristics with the Prince's Foundation, the requirements set forth by US accrediting agencies requires the programme to adhere to regulations which are not confronted by its UK counterpart. Its unique approach to education while operating in the US collegial system makes the Lamar Community College partnership with Historicorps a distinctive case study for the US educational model.

American College of the Building Arts

Based in Charleston, South Carolina, The American College of the Building Arts is the only four-year college in the US which focuses on traditional building arts. A private institution, it awards Bachelor's degrees in Timber Framing, Preservation Carpentry, Blacksmithing, and Trowel Trades, which offers specialties in plaster, masonry, and stone carving (http://americancollegeofthebuildingarts.com/). College President Lieutenant General Colby Broadwater described the structure of the College as a place where artisans are educated in a

liberal arts background, blending education and training in one of the six classical building skills they currently teach (Broadwater, 2015).

The American College of the Building Arts, which was founded in 1989, can be classified as occupying a unique position in the American education system by developing a specialised college structure which has never been attempted before. This specialisation comes with obstacles not faced by many other institutions. For students to be eligible for Federal financial aid, the College must first be accredited by a licensed accrediting agency verified by the US government, a process which takes several years. Until accreditation is awarded, students must pay for their education personally or through private loans. Currently, the annual cost of tuition at the College is $19,872 per year, plus fees (Americancollegeofthebuildingarts.com, 2016). This absence of Federal funding has limited the College's ability to attract students and finance expansions. President Broadwater described the process of accrediting a specialised structure such as theirs:

> You're fighting the system. Because you're the new guy, and you're probably the only guy in the world that's trying to get accreditation for the first time. And it's a chicken and egg thing. They won't let you talk about what your financial changes (sic) will be after accreditation, which are immense by the way, and then you know, they want you to have strong financials, but you can't get money, because you're not accredited (Broadwater, 2016: p.10).

While the College has struggled with the accreditation process since its inception, according to Broadwater, the College is posed to receive its initial accreditation. At the time of the interview, the College was responding to a request for clarification on several points of their application by their accrediting body. If the accrediting body approves the changes, the College would receive an initial five-year accreditation (Broadwater, 2015).

The American College of the Building Arts can be seen as currently being in a transitional moment in its history, one which may propel the college into an international role in heritage craft education. Currently, the school serves as a significant case study in the tribulations of founding an independent institution dedicated to heritage craft training in the US educational system, an issue which is not encountered by any other institution in this study.

Construction Technology-Carpentry-West Kentucky Community and Technical College

West Kentucky Community and Technical College is located in Paducah, Kentucky, a rural area bordering southern Illinois, eastern Missouri and western Tennessee (https://westkentucky.kctcs.edu/). A regional school, Programme Coordinator John Moore attempted to initiate an historic preservation programme due to a local revitalisation movement in downtown Paducah. With the 2008 economic downturn, the construction industry in the region suffered significantly. This downturn caused the programme to be eliminated and the entire carpentry course was threatened with closure. Moore recalled working with the local industry to save the programme:

> …you know the fact that I reached out to them with the ultimatum, that kind of woke them up a little bit too…the fact that programme is still there and believe me there are several other carpentry programmes that were just left by the wayside in the KTCS (Kentucky Community and Technical College System) (Moore, 2015: p.14).

To prevent the closure of his programme, John, in conjunction with college administrators, elected to discontinue his independent certificate and incorporate traditional building techniques in his standardised construction programme, which focuses on modern construction techniques. John noted his disappointment with the failure of the independent certificate:

> I'm very disappointed in that. I have to believe, and when I teach my students I think it's important to teach them the history of carpentry, of woodworking. I think ultimately now my students will have to make that choice for themselves …if students have the basics, if they know how to measure, mark, cut, if they know how to source their materials, if they're aware of different building traditions, some students that really sparks a lot of interest and they want to know more. Those students I will be pointing in a certain direction. I think it's also important to have knowledge of modern building materials and methods as well. So I would like to think that I'm providing, given the circumstances that I'm in, that I'm providing at least, I'm providing those opportunities… (Moore, 2015: p.14).

Although the programme at West Kentucky is no longer in existence, John Moore's incorporation of traditional techniques into a modern practices programme may offer valuable insight into the potential of blending modern and traditional practices into a singular programme, motivating

further study on the potential drawbacks on the current separation of “heritage” and “modern” crafts in the current educational structures (see 5.5 below).

Historic Preservation and Restoration Technology-College of the Redwoods

Located in Eureka, California, the College of the Redwoods serves the former logging and fishing communities of northern California (https://www.redwoods.edu/). In 1996, the school, under pressure from the local historical society, initiated an Historic Preservation programme, assigning existing construction Professor Bill Hole to run the course. Bill remembered being forced into the position, noting he had no background or understanding of conservation theory or building analysis, and raising significant concerns with college administration about the cost of the programme (Hole, 2015).

With assistance from Belmont Department Head Dave Mertz, Hole developed a certificate programme, eventually expanding to an Associate Degree programme in 2002. Hole remembered the structure of the course:

> …The programme was a pretty comprehensive theory and hands on based programme. Basically, you can’t do a good job teaching hands on preservation without the theory behind it…I actually travelled out to Dave’s (Mertz) programme …I kind of based my programme around a) not reinventing the wheel, and b) as a tradesperson realising that you need a strong trades component to any hands-on preservation programme (Hole, 2015: p.2).

Bill continued to expand his programme, adding field schools and community-based projects, along with writing grants for tools and equipment.

While the programme remained consistent in enrollment numbers and graduates, the College of the Redwoods, facing a loss of accreditation and institutional bankruptcy, which according to Bill was due to a lack of oversight of accreditation standards, elected to close the programme to save money (Hole, 2015). Bill remembers the situation at the college:

> Whatever the case it was drawn up, it was just a bunch of wrong data was thrown on the table, and it didn’t matter…. I spent a solid year, and there was nothing I could do in the slightest to turn that course around. It was already a done decision (Hole, 2014: p. 18).

While the programme at the College of the Redwood ceased operations in 2015 with the graduation of the last cohort of students, it can be seen as providing valuable insights into the fragility of even stable programmes in craft education when put into context of the greater needs of their institutions, often based in financial concerns. The tenuous nature of many programmes in this research, it can be argued, can be studied through the examination of the closure of the College of the Redwoods programme (see section 5.5 below).

Each programme, regardless of their geographical or cultural arena, has unique issues which they must address. While each programme operates distinctively in their own cultural and economic spheres, they can be seen to have more commonality in their struggles to exist and thrive, irrespective of their individual circumstances. On initial observation the structures and operations of the programmes chosen for this study represent a diverse range of instructional methods and approaches, but upon greater examination, it will be demonstrated that many issues facing programmes can be considered in a cross-cultural perspective through which unified solutions may be outlined.

5.2.2 Shared programme aspects

Although the programmes studied in this research operate independently and must address issues and restrictions according to their local and national circumstances, four significant themes were observed that transcend these boundaries.

Student demographics

Throughout the course of interviews, participants were asked to describe their student demographic. Participants noted that the average age of their students was in the mid-20's or higher, including a large number of college dropouts and career changers. Graham Lee remarked of the Building Crafts College programme:

> …we get very few normal undergraduate, straight out of school. Most of them are mid-twenties onwards. I think the oldest we've had has been sort of mid-fifties…. they come from all sorts of spheres, either hands on craftspeople or small builders or people who are changing their career from whatever else they've been doing to building conservation because they found it a very interesting and rewarding career to be involved in (Lee, 2015: p. 3-4).

Other programmes in the UK limit their accessibility to their courses by requiring previous awards or employment. Simon noted the restrictions placed on students in the Heritage Craft Apprentice programme and the enthusiasm demonstrated by career changers:

> …they tend to be over 18…But because they have to have an NVQ 2 or equivalent experience that tends to dictate the age to a degree. But up through people in their fifties, the age range varies greatly (Sandusky, 2015: p. 3-5).

US participants also report a similar range of age demographics in their programmes. Dave Mertz observed the average composition of his programme:

> …a lot of our students that come to Belmont are looking to start a new career, and they come out of employment to come to school…. we probably graduate ninety percent of those…the local (high school) kids, oh man if you graduate one out of six or seven that start the programme, I would say that's generous (Mertz, 2015: p.3).

Lucien mirrors Dave's perspective at Clatsop Community College:

> The age, they're all over the place age range. Like community college, they're typically older than your standard students, and many of the students are coming back from doing other things…this cohort of students, about five of them already have bachelor's degrees already and are coming back to get their associates degree. In fact, one of them has a master's degree (Swerdorff, 2105: p.3).

The average age of the students entering these programmes may suggest the lack of understanding of careers in heritage crafts among recent graduates, an issue noted by generational participants, notably those in the *Inaugural* generation. This potentially indicates larger issues relating to the perception of crafts in society and the preference of parents and schools to direct school leavers towards university education over technical training. The high proportion of career changers found in programmes may also indicate a failure of the industry along with educational providers to adequately promote the field to younger generations of students, or using ANT methodology, the failure of the network to mobilise potential allies, in this case being secondary school career counsellors and parents. The financial consequences of failing to effectively recruit younger students can be argued as contributing the greater cross-cultural concerns studied in this thesis (see section 5.5. below).

Faculty demographics

During the interview, participants were requested to describe the faculty and staff demographic of their programme. Many of the contributors noted limited permanent staff employed in their programmes, relying on adjuncts or fractional faculty to teach the students. This limitation is often based on budgetary restrictions placed on programmes due to their limited enrollment. Harriet Devlin described her role as course director and the external faculty she relies on:

> …the fact that I use nearly all external lecturers who are, you know (sic), who are practitioners in the field. I organise, but I don't necessarily deliver all of the lectures because I'm solo. It's just me at the university… (Devlin, 2015: p. 3-4).

Fractional, also called adjunct or part time faculty members, are becoming increasingly common throughout academia, and are particularly prevalent in heritage crafts programmes due to the range of skills and knowledge students are expected to obtain in their studies. Given the small cohorts commonly found in heritage craft courses, coupled with the wide range of skills desired from the programmes, the hiring of multiple full-time faculty members is often financially unfeasible, thus the reliance on part-time staff can be seen as not only out of economic, but also pedagogical necessity. Fractional staff, although often teaching a limited range of subject matters, must be prepared to transition from a working environment into a training role. Simon Sandusky described the traits which he desires from his instructors:

> …I think it's one thing to be incredibly talented in your trade, which is one thing we require, but I think in the same time they also need to have experience in teaching …and understanding that difference in practicing the trade and teaching the trade, and I think there's a huge difference in that (Sandusky, 2015: p. 6).

A dependable and competent fractional faculty base is crucial for these programmes to survive, and often takes years to build. Even with a solid core of adjunct faculty members, situations can arise which become the responsibility of the solo permanent faculty member. Lucien described a situation at Clatsop:

> …I mean this term was the one of the worst terms. I had two instructors, you know (sic) a few days before the term started say; I can't do this course. It's like, why didn't you tell me sooner? ...so we really had to scramble and you know I can pick up some of the slack in some of the things I can do but obviously I'm not going

> to do a blacksmithing class or a plastering class because that's not my area (Swerdorff, 2015: p.15).

Given the nature of their work on often remote Federal lands, Natalie Henshaw's programme suffers from a different concern than her counterparts, as the rules levied on the organisation by the government also restrict hiring practices. Given the stipulations imposed while working of Federal lands, which change every year, maintaining a qualified adjunct base is particularly difficult. She described the issues facing her instructor pool:

> … So we can get people who are interested in one job, you know can make the time for like a four-week project, but the other problem is that we can't contract them, we have to hire them as an employee. So it's really administratively heavy for us to have just one supervisor per project, and that's because our agreements with the Federal government so we just can't contract (Henshaw, 2015 p.4).

The reliance of many programmes on fractional employees may suggest a serious concern for consistent delivery of craft knowledge. While many of the participants noted a dependable pool of qualified faculty members, situations similar to Lucien's experience have the potential to cause a significant detrimental impact on the quality of education and the ability of the students to obtain the training needed to develop competencies in their craft. As Lucien notes of his experience:

> …they don't teach all the time and some, most of them don't want to teach all the time…but you have to be careful with these adjuncts and not give them too much because you don't want to burn them out (Swerdorff, 2015: p.6).

Faculty exhaustion is coupled with a further concern regarding the use of fractional faculty. Because these tutors are employed on a term basis, budgetary restraints imposed by low enrollment, high instructional material costs, or financial pressures bearing on the institution may necessitate the cancellation of their classes as a fiscal decision. Repeated cancellations or limitations may dissuade qualified instructors from returning, compelling programme directors to pursue replacement staff, which may not have the desired understanding of the difference between practicing and educating.

Average class sizes

Participants were asked to describe their average class size, along with the reasoning behind limiting class sizes. Overwhelmingly, programmes limited the number of student intake to below twenty per class due to safety and space issues. Scott McGibbon noted the limitations of size and how they affect the number of students enrolled:

> …in a class size would range between 10 and 16… (16), that's a fantastic number. If you were getting 16 then that's beyond your wildest dreams. Most of the time it was an average of ten…although it's great getting that number, sixteen is very difficult to control, very difficult to get around everybody (McGibbon, 2015: p.6).

Given the flexible scheduling of the summer workshops, Harriet Devlin's programme can admit a higher number than many of her colleagues in the study. Regardless of the flexibility, the size limitation is based on safety and space in the workshops. Harriet explained:

> Well it's a cohort per year…so we have twenty per year…That's the maximum we can take because of the practical nature of the workshops… (Devlin, 2015: p.4).

Limited class size also serves as a prevailing theme in the US. John Moore noted the size constraints and safety concerns limit the enrollment of his programme:

> …I usually have cohorts of about 12 students…My classes are capped at 18…But for a lot of these technical programmes, it's kind of hard given the equipment that we're using, it's kind of hard to keep an eye on more than that… (Moore, 2015: p.6).

This limitation of class size can often cause tension with school officials, as Lucien Swerdorff explained:

> For the workshop course, we try to keep it at twelve, just because of safety reasons and what we're doing. …And that's something we had to argue with the college, because they don't like that. They want more tuition dollars and they want the enrollment to be higher. But I think we convinced them, and added some fees to the courses too (Swerdorff, 2015: p.8).

The limited class sizes of heritage craft programmes in this study is slightly lower than the 1993 ICOMOS Guidelines for Education and Training for the Conservation of Monuments, Sites and

Ensembles. The guidelines, which underpin the design of many courses, state: “adequate number of participants at required level ideally in the range of 15 to 25.” (ICOMOS, 1993: p.4). Given the space constraints most programmes experience, the recommended number from ICOMOS may prove a dangerous environment for participants. Significant expenditure cost per student in these departments, due to specialised equipment, faculty, and spaces, coupled with concerns over safety and student learning outcomes may translate into economically unsustainable models of instruction in the view of college administrators. Understanding that most programmes operate with a skeletal faculty and staff, safety limitations for individual classes could also be seen as significantly impacting overall enrollment in the programme, which warrants further investigation surrounding how these enrollment limitations affect larger decisions in space planning and budgets (see section 5.5 below).

Programme “champion”

Participants were requested to describe the reasoning behind the formation of their programmes. Many of the participants noted the involvement of a “programme champion” in this process. This research has identified two subgroups in which these champions can be categorised: internal pushes and external pulls.

Internal pushes

Internal pushes are champions which operate in the institutions that have an interest or experience in heritage crafts. These internal pushes have been identified as often occupying executive roles in the organisation, thus permitting the funding and stimulus for the programme. While internal pushes and external pulls share many of the same characteristics, it should be noted that internal pushes were more prevalent in the UK, which may denote a difference in comprehension of the value of heritage craft in the UK educational system. This comprehension may be influenced by multiple factors, including the strong cultural heritage tourism market, along with potentially higher demand for repair of traditional construction in the UK. The UK system might explore this further to examine the motives behind this phenomenon.

At the Building Crafts College, the push for the establishment of a conservation programme was identified as coming from the Principal of the College, who transferred the course from his previous institution to his current employer. Graham Lee remembered the process of establishing the degree:

> The chap who’s now the principal of the College was previously the head of construction at Lambeth College, which used to be the Brixton School of Building.

> And he always had an aim to enable craftsmen to get a degree...He then had discussions with Kingston University who at the time had been looking to develop foundation degrees with a number of organisations, and so the programme was first set up and run at Lambeth College. When Len then moved from Lambeth to become Principal of Building Crafts College, he brought the qualification with him… (Lee, 2015: p.2-3).

The foundation of the programme at Building Crafts College can be seen as an important case study on the value of an internal champion in the executive levels of the college. While operating in an institution can be discerned as having has immediate advantages, it may leave the programme in a precarious situation, as the departure of the internal champion may leave the programme vulnerable to closure. It should be noted that since the departure of Len from Lambeth College, the institution has discontinued its conservation programme.

While often an internal push comes from an executive staff member, the programme coordinator was occasionally identified as the driving force behind the creation and continuation of a course. As Harriet Devlin noted her in justification behind the initiation of her programme by pointing out: "…I thought there was a big gap in the market..." (Devlin, 2015: p.2). While the programme coordinator as champion can be instrumental in the building of a course, their influence in the institution for the expansion or retention of the programme may be minimal. Coordinator champion situations may be susceptible to changes once the champion retires or leaves the institution.

The programme at Birmingham City University warrants continued study regarding its transition to a new course leader once Harriet retires, currently scheduled for the end of the 2017-18 academic year. The loss of a coordinator champion, much like the loss of an executive champion, may leave the programme vulnerable to closure due to the low enrollment and cost of continuation. Coordinator champions often have developed a standing in the industry for their work in building the programme, and their successor may struggle with the loss of reputation of the person most associated with the course.

It has been demonstrated that internal pushes can be subdivided into two classifications; executive pushes and coordinator pushes. While both classifications can be recognised as having their advantages, particularly in the establishment of internal valuation and experience in heritage conservation, it can be argued that they remain vulnerable due to the uncertainty of the departure of the internal champion and the internal transitions in the institution.

External Pulls

External pulls have been classified in three categories: personal, institutional, and environmental. Each pull classification can be argued as having advantages and disadvantages to the foundation of a course and may raise issues with internal programme support and sustainability.
Personal pulls have been defined as coming from influential or affluent individuals who have a personal interest or concern pertaining to heritage craft education. While personal pulls can be advantageous to the formation of the programme, the long-term viability of a programme based on the assistance of a single individual may leave the course vulnerable to funding and support issues in a continuing framework.

The Building Craft Apprentices and Young Heritage Apprentices programmes were initiated under the patronage of His Royal Highness the Prince of Wales, who is very active in the sustainable construction and urban regeneration fields. As Simon noted:

> …our Building Apprenticeship programme, the longer running programme was initially founded because of a concern, particularly from His Royal Highness that a lot of trades needed to provide the appropriate repair and maintenance of our heritage buildings or pre-1919 buildings were going by the wayside (Sandusky, 2015: p.3).

While the Prince of Wales provide the initial funding and backing for the programme, his charities do not fund the entire programme, necessitating it to pursue a continuous international fundraising initiative to underwrite its work. That funding drive is greatly assisted by working under the larger Prince's Foundation charities, utilising the international profile of His Royal Highness's support as a key marketing platform (Sandusky, 2015).

In the US, identified individual pulls are rare, as individualised support is often shared with institutional pulls. One exception is the founding of the Belmont programme, who, according to Dave Mertz, came from a politician:

> Well what happened was our President at the time was a guy name Steve Meridan…and our State Senator from our district was Bob May…he ended up becoming a Congressman after the fact. He secured money at the state level for a new programme and went to the President and said; look, I've got a couple hundred thousand dollars here set aside for you at Belmont to start a new programme, you make up your mind what you want to do (Mertz, 2015: p.3).

An initial external funding pull was influential for the foundation of the programme at Belmont, support from the Senator was later terminated due to exterior forces, as the Senator was indicted in the Jack Abramoff Indian Lobbying Scandal, a notable government corruption case.

The issues surrounding the individual pull at Belmont College can be argued as indicative of the potential shortcomings of relying on a singular individual to provide continuous support based on their own financial or promotional patronage. The potential for programmes to be associated with the individual's other personal or professional actions may leave the course susceptible to the loss of additional internal and external support due to its connection with their original benefactors.

Institutional pulls have been identified in this study as outside organisations such as historic agencies and governmental bodies requesting the formation of a programme to a college executive. Institutional pulls may be influential due to the potential of programme sponsorship through direct monetary contributions or indirect conduits such as grants or the donation of project sites. Institutional pulls can be seen as carrying many of the same concerns as individual pulls. Often, support wanes over time when projects and grants are completed or internal transitions in the organisation occur.

Bill Hole's programme establishment was pulled by a local historical society that offered both local support and a building for the programme to perform training on. He remembered:

> I was pushed into it by my local historians who were picking on my then President of my college and who also owned an 1885 two storey…kind of Stick-Eastlake that they bought with some bond money, local bond money. And they were in a pickle because they needed to show something was going on, and the historians who were in the chamber mixers and the rotary clubs that the President was frequenting, the two women in particular (from the historical society) …really just kind of thumb screwed him (Hole, 2015: p.1-2).

Although the programme used the society's site for several years as both a class project and summer field school programmes, the local historical society could not influence the school to retain the programme during the College's budget emergency. Bill remembered the influence of the community on his closure:

> …I can go out into the community and get support, I can get that. I can find materials, I can find money, I can talk up a great storm… and everybody loves it, everybody loves it. But at the end of the day, it's just like something that was…. There's no support mechanism (Hole, 2015: p.19).

Bill's situation with his closure and the lack of significant influence to prevent this action is suggestive of a fundamental lack of influence external organisations may have over an institution's internal decisions in times of crisis. Regardless of past partnerships and support, it can be ascertained that institutional pulls often have limited authority in operational determinations of educational agencies.

A further drawback of institutional pulls can be seen when the outside organisation supports a series of related programmes over multiple locations. Historic Scotland, a governmental organisation, plays a significant role promoting stonemasonry throughout the Scottish system, both through government lobbying and the employment of apprentices and stone masons to work on their sites. Glasgow City College, along with programmes in Inverness, Stirling, and Edinburgh comprise the entirety of the stonemasonry training programmes in Scotland. Although Historic Scotland supports all the programmes, Scott noted the inequity of support throughout the system:

> (Inverness) They're run by Historic Scotland, and they're predominately Historic Scotland apprentices. And then Historic Scotland have the training centre in Stirling as well…there was a political question raised within the Parliament, not long ago actually, asking why Historic Scotland training centres at Forth Valley got 800,000 to revamp their stonemasonry section from the Scottish government, and the question was asked why didn't the other training centres received the same… (McGibbon, 2015: p. 4-5).

The situation occurring in Scotland regarding stonemasonry training is indicative of a potential shortcoming of institutional pulls within an entire training system. Funding streams and levels of direct support may be inconsistent between individual institutions, potentially formulating a variable training system due to disparities in direct and indirect sponsorship of specific programmes, possibly leading to a cessation of a unified training structure.

Institutional pulls may be highly influential in the founding and support of individual programmes, but significant shortcomings in their support have been identified from the study

participants' experiences, as support can wane over time, or be limited in comparison to similar offerings. Regardless of the strength of the institutional pull, it can be ascertained that the external organisations may have limited control over internal administrative processes of an educational institution, and their support is often insufficient to prevent issues which may arise with the programmes.

The final identified external pull subcategory is centered on environmental factors which influence the formation of a programme. These pulls occur due to environmental factors such as natural disasters or evolutions of the local or regional economy and are the most infrequent subcategory identified in this research. These environmental factors often lead to an identification of a shortcoming in one or more trades in the affected area, strengthening appeals for the formation of a training programme. In the study, only one programme identified their founding based on an environmental pull; the American College of the Building Arts. President Broadwater explains the emergence of the College proposal during the aftermath of Hurricane Hugo:

> The genesis came after 1989 and the destruction to Charleston by Hurricane Hugo. And people started figuring out subsequent to that disaster, natural disaster, that quality craftsman understood, you know, classical techniques didn't exist (Broadwater, 2015: p.2).

Environmental pulls raise a distinct series of potential issues regarding the founding of a new programme. The primary concern identified in this research with environmental pulls appear to be centered around the potential limited funding available after a natural disaster to subsidise such an endeavour. Although many areas which suffer from environmental catastrophes receive disaster relief funding, it is often earmarked for specific uses such as infrastructure and individual building repair. Funding from individuals and organisations may also be limited due to increased stresses on their own funds. A final issue may arise when larger support for the affected area wanes over time. After Hurricane Katrina affected New Orleans, many organisations, including the Prince's Foundation, operated community training programmes in the city. Today, many of those programmes have ceased their New Orleans operations.

Economic changes in a region have also been identified as strong environmental pulls for the founding of programmes, often with the support of a large institution or government body. Edgecombe Community College's programme, who did not respond to requests for an interview for this study, is partially supported the Golden Leaf Foundation, a government foundation

created out of North Carolina's financial share of the 1999 Federal lawsuit of cigarette makers. The fund is designated to support long-term economy viability of North Carolina communities that were once heavily dependent on tobacco farming and processing (Goldenleaf.org, 2016).

Environmental pulls, although infrequent, may provide a valuable asset to the local community recovering from a natural or economic concern. These programmes however, may possibly have to compete with limited funding and attention in an area in which community focuses are divided along multiple pressing issues. Therefore, it can be argued that environmental pull programs can be expected to develop at a more protracted pace than their push/pull counterparts. It has further been determined that consistent marketing and funding for these programmes is also needed after the larger concern for the affected community diminishes over time.

As demonstrated by interview participant responses, programmes are founded over a variety of internal pushes and external pull mechanisms. Regardless of the circumstances behind the founding, it has been argued that a programme "champion" is instrumental to the establishment and maintenance of a programme over time. This research has identified distinct benefits and drawbacks to each classified push/pull subcategory, which may leave a programme vulnerable to internal and external forces over time.

5.3 Concerns facing UK programmes

In the process of the interviews, numerous questions were posed to UK participants in respects to the current situation of heritage craft education in their country. Several of the concerns raised were specific to the composition and operation of heritage craft training in the current educational system. Two UK specific themes were identified: issues with the current apprenticeship system, and the operation and perception of the NVQ system in the industry.

5.3.1 Issues with current apprenticeship system

Several interview participants expressed concerns over the current structure of the apprenticeship system. Ian Billyard, in his role as Principal of Leeds, addressed apprenticeships in a wider sphere than just heritage crafts. He noted the government's overreliance on apprenticeships in comparison to other training options. He stated:

> …you know the government over here in some ways is quite derogatory against full time students...We can get them trained up, particularly since most of the training in industry is done by SMBE (small to medium business enterprise) …. I think 80-85% of the apprentices within construction are SMBE's…So on the craft

> side its virtually all done through SMBE's…. …you could actually cut off the lifeline of apprentices if you're not careful. And the whole country here seems to be either apprenticeships or nothing at the moment…If you've got a downturn…it (full time study) does give the opportunity for them to study it and continue to work on it…. And I think that's a bit short sighted from government or from people that are looking at this (Billyard, 2015: p. 15).

Ian raises a significant issue with the overreliance on apprenticeships in the UK. During 2008 economic downturn, many companies did not have the capacity to accept new apprenticeships or continue the current obligations. This was demonstrated in examining *Inaugural* Generation participant John McRitchie's career path in Chapter 4 of this thesis. It can be argued that when government programmes are significantly weighted towards apprenticeship training over alternative models, an economic downturn may have a substantial enduring effect on incoming generations of craftsmen. As older practitioners leave the field due to retirement, a constant influx of replacement craftspeople must be maintained to ensure continuity of craft practice. By relying on one model of training, such as the apprenticeship programme, it can be argued that the educational systems may inadvertently exacerbate the skills gap by limiting the avenues in which interested students can approach the field. In response to the rising issues with the limited opportunities for those entering the field, the Heritage Lottery Fund (HLF) has now required that formal training is part of funded conservation projects. Harriet Devlin noted her opinion of this programme:

> …the HLF has insisted that in every grant that they give there is some element of training on the construction site, and that's really important. That brought so many youngsters into, (sic) young apprentices to be given opportunities to train on heritage projects so it is really, really important that that continues. There are difficulties that the construction industry, particularly heritage took a nosedive during the recession that many of the firms went to the wall and many firms that would have taken on apprentices have not been able to… (Devlin, 2015: p. 7).

While the HLF programmes have contributed to the continued training of apprentices on heritage sites, it can be seen as limited in its scope. Funding from the HLF is highly competitive, is subject to review and monitoring by Lottery Fund staff and is now experiencing challenges itself. While the HLF has contributed to the training and retention of those interested in heritage craft field, it can be asserted that the HLF cannot be depended upon to be the primary catalyst for continuation of heritage craft apprenticeship training in the UK.

Scotland was often cited by UK generational and educational participants as the model for training. Ian Billyard noted:

> They often look at Scotland, there's a lot of debate about England and Scotland as you know. But Scotland is often cited as sort of the benchmark of apprenticeships over here (Billyard, 2015: p.14).

Scott McGibbon, a product of the SVQ, and participant in the current training system, observed that the system is not as ideal as is often cited. Scott noted some significant issues surrounding the tracking and monitoring of student work on the job site:

> …part of my job at the SQAB (Scottish Qualifications Authority Board) is to raise these question on behalf of the FE to SQA. So when I raised the question; how do we prove that it's the students work? They said it needs to be a sort of digital format, photographs or something like that, or they could do a drawing. So I plied further and asked, by drawing, what level of drawing do you mean...I am still waiting on an answer (McGibbon, 2015: p. 8).

As the Scottish system requires that all students show evidence of job site experience to earn their qualifications, Scott identified a significant issue which may arise if a student's company is currently not engaged with aspects of the required competencies, and the lack of methods in place address these situations:

> Well it was raised, again that point was raised by the FEs. SQA came up with an idea that, you know if a student is deemed experienced in building a stone arch, a company (sic), CITB would find companies that were doing that, and they would then place those students with those companies while that was going on…that has never happened (McGibbon, 2015: p. 8-9).

While the Scottish system has been championed by many as a leader in apprenticeship training, the system, as identified by Scott's experiences, is not without its faults which may need to be addressed. Given that the stonemasonry course in Scotland requires an apprenticeship to gain employment in the sector, the training mechanisms can be argued to be particularly susceptible to economic downturns. Scott noted the drop in enrollment at Glasgow during the 2008 recession:

> …I think this is the first year that we've seen a little bit of recovery. At the height you're looking at class sizes going down to probably six...obviously from the college's point of view, that wasn't commercially viable (McGibbon, 2015: p. 12).

The Scottish system, given its independent operation, functions differently than its English counterpart, in the same way that there are variations of training systems between individual states in the US. Regardless of their differences, the two systems have been determined to be suffering from concerns regarding the current structure of the apprenticeship system. While valuable to training, the overreliance on the apprenticeship system can be argued as potentially leaving the UK heritage craft industry vulnerable to significant setbacks in practitioner continuity when the building industry suffers a downturn or certain types of work are not being performed.

5.3.2 Operations and perceptions of NVQ system in the industry

Participants at the conclusion of their interview were asked their opinions about the NVQ system. This question was also posed to the generational participants, and it is valuable to examine the responses from practitioners as opposed to educational providers.

The NVQ system and its value is a fervently contested subject for the UK heritage craft field. Since educational interviewees operate in the system requirements, they can offer valuable insight to its shortcomings that may not be shared by many of the practitioners interviewed. As stated in Chapter 4, many of the participants noted a desire to return to the City and Guilds framework. A significant proportion of the educational interviewees also referenced City and Guilds during their responses. Scott McGibbon, a graduate of the City and Guilds system, mirrored many of the generational participants' responses:

> …I truly believe, that we need to return to the City and Guilds system…Because City and Guilds actually created a bigger sense of worth within the person themselves, as well as being a far superior training system…it's sometimes like we're almost teaching them to assessment (sic), rather than teaching them about the craft…because we have a standard assessment programme so we can't deviate from that…rather than the situation where we've got now which is pass or you get a resit, not allowed to say to people they failed. In City and Guilds you either failed the test, or you passed the test… (McGibbon, 2015: p. 17).

Scott's experiences mirror Alan Toyne's opinions about the issue of not having the ability to fail a student due to poor quality work (Toyne, 2014). While the current system can be argued as being designed to give apprentices a better opportunity to practice their craft and gain the competencies to enter the field, it may raise an issue regarding the quality of work on site and costs associated with repeated mistakes. As Scott noted:

> …when we're training guys to go into the construction industry, we say well you'll get another shot at it. In the construction industry you don't get another shot at it…from the construction point of view, you get one shot at building that wall. If not it's going to have to come down and get built again at cost (McGibbon, 2015: p.17).

The issue of resitting or retesting for competencies may significantly contribute to the negative perception the NVQ currently has in the heritage craft industry. The concept that apprentices can resit to become qualified may make practitioners doubt the competence of those trained under the NVQ system, limiting their confidence in permitting them to engage in complex repairs and practices, which corresponds to the "ticking boxes" concept identified in Chapter 4 of this thesis.

Several interview participants noted concerns about the fragmentation of the current system. While many acknowledge that the fragmentation is based on changes in the building industry, they described the issues this fragmentation may cause heritage crafts. Graham Lee spoke of the NVQ:

> It has been, some degree of dumbing down I think in the way that the qualifications have been set up. And it has also become more segmented. Whereas as a carpenter could do pretty much any process…now half of those things a qualified carpenter wouldn't know what to do. So there's a worry there (sic) I think in that because of the speed of modern construction those skills have been lost from the qualifications, there isn't time to do them (Lee, 2015: p. 10).

Harriet Devlin in her role of programme coordinator has seen many older practitioners returning to university to take her course. She speaks of her opinions of their training in comparison to the modern programme:

> I think the City and Guilds was much more in-depth and thorough training. I think the NVQ…they're more superficial. They don't have the time allocated to it (Devlin, 2015: p.8).

While a majority of the participants' opinions are focused on heritage crafts, Ian Billyard sees positive and negative issues with the system as a whole. He spoke of the system:

> …I don't think it's the end all be all…I think the NVQ route has got a value, if you like, for the fact is a lot of industry do not train. And what this is is a way by using the NVQ you can actually get someone qualified while they're actually on the job without attending a training organisation. Now that's open to abuse because have they got the right range and all the other skills and stuff that you're doing and it's always up to interpretation in that. But I think if we have the industry properly qualified, I don't think you would have the need for NVQ's as such. But we haven't (Billyard, 2015: p.15).

Concerns about the fragmentation of the current training system mirror concerns expressed by generational interview participants and were often referenced back to the composition of the City and Guilds system. Lee's opinion about the lack of depth in the current training framework was emulated by generational participant Alan Toyne when he described his concerns about the partition between bench and site joinery within the NVQ system (Toyne, 2014). Devlin's opinion can also be argued as similar to Gerard Lynch's opinion of current brick masonry instruction (Lynch, 2014). As previously noted in Chapter 4, some of partiality given to the City and Guilds system may be related to generational nostalgia for their educational experiences. However, it can be stated that the perception that the NVQ system is inferior to its predecessor is prevalent across generational and educational boundaries.

UK societal concerns identified in the educational provider interviews correspond to similar concerns raised by generational participants in the study. Issues with the length and operations of the current apprenticeship systems, which many believe is often inconsistent and potentially open for exploitation by apprentices and employers have been raised by both generational and educational participants (Lynch, 2014, Toyne, 2014, Ellis, 2014, Copsey, 2014, Wilkins, 2014, Orton, 2014, McGibbon, 2015, and Billyard, 2015). The overreliance on apprenticeship training, it was argued by Billyard and demonstrated by the drop in enrollment at Glasgow, may have long term ramifications on the continuance of craft practice when larger economic forces affect the building industry, potentially limiting the ability of incoming practitioners to learn from their

more seasoned counterparts. Perceptions of the NVQ system in the educational realm often mirror their practitioner counterparts, with many espousing the City and Guilds superiority over the current system. This lack of respect may represent significant trepidations in the overall network regarding not only the training system, but the practitioners which have studied in the current structure. It can be argued that this prejudice against the NVQ system may lead to a significant disruption in the continuity of the heritage craft network, as older generations may not perceive their younger counterparts as competent in their crafts due to their disdain for the training system. These issues may require a reinterpretation of how the apprenticeship and NVQ frameworks are formulated and promoted to the wider network, and recommendations will be proposed in Chapter 6 of this thesis.

5.4 Concerns facing US programmes

Several questions were raised with US participants regarding the current issues facing heritage craft education in their country. Several of the concerns raised were specific to the composition and operation of heritage craft training in the current educational system. Two US specific themes were identified: lenient national standards and support with the greater conservation education field and the geographical location of the programmes.

5.4.1 Lenient national standards and support

Programmes in the US frequently chose to join the National Council for Preservation Education (NCPE), a non-profit organisation which serves as a quasi-verification of programme quality standards. One of NCPE's primary goals, as stated in their objectives is: "Encouraging and assisting in the development and improvement of historic preservation programmes and endeavors in the United States and elsewhere" (NPCE, 2012). The organisation, which currently has 60 members ranging from associate to doctoral programmes (NCPE, 2016), accepts new members through a formal membership application which ensure the programme meets NCPE programme standards (see Appendix XXVII).

Each educational institution participating in this study is either a current or previous member of NCPE with the exception of West Kentucky Community College, who researched the membership standards but did not pursue due to the closing of the programme. While each programme has interactions with NCPE, they all note the limited impact NCPE has had on their programme. Lucien described the effect the organisation has had on his programme:

> I think we looked at their standards when we were developing our programme and we looked at several other programmes to just see what people were doing,

> so I think in that initial setup, I don't think that now when we do things we go look at NCPE standards and do something for that… (Swerdorff, 2015: p. 12).

Natalie Henshaw mirrored Lucien's experiences within the organisation:

> I know it's up to the standards and we put in for NCPE. So, I'm sure that guided it, and used it as a framework, but in terms of active involvement, in curriculum and in terms of advisement and assistance, there really hasn't been. It's more like just the stamp, that it's nationally recognised (Henshaw, 2015: p. 8).

Lucien and Natalie raise an important issue with current conservation education standards in the US. Once a programme has been admitted to the organisation, there is often no further assessment or re-evaluation of the programme, nor is there a significant interaction between programmes in the organisation regarding trades education, despite the organisation's stated goal to: "Facilitating the collection, exchange and dissemination of information and ideas concerning preservation education" (NCPE, 2012).

It should be noted that the craft based educational institutions exist in the minority in the organisation, comprising only 3 of the 60 listed programmes, or 5% of the consortium. Therefore, NCPE's primary focus can be argued as based in theoretical aspects of conservation education rather than applied practical techniques. In the organisation, there have been attempts to establish a re-certification programme, which would assist in the assurance of quality of the offerings. Dave Mertz, who was involved in the formation of the current standards, commented on some of the issues pursuing these initiatives:

> …the thing with NCPE standards is that they're very vague, and they were meant to be you know… So there's something, but the intent has always been to try to help the programmes get to where they need to meet both formal content standpoints and also in terms of helping themselves within the hierarchy of the institution they're in. And so the whole idea of programme accreditation by NCPE had been a hot topic…there's some people that are scared of it…I would welcome it, it would help me immensely dealing with my administration. Because those programmes that have a formal licensing or accreditation process, that's something the college wants and demands….and they're willing to put money into those programmes in order to achieve those things (Mertz, 2015: p. 17-18).

The internal struggles in NCPE over formal accreditation and review that Mertz described can be contended limiting its ability to assist the programmes in the hierarchy of their institutions. If a college has committed a significant expenditure in dedicated space, equipment and faculty to meet accreditation standards, it may be less likely to threaten the programme with closure. This limited influence as an organisation could also restrict its ability to assist a programme in crisis. Bill Hole remembered his dealings with NCPE and his administration:

> …I mean there was nothing, and I called a couple of people, and I won't say who, but I called a couple people it was kind of that academic; well the decision must be made I don't think it would help if I write anything. It was like; really? We're like this happy family, band of brotherhood and when it really comes down to it, bad luck dude, take care (Hole, 2015: p. 18-19).

Bill's issues with his programme closure can be seen as indicative of the lenient structure of heritage craft standards and support from the wider educational community in the US. While programme standards, as Dave noted, are kept vague to ensure programmes can react to variations of college desires for a course and the diverging approaches to conservation education (Mertz, 2015), the lack of stringent programme standards may make the formation of accreditation guidelines and recertification processes difficult to achieve. If formalised accreditation standards are created, many participants argued, it would assist in providing sense of legitimacy in their institutions, which may lead to increased support from their schools, potentially assisting in solidifying a sustainable future for these programmes. It has been demonstrated that heritage craft programmes in the US are consistently under threat of closure due to high expenditures and low enrollment, which, it can be argued, will need to develop new pathways such as the ones proposed in this thesis to ensure the sustainability of the existing programmes, thus creating demonstrated successful case studies for other courses to building upon (See Chapter 6).

5.4.2 Geographical location of programmes

Participants were asked, like their generational interview counterparts, why heritage crafts programmes in the US are placed in rural environments and small cities. As seen in Figure 5.1, recognised programmes in the US entirely exist in population centres under 200,000 residents, with many operating in communities of under 100,000 people. Not listed in Figure 5.1 are the redundant programmes at College of the Redwoods in Eureka, California and West Kentucky Community College in Paducah, Kentucky, which have populations of 27,191 and 25,024 respectively (Census.gov, 2016). When examining this in comparison to the IHBC accredited

programmes (see Appendix XXVI) in the UK system, it can be argued that the US's total size should have the ability to support the formation of more programmes in larger populations, much like the UK system. This lack of a greater number of programmes in the US has been noted by many participants as a significant concern for the long-term sustainability of the US craft training network (Mertz, 2015, Moore, 2015, Swerdorff, 2015 and Henshaw, 2015).

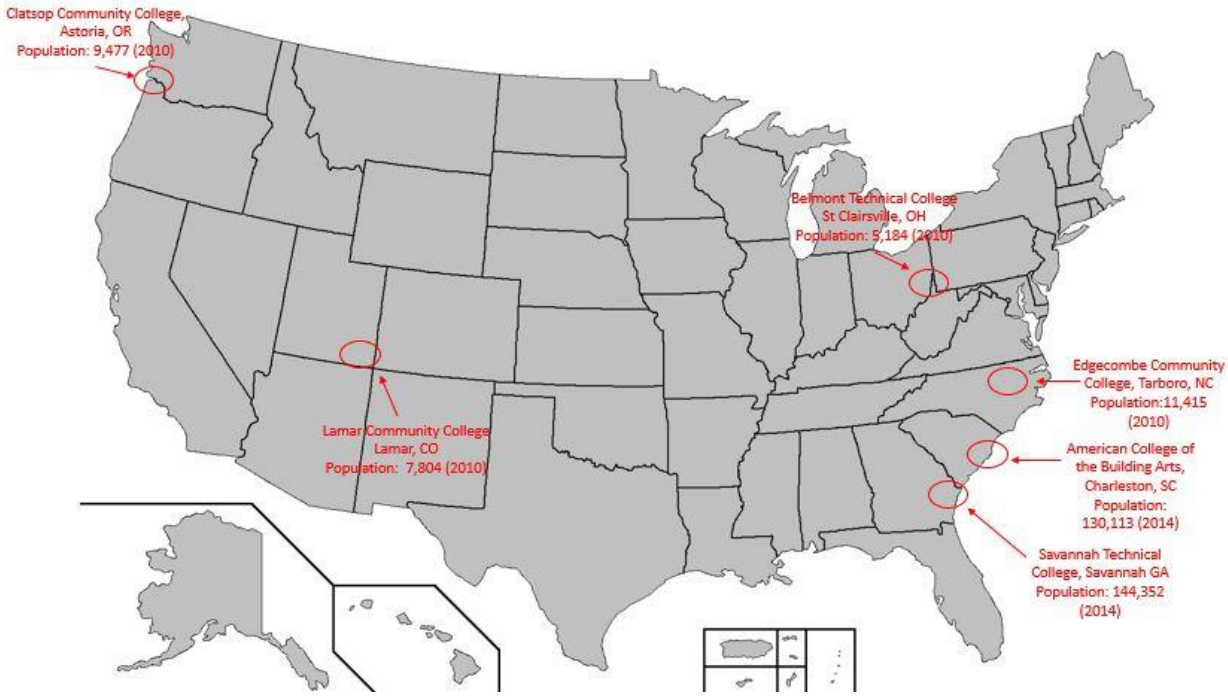

Figure 5.1
Map of US Programme Locations

When examining Figure 5.1, it can be seen that there are no heritage craft training programmes operating near major metropolitan centres in the US, potentially limiting interest and enrollment in the field. When asked about this issue, many of the participants mirrored the generational responses to this issue. John Moore considers the disconnect between building and practitioners to be greater in larger cities, while that connection remains strong in rural environments. He stated:

> ...obviously, there's been a disconnect of those people plying the trade and those passing on that knowledge…in a small rural area like mine you do have those people who are very passionate about history, the history of the region, the history of the area (Moore, 2015: p. 17).

President Broadwater corroborates John's opinions on the subject. When speaking of the persistence of crafts, he described the continuation of traditional techniques in the mountainous regions of the south;

> …it would appear to me that most of these Guilds and crafts are located where they support these crafts and Guilds kind of mentality…up around Asheville (North Carolina) and up in the mountains…you know there's something to be said about these time honoured skills and traditions that fell out of favour in, you know, modern America in the beginning of the twentieth century, where people that worked with their hands were looked down on….nationally we don't appreciate skilled artisans, because you know, get a machine to do it (Broadwater, 2016: p.8).

John and Colby's responses mirrored the mentality of many of the generational participants, who noted the greater appreciation of history and craft in rural environments and the lack of appreciation for craft in general society. Lucien expanded this argument by including the community aspects of crafts in small towns in comparison to larger communities. He said:

> I think it's because, maybe it's a smaller community and it's easier to do it because you have this tight community. When you're in a big city, you know everyone is doing their thing…So maybe they're not communicating or they're competing with each other. Whereas in a small town, there's one person doing this there's one person doing that, and they need to work together…you have these craftsman that are there, that are getting older, that want to pass on their skills, that know each other and it's a tight knit community (Swerdorff, 2015: p.14).

The concept of community in craft is a long-standing convention, which can be argued traces back to the medieval Guilds system and union structure which has operated in both the UK and US. It has been contended by many participants that the continuation of heritage crafts in the US is due to a smaller local network of craftspeople, which may allow for the formation of a strong community of practitioners, thus permitting the persistence of heritage craft practice. This continuity, it can be further argued was assisted by rural nature of many areas of the US, which was often disconnected from modern construction technology and methods which prevailed in the twentieth century.

While the continuation of traditions and the appreciation for history have been noted as important factors to the prominence of the placement of these programmes in rural environments, Dave Mertz noticed some greater issues which pull programmes into existence in rural communities. As smaller communities suffer economic downturns due to loss of industry or other factors, much like the programme in Tarboro, North Carolina, community leaders and other outside entities look for regeneration possibilities to assist these communities, which often include heritage tourism. As Dave noted:

> …Most of these programmes don't start for the right reason…. They're started as economic generators. And they're not. You know we're not going to change, we're not going to teach a bunch of high school kids and others how to restore buildings… And they're going to fix the community. It's not going to happen, but this is in their mentality…as soon as the money runs out, they're on the ropes. And if you don't have the right person running the show that can balance all those things we talked about earlier, then they close up the programme because it's got low enrollment. Because who wants to come to that Podunk little town to go to school (Mertz, 2015: p.21).

In examining push/pull factors which initiate the founding of these programmes, revitalisation, whether it be of an individual building or community, is often a driving force behind many of these programme creations. Dave raises an important issue with this approach to programme locations. When the individual project or funding mechanism which pushed the programmes is expended, the programmes often do not have the population draw to continue to operate. Natalie Henshaw, whose programme was transferred from Colorado Mountain College (CMC) in rural Leadville, Colorado to its current location described her understanding of the reasoning behind the transfer:

> …what I gathered from CMC was that it was begun during the (2008) bust, and a lot of people got the degree, but they didn't go and recruit any more students, because it was on the upswing. And it was also a small town so the people who were interested dried up, because they got the degree (Henshaw, 2015: p. 7).

Outside forces and a greater appreciation for history and traditions are instrumental factors for the establishment of the programmes, but Bill Hole noted another important issue in the success and failure of the programmes, primarily the long-term needs of the local economy. He said:

> …I stood up and said this is not the right place to do this…I live in such a small community that once people have employees, they don't go away. It's not a place, if I was 300 miles south in San Francisco Bay, oh my god, I'd be booming, I'd be busting at the seams, and I would have great links. But this region was not the right place to sustain (Hole, 2015: p. 19-20).

The need to have clear paths for employment, through the formation of direct links to industry which need a constant influx of workers, in Hole's view, is a necessity for the sustainability of programmes, a component which may not always be available in the rural locations in which programmes are currently placed (Hole, 2015).

Furthering generational participant Rudy Christian's concept of the dominant personality which drives a programme to continue against increased external pressures which face a course, Mertz and Hole also noted the need for a dynamic character to lead these courses in their formation and continued operation (Mertz, 2015 and Hole, 2015). Once this person is no longer engaged with the programme, as Mertz noted, it often closes due to the various economic, enrollment, and space issues which face these courses. The dependency on dynamic individuals (programme personalisation) to lead these courses can be seen as a serious issue when examining the geographical location of the current offerings given the limited availability of local qualified faculty and the potential inability to attract qualified candidates to the rural location.

The US educational provider interviews raised significant concerns about the composition of the conservation education system in the US. The fragmentation of its education support structure, coupled with the rural setting and programme personalisation of the limited trade-based institutions in the US can be contended as making the continuing sustainability of the current programme offerings questionable. It has been argued by many participants that while the intention behind the formation is often virtuous, the reasoning and expectations behind these endeavours are often flawed (Mertz, 2015, Henshaw, 2015, and Hole, 2015), necessitating the formation of a new methods of justification for programme placement in the US (see Chapter 6).

5.5 Cross cultural concerns

Each educational programme, it has been observed, confronts its own challenges based on offerings, location and scholastic frameworks. While the participants noted a series of issues in their societal framework, they also described numerous issues which transcended societal boundaries. Four cross cultural concerns were identified as being prevalent issues which heritage craft education collectively encounter in terms of programme vitality and institutional

sustainability. These include budgetary restriction, issues with instructional space, partitions between new construction and heritage craft education, and the perception of trades in society.

5.5.1 Budgetary restrictions

In the interviews, many participants described issues with allocated budgets for their programmes being inadequate for providing suitable instruction for their courses. Graham Lee described the issues with his programmes funding in a larger view of institutional concerns due to their recent expansion:

> Like any organisation in this country at the moment, money is tight. You know the college is, has to run very hard to balance its books…the new college was built in 2001…and I think there were five or six members of staff and about thirty or forty students. Now we have fifty members of staff and about five hundred students going through the courses each year, up to about nine hundred who are getting a qualification. So, huge expansion and a big machine to feed (Lee, 2015: p. 9).

Graham's perception of growth is an important observation regarding the expansion of programmes and schools and its effects on funding. When schools undertake new programme offerings or expand their physical plant, the added costs must be shared among existing programmes until the new endeavour becomes profitable. Heritage craft training programmes, which require specialised equipment and staff to operate, often have high expenditures per student. Scott McGibbon noted the cost of stonemasonry instruction in Scotland:

> The most expensive course they run in Scotland. Never enough (funding). Always complaints (McGibbon, 2015: p. 15).

In comparison to the UK counterparts, US participants also described funding issues with their programmes, requiring the instructors to pursue outside revenue streams, often in the form of training grants. Bill Hole recollected the budgetary support from his school:

> …I got a little bit of credit from the college to buy some initial tools and instructional supplies that I needed but I almost immediately started grant writing just to get tools and equipment that I needed…$605,000 that I wrote and brought in….Every once in a while the college would throw me a few bones, but mostly it was me… (Hole, 2015: p. 3, 6-7, 15).

Lucien also experienced similar issues at Clatsop Community College. Since his programme was founded shortly before the 2008 economic downturn, he experienced additional issues with school funding. He remembered the College's ability to financial support the formation of his course, necessitating the need to search for outside funding:

> …we got moral support from the college, not much financial support because actually when we started the programme it was just before the recession really hit, so there was some money, some start-up money but the second year into the programme there was a big recession and educational funding just plummeted in the whole state…We have gotten a number of grants over the years. The SHPO (State Historic Preservation Office) has been really supportive of us, and when we first started they gave us a couple of big grants, which enabled us to buy a lot of tools…So and then lots of other smaller grants to kind of just keep things going (Swerdorff, 2015: p. 2).

While grants can be beneficial to the expansion of programme equipment and supplies, being dependent on external grant funding has the potential to justify educational institutions withdrawal of direct funding support of a programme, Additionally, issues may arise if grant requirements are not met, potentially placing programmes in further danger. Natalie Henshaw described the current situation with Historicorps at Lamar:

> So, the last two years it was funded by a grant…and they expected a certain enrollment number to be solvent, and we haven't had that number. They also only focus on just full-time students, and most of the prospects are only interested in part time, that is part of the appeal of the programme. So right now I would say we have an equivalent of eight full time students and we're supposed to have twenty by July (Henshaw, 2015: p. 9).

Budgetary issues have been identified as a growing concern in both the UK and US educational structures, as enduring effects of the 2008 economic recession continue to affect governmental funding at numerous levels. As direct funding matrixes continue to evolve, heritage craft training programmes in both networks have needed to become more innovative in securing necessary funding needed to operate their programmes. It is important to state that although some UK respondents were concerned about the pressure this created to matriculate students who lack the necessary skills to receive funding, Ian Billyard noted that the funding mechanisms are more complex than commonly perceived:

> There's a whole myriad, depending on level, age, whatever, that we've got a funding guidance, it's probably about 150 pages that explains all the different levels that others are on, so it's very complicated… But it is about twenty percent of the funding is related to achieving the course at the end of the day, but it is a little difficult as I've said before because it's not a simple system. But generally it's about 20 percent of the overall cost of the course. So we get 80 percent of it, spread out over the year depending on how long they're here or whatever, and the other 20 percent we get when they've completed, when they've actually show they completed the programme or whatever (Billyard, 2016: p. 4, 9- 10).

Twenty percent of the funding for a student is not an insignificant amount when examined over large numbers, but the perception that some respondents have binding funding to graduation is an oversimplification of the financial issues facing UK schools.

Conversely in the US, programmes face a similar but distinctive funding problem. Since Federal funding for education is distributed to the individual states which operate their schools, there are currently 53 different educational structures in the US, comprising the fifty states, the District of Columbia, and the territories of Puerto Rico and Guam. Therefore, a uniform funding stream for programmes does not exist, and each course must rely on a mixture of Federal, state and local funding to operate. Recently the Federal government has modified their funding mechanism from enrollment to graduation numbers for programmes. Dave Mertz noted this new funding stream:

> …for years, it was asses in seats especially, you know they would go out and get anybody, you know recruiting anyone to come in.…Ohio had moved to a metric based funding system under (Governor) Kasich, And so they get x amount of their funding is based on enrollment, but they get…basically the situation is for every student that graduates, they get a bonus so to speak. For every student that graduates that is a first-time college student, that bonus goes up. And for every metric you meet, the bonus goes up more and more…So the one they really have the most control over is graduation, so you know, they push that, it's important (Mertz, 2015: p. 5, 12-13).

While this transition from class size to graduation rates for funding can been seen as having its advantages, Lucien observed issues with the new funding template:

> …it's really hard in this field because we do get a lot of students that don't want a degree. They just want to come in and learn how to do plastering or learn how to do stained glass windows, and they just want to take a few courses. But then that looks bad, because you have students that aren't graduating... And a lot of our students are part time and they're working and they're taking three, four years to graduate, which again looks bad on the numbers too (Swerdorff, 2015: p. 9-10).

While the funding streams in the US are fragmented, they are moving closer to their UK counterparts regarding how programmes will ultimately be funded. Currently, the US generational participants did not express concern about the push for graduates in the programme, but, since the initiative is relatively recent, there may be limited knowledge in the field about the prospective impacts of this modification. As information about this new system is disseminated throughout the professional field, the US in the future may encounter similar issues the UK is currently experiencing regarding misconceptions about schools graduating students who have not received adequate training in order to receive their funding.

The funding issues are complex, and vary between institutions, and the interview findings suggest that the ever-changing funding mechanisms necessitate courses to consistently adapt their programmes to respond to these modifications. When examining the issues coupled with the concerns raised about being dependent on a programme "champion" (see section 5.2.2), it can be argued that programmes should explore how to decrease their reliance on institutional funding streams, thus assisting in ensuring their financial sustainability (see Chapter 6).

5.5.2 Instructional Space

While budget concerns were raised by many participants, a corresponding issue was the provision of adequate instructional space for their programmes in their institutions was also presented. Due to their fusion of classroom, laboratory, and field-based learning, coupled with the amount of materials needed to ensure adequate instruction, many participants expressed frustrations over their current dedicated spaces. Scott McGibbon described the laboratory space at Glasgow:

> …Ours were archaic…we have an area of I would probably say 80-100 square metres….and obviously because we're a stone cutting and building course we have to split the lab up and sometimes the extraction unit area needs to be used for the building. But within that we're actually housed beside other trades; bricklaying, plastering, roofing, those types of things (McGibbon, 2015: p. 9).

The Prince's Foundation, basing their summer school at Dumfries House, was able to construct their own series of workshops on site. Simon Sandusky described their workshops:

> …we've created a workshop hub on the grounds. So each trade has a dedicated workshop space, and then there's student and tutor accommodations, there's dining facilities, there's pretty much everything you want on site (Sandusky, 2015: p.7).

While the Prince's Foundation situation can be seen as unique, it still experiences concerns about its facilities. When speaking of material storage, Simon noted:

> …I think it's exacerbated by the fact that we're not there throughout the year, we are there for a set period of the year, but we store our materials there over the course of the year…. I think part of the problem, well it's not a problem it's actually the selling point is that it's a beautiful old estate, so obviously, and quite touristy, so you have to be quite careful of what you put on the landscape (Sandusky 2015: p. 8).

US educational participants also described issues with their instructional space and material storage, and the effects these have on their instruction and planning. Dave Mertz described his ongoing issues with space and storage:

> We have a wood shop, which is probably my biggest complaint that I have about our current facilities, is that it's just not large enough. It's about, I want to say it's about 2500 square feet, it probably needs to be about 5000, ideally…But you know more the problem's project storage. Once students get started getting in and start building something, then it's more about what do you do…Especially when you have two classes using that lab…where do you put it you know. That's been a problem (Mertz, 2015: p. 11-12).

John Moore also noted the limited space in his shop and storage areas:

> …it's really hard for us to stock materials. We do have a shed across the drive at the back of the shop there that's protected from the rain, but it's not enclosed in front…so that's always a challenge for me, absolutely material storage, having ample material. Or just procurement, because I do have sometimes I'll have people;

> industry partners or sometimes private individuals that may want to donate something and many times I have to refuse it because there's not a place to put it (Moore, 2015: p. 9).

Mertz and Moore's issues may be indicative a serious concern for programme viability. Since the programmes have limited monetary resources, they are often dependent on donated materials to properly teach their students. However, if space is inadequate to store materials, donations may not be accepted, thus restricting the programme's ability to appropriately instruct.

Natalie Henshaw, operating a limited residency programme much like the Prince's Foundation, also expressed concerns about her storage issues for her programme. Unlike the Prince's Foundation, which returns to the same location every year, Natalie does not have that availability of space. She explained her storage facilities:

> So we have a storage unit at our office building and we also have trucks and trailers in a storage lot so they all go there and in the winter we you know winterise everything… but all of our units are mobile. So rather than a dedicated workspace, the project site ends up being the workspace, so we bring all the stuff and take it off with us… (Henshaw, 2015: p. 4-5).

Issues with instructional space and material storage in both countries have been identified by participants as critical concerns regarding their programme's ability to adequately prepare their students to enter the workforce. While each programmes structure necessitates unique facilities in which to operate, the repeated concerns by participants with their instructional space and storage denote the need for the examination of how programmes can modify their structures to be less dependent on dedicated space to operate effectively (see Chapter 6).

Figure 5.2 Examples of Programme Workshop Space

Clockwise from top left: Clatsop Community College temporary workshop space *(Courtesy Clatsop Community College)*, American College of the Building Arts Wood Trades workshop *(Courtesy American College of the Building Arts)*, Example of Historicorps field site *(Courtesy of Historicorps)*, Building Crafts College Joinery Workshop *(Courtesy of Building Crafts College)*, Prince's Foundation Dumfries House Workshops *(Courtesy of Prince's Foundation for Building Community)*

5.5.3 Partition between new construction and heritage crafts

Several participants described how the division in both the educational and professional realms between new construction and heritage crafts caused tension in their institutional structures. Rivalry between programmes is not limited to construction crafts, as competition for limited funding, space, and students often set programmes against each other. However, in the construction industry, many participants stated the need for greater collaborations between the new construction and heritage craft fields. Ian Billyard discussed the need for heritage craft and new construction training to be incorporated into a single training scheme:

> …there's really valuable work that people do, and really important work, but the numbers are never going to be really great, just because that is how it is…..When I talk about traditional construction, there's still work in terms of oak frames and sash windows and things like that, but on a much smaller scale, and I think that needs to be incorporated into the more mainstream of what we're doing…And at the moment, you do one or the other and I think there's needs to be some merging of those skills. Not losing the heritage…but I think they need to be incorporated into more mainstream where it's appropriate (Billyard, 2016: p. 13-14).

Ian's reasoning behind the incorporation of both new construction and heritage crafts raises an important issue regarding the building industry. The separation of "new" and "old" work in practice is often less pronounced than demonstrated in the educational field. Since many smaller companies will transition between new construction and repair work, a student versed in both aspects of the construction field may be in greater demand in the industry. As corroborated by generational participants, many in the field either began their career in the new construction sector or continue working in both aspects of the field. In areas such as Leeds, where the heritage field is not as strong as elsewhere in the country, the integration of heritage training into new construction teaching can be argued as vital for students to learn the specific aspects of heritage needed in the region while maintaining a programme which will allow the students gainful employment once completing.

In the US, John Moore, whose course was required to be blended into its new construction programme, mirrored Ian's mind-set on integration:

> I think that it's important that young people going into the trade know the history of the trade that they're going in, and that I think, still you would have to be viable. Unless you live in a larger urban area where you could just do that

> exclusively. Those people that do that work, particularly in small rural communities like we're in, you have to do both old build and new build (Moore, 2015: p.17).

Several interview participants also noted their desire to have new construction training or education as a prerequisite to entering a heritage craft training programme, as the basic tenants of construction are the same between both aspects of the industry. Bill Hole noted:

> This is upper level education. And we're teaching people coming in at the ground level. And this is way up the ladder, like you really should have a couple of years of residential carpentry and you really should have a couple of years with woodworking and stuff under your belt… actually the programme should have had residential carpentry as a pre-requisites, but since that wasn't realistic, I just accepted anybody because it was the only way I could get 12 or 18 students (Hole, 2015: p. 3,7).

Bill's views on the need to understand new construction techniques mirror COTAC (Council on Training in Architectural Conservation) beliefs about who should undertake training in heritage craft skills. Graham Lee, an active member in COTAC explained their rationale:

> …COTAC has always felt that building conservation craftspeople ought to be very competent in the basic craft before they move into conservation work. So hence, people who are a bricklayer or carpenter and have done an apprenticeship and got an NVQ in the skill and have been practicing for a few years are then ready to develop the skills to be working on what are very precious buildings (Lee, 2015: p. 4).

This concept of building heritage craft techniques upon already existing craft knowledge was found throughout generational participants as well, with many noting their desires for an increased comprehension by heritage students of modern techniques (Lynch, 2014, Orton, 2014, Christian, 2014, Sasser, 2014, Toyne, 2014, Warren, 2014, and McRitchie, 2014).

The concern over the student's lack of understanding of the basic tenants of construction before entering a heritage craft programme raises a significant concern regarding adequate training for industry needs. When students are unprepared for the educational goals of the programme, a substantial percentage of classroom instruction needs to be dedicated to conveying the introductory craft knowledge needed to prepare them to begin their training. Given the limited

time available to train students, this lack of prerequisite knowledge may limit the ability of programmes to give the students the required knowledge needed to be successful in the field. The concerns raised by both participants groups may signify that the division between "old" and "new" work in the educational sphere may be constraining the development of heritage craft programmes by potentially failing to properly prepare students for the realities of professional practice. Networks in both countries may need to explore avenues in which students can gain a holistic training in both new and heritage practices (see Chapter 6).

5.5.4 Perception of trades in society

A major issue raised by many of the interview participants is the low regard which trades have in society. According to many participants, this discouraging opinion of working in the construction fields has had negative ramifications in both recruiting and promoting their programmes. Many associate the perception of trades in society to the higher average age of students in their programmes. Indeed, as demonstrated in Chapter 4, many of the *Inaugural* Generation participants did not choose heritage crafts as a first career, entering the industry after studies or occupations in other fields. This perception of trades as being an option for school leavers who are unprepared for complex learning found in a university setting was often discredited by interview subjects. Scott McGibbon noted a cross-cultural concern surrounding the push towards university education over technical training:

> …I'm sure America is much like the UK in regards, you know kids get told, you got to get an education. You've got to go to university, you've got to go here, you've got to do this. And realistically, you know there are vocational subjects out there and you know, I'm a testament to one of them, you know that gave me a good career, set me on a good path…Just because you get your hands dirty doesn't mean you don't have any intelligence. And I think that's, you know that's not just for stonemasonry, that's for the construction industry basically…you know we're teaching guys things about figuring (sic) arching numbers, you know that's high level critical thinking (McGibbon, 2014: p. 16-17).

A repeated issue which arose was the concept that many outside the field believe that young people would not be interested in heritage work. When describing the reasoning behind the foundation of their Young Heritage Apprenticeship programme, Simon Sandusky explained:

> …really came from us seeing there was a real gap in terms of young people becoming engaged within the heritage sector…having worked with our Young

> Apprentices, going into year two…even within that short period between then and now, how enthusiastic some of them are and how engaged they are within the sector, has really justified that belief that there's value in getting them in earlier (Sandusky, 2015: p. 3-4).

The concept of younger people not being interested in craft work often transcends both industry and non-industry professionals. Ian Billyard noted the issues he has experienced at Leeds:

> …no doubt you get this in America as well with younger people, where the older people, generally the ones that are interviewing these younger people when they go into companies have these preconceived ideas of; they're lazy and they won't get out of bed and they're on computer games and all the rest of it (Billyard, 2015: p. 3).

Harriet Devlin reiterated this mind-set when she stated: "…there's a different brand of young person nowadays that aren't willing to put in the graft" (Devlin, 2015: p. 8).

This opinion has been found to transcend societal boundaries, as US participants noted several of the same issues. A lack of promotion of craft skills to younger generations was argued by many as a considerable issue with attracting recent school leavers to their programmes (Moore, 2015, Mertz, 2015, Hole, 2015 and Broadwater, 2015). John Moore noted the dilution of vocational training in high schools and the perception of trades in his region:

> …a lot of these tech centres for the last couple of decades have been the dumping grounds for the high school students that were not performing and not college prep let's say…I think that even now parents and high school counsellors are not aware of the opportunities for young people in the trades right now. I think for some reason they think that if everyone in the United States has a master's degree, then we would all be rich. And obviously the math doesn't work on that… (Moore, 2015: p.12-13).

The closure of technical training in high schools and the preference by high school counsellors and parents towards university education is not limited to John Moore's region. Lucien explained a similar problem in Oregon:

> …it seems the whole system is kind of pushing students away from that, especially at the high schools. The high schools first, they think the community colleges are second class anyway, that is only where students who can't make four-year college go, so they're directing them towards the…four-year colleges (Swerdorff, 2015: p. 3).

Bill Hole noted a significant issue within the industry with marketing and promoting the trades to younger generations, particularly in heritage crafts:

> Well if you're eighteen years old you don't have a clue what historic preservation is. We don't market it well…We screw up from high school. We don't take kids, we've allowed our school system to close up industrial arts…we've allowed ourselves to not train our 15, 16, 17-year olds…And we don't even have it labelled right….
> (Hole, 2015: p. 20-21).

While many point to external forces such as high schools and parents as the reason behind the failure of young people to become interested in the trades, Dave Mertz placed some of the blame on the programmes themselves. When speaking of a new initiative in Louisville, Kentucky, which was designed to teach at-risk youth preservation skills, he said:

> I don't know if you've been following that what Bob Yapp and Jim Tuner are doing in Knoxville (Louisville), and those things come up all the time. Disadvantaged kids learning the trades. As long as we continue to do that, the trades will never get the respect they deserve. And it sends the wrong message to the general public. It certainly sends the wrong message to potential kids. And you know when you have programmes that are bringing in only the kids that aren't going to go to college and making them carpenters and masons, it's not making that field any more enticing for the high school kids… (Mertz, 2015: p. 20-21).

The international issue of the perception of the trades, it can be argued, has existed for generations. As demonstrated in Chapter 4, members of the *Transitional* and *Inaugural* Generation were often not exposed to heritage craft training opportunities, opting instead to pursue other avenues and turning to craft as a secondary career. While this problem persists, the issue with relying on re-trainers to satisfy enrollment numbers has become exacerbated by the changes in the academic funding mechanisms of both countries. As many participants noted, recent changes with available funding do not allow persons with existing degrees to become eligible for government loans to pay for their studies. Since it has been demonstrated that many

programmes are often dependent of re-trainers to fill their courses, this change in funding may place heritage craft programmes at greater risk, as these students may need to seek alternative funding streams which may not fully support their training, potentially forcing them to withdraw from their studies and damaging the retention and graduation rates of the programmes.

The concerns about the cultural perception of trades is a significant issue in both countries which can be seen as having been ingrained in society for several generations. The issues raised by interview participants are not recent developments and warrant serious contemplation on how such a fundamental obstacle can be addressed, as discussed further in Chapter 6.

5.6 Conclusion

Issues surrounding current educational practices are multiple and varied, both in individual programme offerings and across societal boundaries. In the UK, interview participants noted issues with the current apprenticeship framework, including in many cases the overreliance on apprenticeships over other forms of training, and the perception of the NVQ system within industry (Billyard, 2015, McGibbon, 2015, and Lee, 2015). These concerns mirror those raised by UK generational participants and may correspond to larger concerns in the greater construction industry regarding training. In the US, participants described lenient national standards as well as issues with the geographical placement of programmes affecting their ability to recruit both students and faculty to the courses (Mertz, 2015, Swerdorff, 2015, Moore, 2015, and Hole, 2015).

Given these unique societal issues, initial observations may indicate that a comparative study of these two systems may not yield much which can be used to propose cross-cultural approaches to addressing these concerns. Upon closer inspection however, it can be observed that these systems also share significant commonalities. Both sets of interview participants noted similarities in their student demographics, with many programmes relying on older students or career changers to fill their courses. It can be observed that most programmes rely on fractional staff to teach specialised subject matters, which may cause issues with instructional quality. This reliance, coupled with the limited class sizes in which they operate, often place programmes under financial strain and threat of closure due to high per student expenditures in faculty and material costs. Furthermore, many programmes noted the existence of a programme “champion”, either internal or external, which facilitated the founding of the course.

Instructional space and funding concerns also transcend cultural boundaries, as many participants described the need for additional space and financial support to effectively teach their students, which may raise concerns within the industry about the quality of incoming practitioners.

Additionally, the pedological partition between “old” and “new” work, many participants argue do not reflect the realities of industry, particularly in areas such as Leeds in the UK and western Kentucky in the US, where students need to be well versed in both facets of the fields to ensure continued employment. This partition is limiting students’ ability to effectively grasp the breadth of their field, as many participants noted the need for students to be well versed in the basics of their fields to successfully engage in heritage practice. Finally, negative perceptions of trades within larger societal frameworks also transcend cultural boundaries, as participants in both countries noted pessimistic views of working in the trades which many argue affect their abilities to recruit students to their programmes, particularly younger participants. These cross-cultural issues therefore indicate the potential for proposals for innovative approaches to heritage craft training which may be applied to both countries.

In reviewing the responses provided by interview participants, it can be observed that although programmes have individual issues, both in local and national contexts, they share more in common across cultural boundaries than they have differences. In the individual training networks of their own societies, programmes suffer from the transitional issues which occur during the reconfiguration of the training network which have been modified since the Second World War. When examining educational participant responses in comparison to generational responses, it should be noted that many of the concerns and issues stated mirror those put forth by their generational counterparts. It should be stated that although the problems are similar, generational participants’ views of the issues which the schools must address can often be seen as over-simplifications of the existing concerns. This over-simplification may contribute to the industry perceptions of the failings of the current system to properly train practitioners, which merits the development of proposals to address these issues (see Chapter 6).

In studying the issues identified by educational providers through the lens of ANT it can again be reiterated that the failures in the current networks exist in the mobilisation of allies to the cause. These allies can be seen as taking multiple forms, whether it be college administrators when examining fiscal and space issues in these programmes, consistently engaging with internal and external push/pull factors to ensure continuity, government officials, or primary and secondary school teachers and career counsellors in communicating with younger practitioners the opportunities involved in heritage craft practice. The most important ally for craft training is industry itself and, after reviewing responses from both groups, it can be observed that these groups often act independently in the network, and greater collaboration between these two groups of actors could assist in ensuring misconceptions are dispelled and a greater, unified presence is formed. Once a unified presence is formed (punctualisation), it can be maintained

that the network can more effectively promote heritage crafts to wider audience, potentially gaining further allies to support their efforts and assisting in the continuity of the generational transfer of knowledge.

The issues which many programmes face regarding funding, student populations, physical plant restrictions, and the perceptions of trades in greater societal frameworks have been identified as vital concerns which need to be addressed to ensure the continuation of heritage craft training in modern educational settings. The findings developed from educational provider interviews, coalesced with the conclusions developed in Chapter 4, will be interpreted in Chapter 6 to formulate potential approaches that may be adopted by courses to assist in developing programme sustainability.

Chapter 6: Approaches for the future

6.1 Introduction

The review of the historical progression of craft training into its modern frameworks through the lens of ANT suggests that the training networks have been consistently reconfigured throughout history, responding to both internal realignments of the networks and larger societal pushes.

As described in section 4.2.5, there is a balance inequality in the gender composition of the interview participants, which could be seen as reflective of the traditional male dominance of the construction fields (Hatipkarasulu and Roff, 2011). This lack of equality may have biased the findings of this thesis by limiting the examination of the issues facing female practitioners over several generations, and therefore may have influenced the proposals set forth in this chapter. While the industry has traditionally been male dominated, there is a recognised growth of females entering the industry, as evidenced in the enrollment demographics of several of the educational providers participants' courses (Lee, 2015, Devlin, 2015, Mertz, 2015, and Swerdorff, 2015). In ANT terms, the networks are being reconfigured due to the entrance of a greater number of under-represented actors (women), which may necessitate the redesign of not only training networks, but the traditional male dominated cultures commonly identified in the construction industry in order to address the problems which have been acknowledged by researchers and female practitioners (Azhar and Griffen, 2014, Sasser, 2014 and McAuley, 2014) thus ensuring punctualisation of the network. Understanding that the demographics of the industry are changing, it is important to acknowledge that the findings of this study may imitate the traditional male dominance in the building industry and may not adequately address the concerns faced by the growing number of female participants in the field, therefore influencing the findings of this thesis and the proposals found in sections 6.3-6.5 of this chapter.

In the UK, the progression of the training network can be traced through numerous incarnations beginning with the medieval Guilds, transitioning into the City and Guilds system and finally into the modern NVQ structure. While the evolution of UK training model may appear to be fluid, it has been demonstrated that the transitions in the network have not been effortless, and each one of these systems suffered from numerous issues, both internal and external, which would eventually lead to their replacement. The system in the US conversely has historically been much more fragmented, reflecting the localised approach to funding and management of education along with regional variations of construction techniques and needs.

When studying the issues with the modern training systems in both countries, focusing on the ethnographic studies of three generations of practitioners along with educational providers, it

can be argued that the contemporary network of training, as espoused by the ANT, is currently incomplete due to the absence of the mobilisation of allies which can assist in supporting the training network.

As Bruno Latour noted in his study of network interactions, actors in networks need not be human, but can encompass inanimate objects which can assist the network in performing its duties. In the realm of heritage craft training, additional actors, which can be mobilised through allies may include technology, heritage sites, amenity bodies, and additional training approaches.

This chapter will discuss current innovative approaches taken by existing programmes which could be adapted in the wider training network. It will propose recommendations for both the UK and US systems of training, recognising the unique nature of both frameworks. It will conclude by offering proposals which may be adopted by both networks in their individual frameworks. Given the acknowledgment throughout this research that the failures of the current networks are due to the lack of a mobilisation of allies in which to support its goals, suggestions will be based on a variety of methods in which the network can engage with a wider group of actors, both human and inanimate, such as heritage organisations, historic sites, and government entities. It is anticipated that proposals in this chapter can be adopted by individual programmes in these systems to assist in improving heritage craft training opportunities for interested parties, thus improving the sustainability of the networks.

6.2 Current innovative practices

In researching the existing educational programmes in the UK and the US, several innovative practices were observed. These initiatives, while unique to their individual situations, have components or procedures that could be adopted by the wider heritage craft educational field. It is important to consider the applicability of these innovative practices in each individual network and identify the potential advantages and drawbacks of these practices in the context of the individual systems.

6.2.1 Glasgow City College technology integration

Understanding the appeal of technology to younger generations, tutors at Glasgow City College incorporated the use of iPhone Apps and a dedicated YouTube channel in their classroom and onsite teaching structure. The use of technology to supplement traditional learning using media in which consumers are more engaged, commonly entitled Web 2.0 (Pecay, 2017), is a growing trend in education. The increase use of web applications to complement students' traditional education and increase engagement with their learners has proven successful in many fields,

notably in science and medical disciplines (Pecay, 2017 and Pimmer, 2016), but has not been widely adopted by the heritage craft training network.

The programme at Glasgow City College has a dedicated YouTube channel, found at https://www.youtube.com/user/cogcstonemason (YouTube, 2016). In this channel, tutors have created individual videos demonstrating step by step procedures to various stone cutting techniques, along with videos on stone dynamics and building science. Along with their own videos, the channel has also linked to videos created by other users that they found beneficial for their students, such as lessons in building numeracy and documentaries about the history of stonemasonry. Tutor Scott McGibbon explained the reasoning behind creating the channel:

> … so we were kind of the forerunners of using iPad and mobile phones and smart phones and maybe creating videos for the guys that they could, you know maybe they were in the workshop and the lecturer is dealing with someone else who's maybe a little bit more behind than them, then they would just log on to the YouTube channel... (McGibbon, 2016: p.6).

While the creation of the channel is ostensibly to supplement the students' educational experience, the channel can also be considered an important marketing tool for not only the department, but the wider stonemasonry field. Being placed on an open-access network such as YouTube and demonstrating procedures in stonemasonry which are centuries old and therefore not subject to intellectual property right issues, a greater understanding of the necessary processes of stone construction and repair can be ascertained by interested parties. This channel can serve as a wider educational tool for those involved in the conservation of historic stone buildings such as architects, government officials, and property owners, therefore engaging with wider networks of the heritage industry which exist outside the direct craft practice network. While these persons may not directly be involved in the conservation of stone elements, the observation of the processes behind the construction of these elements may encourage a greater appreciation for the time and skill needed to perform these tasks. As a marketing tool for the department, the videos may give prospective students a better understanding of the field in which they are interested in entering, either encouraging or discouraging them to enroll in the programme. While discouragement of certain students may, upon first observation, be a detriment to the vitality of a programme, it can be argued this may assist in preventing higher student attrition rates which are a measurable component in many individual schools. The attraction of interested students who will complete the programme is of greater value to the long-term sustainability of a course than attracting a larger number of students who not only may

not complete the programme but may also occupy tutor's instructional time in the classroom, degrading the overall quality of the instruction and therefore reputation of the graduates in the industry.

The use of video was not only limited to the creation of YouTube videos. Scott recollected:

> We would video them, so then they could relay back and say; yeah, I see what he's talking about there or you know(sic). Especially when we were giving them feedback on their models. You know when someone's telling you; look you might not have done something right just there you don't, you know it's a natural human instinct to sort of switch off slightly (McGibbon, 2015: p.7).

The Glasgow City College stonemasonry videos were inexpensive to create, using tutors and students as actors and overlaying the video with music and written instruction to avoid commentary. The videos are sped up from real time procedures to keep the viewers' attention, and videos average between three minutes for basic procedures, to ten minutes for more complex elements. At the time of writing (2016), the channel has not been updated in two years and has only 72 followers. To properly engage with the "Net Generation", also known as "Digital Natives" (Young and Nichols, 2017: p.2), it can be argued that the channel needs to be updated on a regular basis to maintain the viewers' attention, a process which occupies the limited time the tutors have outside classroom instruction.

Since the stonemasonry programmes in Scotland are based entirely on a block release apprenticeship system, the students are required to demonstrate evidence of their work through a series of assessments known as crew reports, in which students submit evidence of the work they have performed onsite. To streamline the crew report process, Glasgow City College, in conjunction with the CITB and SQAV, spearheaded the use of smartphone applications to document and submit their crew reports. Scott however, described issues with the requirement for digital photographs in their crew reports. He noted:

> You know we're getting situations where the students don't return the crews and we're saying look, you have to bring this evidence. And the students are saying; my boss is saying I'm not allowed to use my phone at work. Or they might go on some construction sites that have a zero tolerance on phones… And then you've

> got the other situation where companies might not want someone taking photographs of their work (McGibbon, 2015: p.8).

Current research shows that 84% of college students use smartphone applications to support their learning (Newman and Beetham, 2017), the use of smartphones to document on-site work will be prevalent in the future, and the issues raised by the experiences of the tutors at Glasgow City College must be addressed by the awarding bodies and industry to ensure safe, factual documentation of onsite labour. The use of smartphone applications is difficult to police, the opportunity for falsification of work is pronounced, and limitations of the use of phones on worksites is a growing issue in the building industry, which could hinder the ability of apprentices to appropriately document their work. Although these issues are profound, the integration of technology for onsite assessment is increasingly important to simplify the assessment procedures to ensure promptness in processing and completion of assignments. As the wider educational field advocates swifter course completion and greater transparency of assessment procedures for students, the integrated use of technology in programmes will continue to increase. The Glasgow City College's experiences with the use of these smartphone applications can be noted as an instrumental case study in the drawbacks of adopting such a system. Further refinement of the system, notably formulating arrangements which allow apprentices on work sites to use technology for documentation purposes may need to be established to eliminate these concerns. Understanding the unique nature of individual construction sites, this research suggests that these issues be addressed on a case by case basis rather than establishing a determined set of rules.

Glasgow City College's integration of technology in the classroom and on-site, while being widely adapted in other disciplines (Pecay, 2017, Pimmer 2017, Walker, Young and Nichols, 2017, and Jenkins and Voce, 2017,) is a pioneering practice in heritage craft education. The use of video to assess students' on-campus practices as well as to create videos for educational and promotional usage is an inexpensive procedure which could easily be adopted by many programmes. By engaging with a new inanimate actor; the internet, these videos can not only assist in student learning, but can engage a wider audience with the traditional building crafts. While there has been significant research into technology-rich instruction in many academic areas, the use of technology in heritage craft training is non-existent, and further monitoring of these applications should be performed before a wider adoption is initiated. By performing further research of the use of Web 2.0 applications in the educational processes of other fields, heritage craft training networks could formulate systems which enhance students' learning experiences.

6.2.2 Historicorps model

The Historicorps model is a non-resident programme structured around on-site work on state and national public lands blended with on-line education for lecture-based classes. By structuring the programme in this manner, the programme eliminates the requirement for a permanent physical workshop space on Lamar Community College campus. Furthermore, by transferring education from a permanent location to a "mobile classroom", the programme has additionally eliminated a significant proportion of its budgetary concerns by transferring the financial burden of materials to its partners. By reducing cyclical material costs, the programme has removed one of the substantial barriers to continued sustainability. The lack of a required residency in Lamar, Colorado, replaced by short term courses throughout the country allows the programme to attract a greater number of students to attend the course as older students may be more attracted to a programme in which they can continue to reside in areas where they currently live, leaving for short periods to attend classes. This structure may also appeal to students looking for part time enrollment as well as students who have completed traditional college conservation courses who are pursuing a greater understanding in craft practice, thus appealing to wider networks further expanding their potential student population.

The Historicorps model, employing instructors for limited time periods in areas that may be closer to their permanent residence than Lamar, also relieves the pressure to acquire and retain qualified instructors from the programme. As Natalie Henshaw, Education Director for Historicorps explained:

> …the supervisors generally need to have experience, they don't necessarily have to have degrees, because especially like the old school carpenters and roofers, they don't have degrees they have like thirty-forty years' experience…So we find most people who have experience, not necessarily degrees for that…So we can get people who are interested in one job, you know they can make the time for like a four week project... (Henshaw 2015: p. 3-4).

By attracting qualified professionals in the field for shorter time periods, this system allows the students to receive training from the most qualified practitioners possible while simultaneously allowing the tutors the opportunity to continue their conventional employment. This system however can cause potential problems in terms of accreditation standards. Since these standards require instructors to hold higher degrees, a system of "teacher of record" and "instructor" is currently in place. The "teacher of record", as Natalie explained, is an individual who holds the required degrees and serves as the course leader, although they are often never on site. They

enter grades and give feedback to students by working with reports given by the "instructor", the on-site practitioner hired to run the individual jobsite (Henshaw, 2015). Since many of the instructors have no experience in grading assignments, this method of assessment may be open to criticism from administrators, accrediting agencies, and notably disgruntled students, leaving the precarious method of assessment vulnerable to scrutiny. The potential lack of site lecturers' experiences or ability to teach, and the absence of a practiced educator on site also raises issues with student learning outcomes and instruction quality which is difficult to ensure. While this hierarchical structure of "teacher of record" and "instructor" it can be argued exists in a grey area in terms of accreditation standards, it is currently the only foreseeable way to ensure the programme operates with qualified staff concurrently over multiple locations.

The "mobile classroom" model in which Historicorps operates also permits the programme to expand its promotional outreach to a national audience by engaging with public land systems throughout the country. By engaging with partners throughout the country, the Historicorps programme can associate their work with the greater frameworks of these systems, gaining national exposure for their programme and therefore potentially attracting more students to their course. As the programme is performing much needed repairs on historic structures in these areas at a discounted rate, the programme can publicise its dual purpose of educating students while concurrently assisting monetarily restricted public programmes. By establishing a record of service with these organisations, in can be argued the course may become a lucrative partner in grant applications for other initiatives, further expanding their reach over time, a process which Historicorps is currently pursuing (Henshaw, 2015).

While the Historicorps "mobile classroom" model has advantages, the programme also experiences significant disadvantages in its structure. Being entirely mobile, the sites vary each summer, necessitating considerable planning in the off-season. Ensuring that requested repairs on sites align with course offerings, multiple courses have the possibility of being offered in isolation, potentially restricting student experiences of interacting with other trades and developing the skills to work collaboratively onsite. The sites themselves are often very remote, raising concerns about safety. As Natalie noted:

> …all of our sites can be precarious... The last project we were on was at the top of a mountain, a fire lookout tower so it attracts lightning, so we would have to bring up all tools, but we would also have to bring them down…you know if you get injured or cut off a finger, you still have to hike down a mountain to get

> somewhere…. And then you have to drive down the mountain and drive another hour to get anywhere (Henshaw, 2015: p.5).

While to date no major accidents have occurred onsite, the risk of weather or worksite related injury onsite is a significant concern. Given the rural nature of many of the jobsites, substantial risk is assumed by Lamar Community College and the Historicorps programme when students are operating onsite, which should require pointedly higher insurance rates and concerns from administrators. A major injury during one of the off-site courses may place the course in severe financial peril which could require the programme to cease operation.

The absence of an on-site presence on Lamar's campus can weaken the programme's positioning in the wider collegial environment. Since the programme is only validated through Lamar, the course does not have personnel representing the programme in campus activities, including academics advising and marketing components of the programme. This lack of presence may be detrimental to the stability of the course, as the lack of control of supplementary aspects of the programme may hinder the promotion and proper planning of the department's activities. Since students lack on-campus direct points of contact, the current structure may put the long-term vitality of the programme at risk, as students may not understand who to contact if issues arise. With students not being located on campus, it can be argued, the programme does not permit students to have engagement with a wider community of learners, thus limiting their exposure to additional course offerings of the college.

The final and perhaps principal drawback of the Historicorps model is it dependence on external grants and partnerships to operate. Given the fluidity of grant awards, the necessity to be awarded grants, either directly or indirectly to operate results in the course being under consistent financial instability. Furthermore, the dependency on partner organisations to successfully apply for and receive funding from outside sources places the programme in perpetual transition, being unable to plan multiple years in advance regarding job site location, adequate instructor and student recruitment and equipment maintenance and purchase.

The Historicorps programme, in its current manifestation has eliminated the direct budgetary concerns of material and equipment storage, as well as the overall maintenance of a permanent location. It has also expanded its potential instructor pool beyond the limited confine of Lamar, Colorado by hiring infield instructors for individual projects throughout the country. Furthermore, it has expanded its potential marketing and recruitment programmes to a national stage, gaining direct marketing for the programme through press releases and awards disseminated by its

partner organisations. By engaging directly with national and state parks, the Historicorps programme can be seen as expanding the allied network of support, bringing new actors into the direct translation of their operating network, thus permitting greater stability of their individual network.

While the structure of the Historicorps programme is unique among existing programmes, the current composition of the course may leave it susceptible to closure from several factors. High risk of injury on isolated sites, lack of presence on the awarding college's campus, and the dependency on independent grant funding are all possible pretexts for potential closure of the course. It can be argued therefore that while the Historicorps model has significant advantages, for the current framework to be successful, issues surrounding funding, presence and long-range planning need to be addressed.

6.2.3 Prince's Foundation Building Craft Apprenticeship Programme

Similar to the Historicorps model, the Prince's Foundation programme is structured around a limited residency model, with students spending a majority of their time in the programme working with professionals in the field. Unlike their American counterpart however, the programme has established a permanent centre for operations at Dumfries House Estate in Cumnock, Ayrshire, Scotland, where members of the programmes are required to reside for a three-month intensive summer residency. This requirement would classify the course as a limited residency system rather than a non-resident system model like Historicorps.

The summer school programme offered by the Prince's Foundation is innovative in the realm of heritage craft training as it requires the students to learn and engage with practitioners from various crafts to complete a group designed project at the conclusion of the term. It is important to note that the Prince's Foundation, in order to expose a wider audience to their philosophy has opened the first three weeks of their summer programme to a broader range of participants. Head of Education Simon Sandusky described the demographic of the Prince's Foundation Summer School:

> …one of the real selling points for our summer schools is that it's not just for the people on our apprenticeship programmes but also people in our MSC degrees, and external delegates from the fields of architecture, urban planning, urban design, crafts, so professionals, young professionals, those just out of university…So it's really an incredible opportunity for them to sort of work together and experience their trades together in a

> way that used to happen more often but doesn't happen that much anymore (Sandusky, 2016: p.2).

This engagement with the wider audience can be observed as having a two-fold benefit. The initial benefit is the increased financial stability for the programme, as the summer school can generate additional income to ensure the long-term sustainability of the apprenticeship programme. A subsequent, indirect benefit, it can be argued, is the exposure to actors in ancillary networks; architects, urban planners, interior designers and conservation officers, to the practices and procedures involved in these trades. Much like the Glasgow City College technology integration, this engagement may have the potential for a greater understanding of best practice techniques for those in a position of specifying and funding heritage projects. By engaging with this larger audience, it can be contended that the Prince's Foundation Summer School is indirectly promoting the training of additional craft practitioners, as the value of this work is exposed to the wider building world, thus assisting in the mobilisation of allies in the translation process of the Actor-Network methodology (see above p. 24).

At the conclusion of the summer field school, the apprentices are sent on multiple work placements at prominent heritage craft companies or sites. By repositioning apprentices to multiple companies and sites throughout their apprenticeship, the students are potentially advantaged by the exposure to various methods of craft practice and business models, gaining further insight into the wider processes of the industry including business management, job tendering, and site supervision.

Since students earn their NVQ 3 in heritage skills based upon on-site assessment, the job placement aspect of the programme is integral to the completion of the course. This model however, has some noteworthy drawbacks. Weather conditions may limit work, and construction delays are commonplace in the industry. These delays may hamper the apprentices' ability to gain their qualification through no fault of their own. Often, these placements are scheduled or modified with limited notification. Programme graduate John McRitchie described this issue:

> **…**I can completely understand why it happened right (sic), but the programming like (sic) sometimes we were getting told one day before, like I live in Scotland, so I'm sitting in Scotland phoning them up and saying where am I going tomorrow, where am I going? They've not confirmed your placement yet…then they'd phone me up after and say yeah, you're going to Suffolk or something (McRitchie 2014: p. 5).

Given the integral relationship between these work placements and successful completion of the course, the inability to effectively schedule work placements, often due to conditions outside of the control of the programme, has the potential to cause significant strain on the apprentices and assessors. While the understanding of work site delays and proper planning is important to the comprehension of the construction industry, a rescheduled or delayed placement may lead to insufficient training due to a lack of time to prepare by both the student and the placement organisation.

A noteworthy drawback to the current Prince's Foundation is the limitation on the number of students in the programme per course. Currently, the course, due to physical space and monetary restrictions, is limited to twelve students per year, therefore it can be maintained that the course has an exceedingly limited direct impact on the influx of new heritage craft workers in the field. Furthermore, recruitment is currently targeted towards participants who are currently practicing their craft and are interested in entering the heritage sector in their specified area. From this perspective, the course could be defined as an upskilling programme rather than standard heritage training course. Students are expected to have thorough knowledge of their craft, as well as their own tools and equipment before entering the programme, therefore eliminating many prospective students from attending. By limiting entry to the programme to those having an NVQ 2 or equivalent work experience, the course is inaccessible to career changers, which often constitute a large majority students in courses. While the programme may be structured in this capacity to ensure continuity in the high level of training offered, this restriction could be perceived as constraining the programme's ability to recruit new participants to the field.

The Prince's Foundation Building Craft Apprenticeship programme is unique among the current programme offerings as it combines a three month on-site intensive programme with multiple work placements in the field. Unlike standard full-time courses, or a block or day release system, the Prince's Foundation programme can be seen as blending the positive aspects of both frameworks into a distinct training system in modern education. The summer intensive, designed not solely for their apprentices but other interested parties can allow students to develop a holistic understanding of the role of the student's individual trade in the larger building industry. The collaborative building project, besides contributing to the beautification of Dumfries House, is also seen as an effective community building exercise for the apprentices, formulating a collective goal and establishing important relationships for their future careers (Sandusky, 2015).

The on-site apprenticeships, while sometimes problematic, give the apprentice opportunities to engage with prominent practitioners and companies in their trades, while also enabling them to build their work portfolios by performing repairs on multiple heritage sites. This model of blending resident instruction and on-site apprenticeship can be inferred as a unique method of training workers for the field.

While the Prince's Foundation programme has some distinct advantages in its programming, it can be observed as having significant drawbacks. Funding and space restriction limit the quantity of students that can be admitted for each intake and problems can occur during their work placements, often through no fault of the programme. Furthermore, the requirement for students to have previous experience in the field limits the potential for the programme to attract career changers or other interested parties, which constitute a large percentage of those entering the heritage crafts. Overall however, elements of the Prince's Foundation programme model have substantial potential for adaptation throughout the wider educational community.

6.2.4 ACBA four-year model

Unlike other programmes studied in this research, which attempt to modify the requests of industry for training with the modern educational structure, the American College of the Building Arts (ACBA) has elected to redefine the educational approach to heritage craft training by developing a new institution dedicated to educating artisans which exists outside the restrictions of a current US educational structure.

Much like the Prince's Foundation structure, the ACBA blends classroom instruction with practical work site training. The structure of this College, with its amalgam of practical and classroom learning concentrated around skills for building artisans, is unique to the American system of education, and it can be said, is unique on an international scale. As President Colby Broadwater noted:

> Most everybody I talk to, when they figure out that most of our college graduates, they may be well educated, but they don't know how to do anything. They say the fact that they're coming out of here educated and knowing how to do something I think is something more schools ought to look at doing. Not necessarily knowing how to use hammers and chisels and things like that or whatever but the American education system is not producing exactly what is required in industry right now (Broadwater, 2015: p.7).

According to President Broadwater, ACBA had an enrollment of approximately 60 students during the 2015-16 academic year, making it one of the largest programmes researched during this study (Broadwater, 2014). This growth however, has not come without significant sacrifices by the school. The programme has suffered from consistent financial burdens since its inception and has been forced to relocate its workshops on several occasions to address these issues.

Student enrollment, according to President Broadwater, has been restrained by constraints put upon the institution by the American academic system and funding bodies (Broadwater, 2015). American higher education is structured around the necessity for potential students to qualify for financial aid programmes both secured and funded by the US government or private lending organisations. To obtain accreditation, schools must meet the standards and be certified under an accreditation agency, an organisation certified by the US government to award accreditation and therefore allow students at that institution access to Federal funding, similar to the accrediting system established in the UK. Some accrediting agencies are structured around geographical location, while others are focused on specialised subject matters such as liberal arts, design, or vocational education. Accreditation processes take several years to complete, encompassing multiple site visits by representatives of the agencies and a series of applications, requests for further information, and response correspondence from the College.

Accrediting agencies are subject to period review and statute modifications from the US Department of Education based on changes in the current education sphere. ACBA began their accreditation process by applying for provisional acceptance from the American Academy for Liberal Education (AALE) in 2005. After repeated setbacks in the process, the AALE withdrew its recertification application in 2010, thereby eliminating its ability to accredit new schools. This de-certification nullified ACBA's application process, forcing the school to begin again with a new accrediting agency. President Broadwater remembers the process:

> … with the failure of accreditation the first time when the students thought they were, they had been promised that we would be accredited by the AALE, and that didn't happen, that was a huge setback for the school. Right after I got here, not long after that. That's probably the biggest, single most failure (Broadwater, 2015: p.7).

This impediment for accreditation has severely limited the potential student enrollment into the College. With an annual fee of $19,872 per year (Americancollegeofthebuildingarts.com, 2016), the cost of the college without assistance from Federally subsidised loan programmes could make

the school cost prohibitive for many interested parties. This prohibition has limited the school's ability to build capital reserves needed to meet the financial contingency requirements of accreditation, which is obligatory to ensure solvency during reductions in student enrollment or funding streams. This cyclical dilemma of students unable to afford tuition without funding, which is unavailable until the schools demonstrates financial solvency through increased enrollment, is described by stone carving instructor Simeon Warren:

> The American system is great to allow the ideas to happen, but how do you get over that point…Like ACBA right now is stuck in a cycle where we can't get out because it spends all the money it gets, so it can't build up its resources, it can't get donors because it's not accredited, major donors say; 'once you're accredited we'll give you money', we can't get students for the same reason…At ACBA we can say; at ACBA, we're not worried about it, but the truth of the matter is students and parents are worried about it (Warren, 2014: p.19).

This financial contingency requirement to achieve accreditation, could be viewed as a profound obstacle for the future of ACBA. The experience of ACBA can been observed as a valuable case study regarding the difficulties in attempting to frame new approaches to craft training in higher education by formulating institutions or programmes independent of existing academic structures. By disturbing the long established demarcation between academic and vocational programmes, ACBA can be seen as attempting to redefine the training of the craft practitioner as a holistic pursuit, mirroring an Arts and Crafts model, succinctly defined by the Charles Voysey inscription, later adopted by Society of Designers in 1896: "Head, Heart and Hands: The head for creativity and imagination, the hand for skill and craftsmanship and the heart for honesty and for love" (McDowell, 2012: p.1).

The American College of Building Arts can be observed as being the most ambitious approach to heritage craft training among the programmes studied for this research. By rejecting the concept of operation in an existing institution, ACBA can be observed as having freedom to structure its courses and classes in the institution's own approach, permitting experimentation and innovation which may be unavailable in established colleges. This ability to be pioneering however, comes at the cost of losing the established accreditation of an existing school, thus necessitating ACBA to begin the process from the beginning, which has proven to be an extensive process. Until ACBA reaches financial solvency in the standards required by their accrediting agency, the school may continue to exist in a cyclical challenge of attracting students without the ability to receive

financial aid, therefore limiting their ability to build reserve capital to achieve the accreditation needed to ultimately break the cycle.

In reviewing the current practices in heritage craft education, it can be observed that innovative educational practice takes many forms, each with its own advantages and drawbacks. Common themes which persist in the innovative practices illustrated in this section are the concept of engaging learning across multiple platforms rather than bonding learning to a fixed location, and attempts to redefine heritage craft away from the societal stigma of vocational training and towards the concept that practitioners are “artisans” rather than “workers” (McGibbon, 2015, Sandusky, 2015, Warren, 2014, Webb, 2014, and Broadwater, 2015).

These innovative practices can all be argued as demonstrating a changing direction in heritage craft training; the transition from a solely workshop based learning environment to a hybrid of workshop, on-line, and site-based education. By blending educational practices in this manner, these programmes may restrict or eliminate a considerable financial burden through the limitation of material expenditures. Furthermore, by restricting dedicated time on campus, these programmes have the potential to reduce the cost for maintaining a dedicated workshop space, removing possible pressures from administrators in search of more space. By expanding outside a traditional classroom/workshop setting into the wider craft fields, these programmes are, in the framework of Actor-Network Theory, working to mobilise allies, be it technological based like YouTube and apps, organizational based, such as the National Park Service or related networks, such as architects and urban planners, which can be of assistance in strengthening the current network framework.

This blending of learning however, raises concerns. Glasgow’s YouTube channel has not been updated in two years and has the possibility of becoming outdated. Acquiring work sites, either for classes or placements, has been demonstrated as requiring significant planning on the part of programme administrators, and the potential for situations outside of the control of the course which could affect the students’ ability to complete their requirements on time is very high. The possibility for injury on a worksite is greater than in a controlled environment, placing the programme at a higher insurance liability. Finally, the lack of a constant on-campus presence may hinder the course’s development due to a lack of direct oversight on ancillary components of the programmes. While these disadvantages are sizable, the innovations described in this section indicate important developments in the heritage craft education field and form the basis of cross-cultural recommendations proposed in section 6.5 of this study.

6.3 Recommendations for UK programmes

During this research, conversations with both practitioners and educational providers noted two overarching themes regarding the current issues with heritage craft education in the UK. It is important to note that many interview participants, particularly those in the *Intermediary* and *Transitional* Generations, along with educational providers who trained under the City and Guilds system, expressed their desire for training to abandon the NVQ framework and return to the former method of education. While the NVQ system has notable drawbacks, the desire many hold to return to the previous model of training may be based more on nostalgic viewpoints rather than the practical reality of the preceding framework. The return to the City and Guilds system is potentially an unrealistic objective, and any pragmatic adaptions to improve heritage craft training in the UK could be best initiated through the current manifestation of the NVQ framework. Two potential modifications to the current system of training are firstly to increase the integration of full time programmes to increase potential engagement and secondly to increase transparency of the NVQ processes for potential industry partners to diminish the misconceptions and disregard for the NVQ system.

6.3.1 Increased integration of full time programmes

In this thesis, numerous issues were identified with the current on-site training requirements in the NVQ/SVQ systems. The heritage craft industry, much like the larger building industry, experiences periods of activity followed by stages of dormancy. These fluctuations can lead to disruptions in the entry of new students into programmes, as placements may become unavailable during periods of inactivity. Seasonal fluctuations in employment availability can potentially limit the exposure to processes the students are required to demonstrate competency in during their training. Depending on the severity of the weather and the size and financial stability of the company, some firms may downsize their workforces during periods of dormancy, placing apprentices at risk for seasonal redundancy.

Many of the apprentices are drawn from small or medium size business enterprises (SMBE) which may not be able to provide the breadth of work needed for the student to demonstrate competency in the range of work needed to earn their qualifications, denoting a significant concern from trainers regarding student abilities to complete their studies. These concerns have been raised by educators and external reviewers with the Construction Industry Training Board, which has yet to formulate a commercially viable solution to the problem (McGibbon, 2015).

The SQA's response to the concerns raised by the FE participants may be indicative of a disconnection between qualifying authorities and the economic realities of the building industry.

Although led by the CITB, many of whose members represent the larger construction firms in the UK, interviewees have argued that the framework is largely dependent on SMBEs to provide placements for students in the field (Lynch, 2014, Orton, 2014, Copsey, 2014, Wilkins, 2014, Billyard, 2015 and McGibbon, 2015). These companies, many of which operate as subcontractors for the larger firms may not possess the ability to "trade" or "lend" workers to other companies to perform training, nor may they have the financial capabilities to support another company's, typically their competitor's, workers for short or extended periods of time. Given the bureaucratic nature of the current system, a complaint raised by many during this research, adding an additional layer of bureaucracy regarding an apprentice lending system may be inadvisable.

While short term fluctuations in work cycles raises an important concern in the UK system, larger economic downturns may signify a much greater threat to the continuation of craft skills in the UK under the current training framework. From 2008, the global economic downturn significantly affected the building industry, particularly in the maintenance and regeneration of heritage sites, as the conventional funding streams for such projects dissipated. During this downturn, a substantial number of firms, particularly SMBEs were forced into redundancy while those who persisted were under considerable financial strain, limiting their ability to absorb apprentices into their firms and therefore restricting student entrance into training programmes (Devlin, 2015, McGibbon, 2015 and Billyard, 2015). This downturn in student enrollment placed many programmes in the UK under threat of closure, as the cost of faculty and workshop upkeep far outweighed student enrollment. Many programmes were forced to downsize their tutor base, either by releasing trainers from their contracts or failing to replace those who departed (Billyard, 2015), with some of these programmes only surviving due to their "prestige" status in their institution (McGibbon, 2015).

While the economic downturn was difficult for companies and training institutions in the short term, it also potentially had long term ramifications for the heritage craft industry. It can be argued that the UK reliance on the apprenticeship model restricted entrance into the field for many, as obligatory placements were unavailable due to larger economic conditions. As older practitioners left the industry, either through retirement or redundancy, the absence of incoming replacements due to a lack of qualifications may have produced long term impediments to the continuation of heritage craft practice. This has yet to be accurately measured, as the consequences from this interruption may not fully materialise for several years. As these young apprentices lost the ability to participate in projects with these seasoned practitioners, the

“riding in a truck” method of mentoring (Follet, 2014: p.36) was potentially disrupted, thus possibly leading to a loss of an important channel for the generational transfer of knowledge.

While the outcomes of the economic downturn’s effect on the building industry and the disruption of generational knowledge transfer cannot be entirely attributed by the reliance on apprenticeships in the UK system, it can be asserted that the preference of apprenticeship over full time learning can be linked to the deficiency of incoming workers into the heritage craft fields. By directly binding qualifications with on-site placements, it can be argued that the heritage craft NVQs completion rates are tied to the economic variations in the building field, subsequently linking short term fluctuations with long term viability of programmes. While on-site work experience is seen as important to a holistic training approach to heritage crafts, alternative methods to gain this experience could be formulated to ensure availability of learning opportunities during times of economic stagnation, when typically a greater number of persons search for training opportunities.

While fulltime programmes exist in the UK higher education system, they are not considered by many as valuable as a block or day release apprenticeship framework. Full time programmes however, potentially have a significant role to serve in the field, particularly during slow economic periods. To do so, full-time training systems would need to be recognised as comparable alternatives to apprentice based learning, which many interviewees contend is currently not the case (Billyard, 2015, McGibbon, 2015, and Lee, 2015).

A noteworthy argument against full time programmes is that workshop-based learning alone cannot fully replicate the experiences of working on site. While the controlled environment of a college workspace is different than a practical work site, the variances may not be as great as commonly perceived (Billyard, 2015 and McGibbon, 2015). While fulltime programmes cannot replicate all the experiences found working with a company, they can supplement its learning by engaging in limited on-site work on projects in a local community, ideally with non-government agencies in need of minor repairs. These projects could potentially be designed to allow students to experience on-site conditions while remaining in a controlled environment under the guidance of qualified tutors. These engagement projects could also supplement experiences of apprentices who are undergoing difficulties in obtaining worksite experiences for areas of their qualifications due to lack of specified work for their company. These potential engagement projects will be studied further in section 6.5 of this research.

The preference of apprenticeships over full time programmes, while based in a long-standing tradition, may have long term ramifications to the continuance of heritage craft, as training is linked to wider economic forces. To place this issue in ANT methodology; the lack of understanding of the problematisation of linking training to larger economic circumstances limits the interessment and enrollment of full time programme offerings to address disruptions in training. By discounting the importance of these programmes' enrollment in the network, they may struggle mobilising further allies to supplement their student learning objectives, potentially further reducing their value in the network. To overcome the shortfalls in training opportunities, particularly during economic declines, it can be argued that full time options should be recognised as comparable alternatives to apprenticeship systems. Full time programmes have the ability to fill hiatuses in placement opportunities while offering equivalent training by replicating apprenticeship experiences by engaging with partner organisations, permitting students to experience on-site conditions while concurrently assisting organisations in their community. To do so, schools may need to consider more flexible and blended approaches to full time education, using methodologies suggested in section 6.5 of this thesis.

6.3.2 Greater transparency of NVQ processes for industry

In interviews for this research, a continuous theme identified throughout the generational participants' responses was a dissatisfaction with the current NVQ system. It became evident, when analysing the disparities in the responses of the two groups of participants, that the current NVQ system is experiencing a lack of confidence in industry due to a series of misinterpretations of the NVQ processes as well as prejudices from older practitioners who favour the City and Guilds system. While educational practitioners admitted the current incarnation of the NVQ system was not ideal, the issues which were raised as failures of the system were found to be not as profound as perceived by industry practitioners.

A return to City and Guilds

The reputation of the City and Guilds is firmly established, and this reputation is further enhanced by the older generations of practitioners who trained under it. Since the NVQ system is relatively unfamiliar with these older generations, it can be argued that they have the tendency to revert to the system in which they understand. Indeed, Alison Wolf suggests in her 2011 Review of Vocational Education, commonly known as the Wolf Report, this importance of brand recognition on the industry:

> The 1980s creation of NVQs, is that standardised qualification structures organised by governments will enable employers to make better-informed

> decisions about hiring, and so increase productivity. In practice, however, brands have remained important. For example, City and Guilds, dating back to the nineteenth century, remains valued and recognised, pre-dating and outliving ongoing government-directed policies which change the names (and structure) of its craft qualifications (Department for Education and Department for Business, Innovation & Skills, 2011: p. 74).

The transition into a new framework from an established system of training has the potential to be fraught with resistance, and that resistance may remain for generations, as the first cohorts of NVQ graduates could be influenced by their trainers and co-workers into believing their system is inadequate to the former structure. This inadequacy may permeate throughout their careers and has the potential to influence future generations' opinions of the NVQ system.

The animosity geared towards the NVQ system for heritage craft practitioners, it can be argued, can be traced to a misunderstanding of the commonalities between current NVQ framework and the former City and Guilds system. While many of these older practitioners view the current system as paperwork heavy and bureaucratic, their system was fraught with the same issues, as bureaucracy and hierarchy decelerated innovated practices and hindered the system's ability to adapt to changes in the sector. As students, interviewees were often not exposed to these concerns. Indeed, the NVQ frameworks were formulated based on detailed studies of the successes and failures of the City and Guilds framework (Callender, 1992, and Boffy, 1990).

The lack of effective advertisement of the NVQ as a replacement for the older City and Guilds system, thus failing to properly allow enrollment of interested actors and hindering the mobilisation of allies which could be of assistance in promoting the new framework, has been identified as a failure of the current system. The replacement of an established structure which produced those in the field who would be employing these new apprentices was likely to be received critically by those practitioners. Those criticisms, however misplaced, are bound to have long standing consequences on the acceptance of this new system. To appeal to these detractors, the NVQ system, particularly in the heritage crafts which value tradition, may be reinterpreted to identify the NVQ system not as a replacement for City and Guilds, but as a modification to their standards to meet current educational and industry procedures and funding streams. While this may not satisfy all the disparagers, it could prompt further investigation by practitioners on how the NVQ system operates, noting the evident similarities between the two.

"Ticking Boxes" Perception

A second standard complaint from practitioners is the "ticking boxes" philosophy, in which schools continually graduate students who are not competent in their practice simply to earn money from the funding agency for that student, therefore linking graduates with operating monies. While the practitioners are correct in linking graduates with funding, the interplay between graduate rates and overall funding is not as straightforward as perceived by many. Financing of FE colleges is complex and the funding award per student are based on a variety of factors and graduation rates are not the sole determining factor for FE Colleges to receive funding. It is important to note that the government initiated a new scheme for apprenticeship training, effective May 2017. This new scheme, designed to simplify the complex system of funding which was in place, allows employers to have greater control over the skills and training methods they need for individual employees by allowing them to negotiate training prices with providers and simplifying the complicated funding band systems which the government paid for apprentices (gov.uk, 2016). The government's acknowledgment that the funding system needed revision may be indicative of a larger realisation that industry and practitioners' negative perceptions around the "ticking boxes" has hampered the acceptance of the NVQ system, mirroring findings identified in this thesis. This new initiative should be examined in the context of the findings in this study to examine if this redesigned structure assists in addressing the problems raised by interview participants during this research. By simplifying the financing mechanisms for training, it can be anticipated based on this research, that industry may be less dismissive of the system, but only if the practitioners are properly educated about the changes, which was identified as an initial failure during the introduction of the NVQ framework (see above p. 53-54).

While it may be unrealistic to expect practitioners to comprehend the complexity of funding streams, FE Colleges and other training bodies could do more to dispel this "ticking boxes" mentality currently prevalent in industry. This misunderstanding of the funding stream intricacies for schools may indicate that practitioners are deficient in understanding the details of the interessment roles which modern educational systems operate under. Awarding bodies could introduce an outreach programme to their industry partners to help dispel this impression, along with initiating greater dialogue regarding expectations of industry and the realities of training.

Enhanced engagement with SMBEs

An additional common complaint from practitioners is the compartmentalisation of programmes into individual components of trades rather than a complete understanding of the craft, which is contributing to the negative attitudes towards the NVQ system in the industry. The responsibility

for these modifications in training, in the perception of many practitioners, lies solely on the Construction Industry Training Board and these individual companies which are represented therein (Lynch, 2014, Orton, 2014, Toyne, 2014, Copsey, 2014 and McRitchie, 2014).

Many companies which engage in heritage crafts are sole proprietors and SMBEs, which are not represented in the CITB, and many of these companies work in both new and heritage work to ensure employment continuity. The 2008 National Heritage Training Group Report *Traditional Building Craft Skills* noted that of the 553 contractors they interviewed, only 8 employed over 100 workers, with the mean number in their employ average just under 14. (National Heritage Training Group, 2008). SMBEs, particularly those involved in heritage, it can be argued, have been either intentionally or inadvertently removed from participating in the formation of national standards, potentially contributing to resentment of the CITB and therefore the system they have created. This resentment may have indirectly led to a dismissal of the NVQ framework as a training system and the continued appeal to return to a City and Guilds framework. While these SMBEs have legitimate complaints with the current structure of the NVQ system, given their inability to support in house training to supplement the system and their desire to obtain qualified workers to join their existing workforce, it can be argued that the needs of many of the employers in the industry are currently not being represented by the CITB.

To obtain a greater base of support in industry, this research suggests that SMBE companies need to have greater representation on the CITB and in the formation of academic standards. By engaging with the formation of criteria, SMBEs may have a greater vested interest in supporting and promoting these systems. The formation of specialised SMBE heritage working groups, potentially established in the individual livery companies or industry federations, could have the opportunity to assist in articulating the needs of this subset of the industry in the larger framework of training standards. A factor with the formation of these working groups however is that these representatives have influence over the modification of standards and are not a "rubber stamp" organisation. The lack of authority to assist in the formation may lead to a further discontent and resentment of the existing structure. A greater understanding of the processes and procedures involved with the formation or modification of training standards and enhanced inclusion of SMBEs in the processes has the potential to assist in gaining an enhanced transparency of the NVQ system to a larger conglomerate of practitioners, thus assisting in eliminating some of the industry misconceptions and prejudices against the current structure.

This research has maintained that the issues surrounding industry's concerns with the NVQ system can be traced to a lack of transparency and a series of misunderstandings of the

reasoning of some actions and procedures in the system. To receive support from industry, this thesis suggests that FE Colleges and other trainers need to make a concerted effort to formulate outreach programmes to dispel the misconceptions and prejudices surrounding the NVQ system. These outreach programmes, this research contends, must be initiated by the trainers themselves, necessitating a greater direct relationship with industry outside the confines of the CITB and government bodies. When interpreting this proposal in ANT terminology, it can be stated that the direct engagement between educators and industry will assist in coalescing the network to permit greater collaborative translation activities, strengthening the punctualisation of the network. Approaches to engage directly with industry partners will be proposed in section 6.5.4 of this thesis.

6.4 Recommendations for US programmes

Contrary to their UK counterparts, the major issues raised with US interview participants were not concerns with the quality of the system, but rather the lack of a cohesive network of training opportunities, the high failure rate of programmes, and the inability to support existing courses under threat of closure.

Given the complexity of the US educational system, coupled with the regional variances in building traditions, styles and materials, a national framework like the NVQ system, may be an impractical goal for which to strive. While it can be argued that the NVQ system works in the UK despite regional building variances, materiality, and distance, this thesis contends that although there are differences in traditions in the UK building, they are not as pronounced as in the US, nor is the distance as great, making an attempt to adopt such as system in the US a more complicated undertaking which may be unfeasible to attempt.

Instead, of adopting a national system, it has been observed that a substantial proportion of heritage craft training will continue to remain a localised effort. Through the examination of the US educational structure, this thesis maintains that it cannot support a college such as the American College of the Building Arts in every state or indeed every region, and these programmes will remain an exception in the system. It would be unrealistic to suggest that existing four-year universities programmes abandon their current theoretical based educational frameworks for conservation training to adopt a focus on practical applications of crafts. As most practitioners do not hold the necessary degrees to meet accreditation standards, programmes based at four-year institutions may prove difficult to staff and maintain. Since the transformation of university programmes may be questionable, and the system may not have the capability to support multiple adaptations of the ACBA model, the two-year technical or community college

systems potentially represent the best avenue to adopt and maintain heritage craft training programmes throughout the US. Understanding that community and technical college systems, are based in a local or regional approach, local and regional networks of craft could be argued as an appropriate path forward for the continuation of heritage craft in the US, based on historical evidence as well as variances in US building culture and need.

6.4.1 Establishment of regional approach to heritage craft training

When examining the existing courses in the US, it is important to note that the geographical distribution of existing programmes in the US is a significant factor in the training disparities across regions. The current distribution is that, of the six programmes which are currently in operation in the US, 50% run in the southeast, while one operates in the mid-south region (17%), one in the Midwest (17%), one in the Mountain region (17%), which has no on campus presence, and one on the West Coast (17%). Since the Historicorps programme has no physical location, this study has determined that there is currently a lack of programmes in the areas of the country between the Belmont College programme in St. Clairsville, Ohio to the Clatsop Community College programme in Astoria, Oregon, a distance of approximately 2600 miles.

Due to the population variances of the individual states and the differing demand for craft workers for heritage work, a programme operating in each individual state's technical or community college system may not be sustainable, as many programmes could struggle to maintain adequate enrollment numbers to justify their existence.

As an alternative proposal to adopting programmes in each state, the US might consider adoption of a regional approach to heritage craft education, separated into the regions listed in Figure 6.1. This regional approach can be seen as allowing potential students from throughout the US the opportunity to be exposed to training opportunities based of the building traditions and materials of their area.

While this regional approach to training could ensure proper opportunities for education throughout the US, the placement of such programmes in each region may be considered a critical factor to ensure the course's potential to attract a sustainable level of student enrollment, as improper placement of programmes may limit the course's ability to attract a sustainable number of students.

In taking a regional approach to heritage craft training then, it can be argued that programmes should be established in major population centres or in areas which support significant heritage

conservation activities. While it can be asserted that programmes need not to exist in city centres, they should be with a reasonable distance to attract commuter students along with those needing to secure employment during their studies.

By pursuing this regional approach to heritage craft studies, the US may be able to work towards provincial specialisations of craft training which reflect the building traditions of the region, while providing a basic heritage craft education which can be transferred to other areas.

Region	States	Current programmes in operation	Optimal placement of potential programme
Northeast	New York, Connecticut, Rhode Island, Massachusetts, New Hampshire Vermont, Maine	None	New York, New York, Hartford, Connecticut, Boston, Massachusetts, Burlington, Vermont
Mid-Atlantic	Pennsylvania, New Jersey, Delaware, Washington D.C., Virginia, West Virginia	None	Philadelphia, Pennsylvania Pittsburgh, Pennsylvania, Washington DC Richmond, Virginia
Southeast	North Carolina, South Carolina, Georgia, Florida, Alabama	Edgecombe Community College-Tarboro, North Carolina American College of the Building Arts-Charleston, South Carolina Savannah Technical College-Savannah, Georgia	Raleigh-Durham North Carolina Charleston, South Carolina Savannah, Georgia Atlanta, Georgia Mobile, Alabama
Mid-South	Kentucky, Tennessee, Missouri, Arkansas, Mississippi, Louisiana	West Kentucky Community and Technical College-Paducah, Kentucky	Louisville, Kentucky Nashville, Tennessee New Orleans, Louisiana
Midwest	Ohio, Michigan, Indiana, Illinois Wisconsin, Minnesota, Iowa	Belmont College-St. Clairsville, Ohio	Cleveland, Ohio, Cincinnati, Ohio Detroit, Michigan Indianapolis, Indiana Chicago, Illinois Madison, Wisconsin
Central	Texas, Oklahoma, Kansas, Nebraska, South Dakota, North Dakota	None	Houston, Texas Kansas City, Kansas Lincoln, Nebraska
Mountain	Colorado, New Mexico Utah, Nevada, Arizona, Wyoming, Idaho, Montana	Lamar Community College-Lamar, Colorado Note: Currently validates the Historicorps programme. No programme on campus	Denver, Colorado Santa Fe New Mexico Salt Lake City, Utah
Pacific West	California, Oregon, Washington, Alaska, Hawaii	Clatsop Community College-Astoria, Oregon	Los Angeles, California San Francisco California Portland, Oregon Seattle, Washington Juneau, Alaska Honolulu, Hawaii

Figure 6.1: Heritage Craft Training Regional Categorisations

Regional craft specialisations

Regional craft specialisations could assist these individual programmes in formulating their own unique identity while concurrently serving their local industry needs. It may be considered unrealistic to presume that individual programmes can contain a comprehensive training in all aspects of heritage craft found throughout the US, and it has been determined that currently there are considerable inequalities in training across individual trades. As the heritage conservation field expands to include a greater appreciation of mid-century modern structures and construction techniques, programmes may need to expand their curriculum in the future to include subjects such as massed concrete, glass curtain walls, and metal and vinyl sidings. Given the current deficiency in exposure of the full breadth of heritage crafts, this expansion of craft trades may put further strain on existing programmes to incorporate the entirety of the evolving identified heritage crafts skills.

Material variations throughout the country, it can be argued, further dictate the need for a regional approach to skills training. In describing American folk architecture, Virginia McAlester notes that early European settlers, bringing the refined building traditions of their individual home countries, adapted these customs to their local environments. Indeed, many buildings in the country are influenced by both the availability of the local materials as well as the architectural customs of their creators. These variations of both materials and settlers cause significant regional distinctions in American architectural styles (McAlester, 2015). The extensive range of building materials found throughout the US, coupled with the lack of training opportunities in certain regions, may further justify the need for the formation of a regional approach to craft training. Potential programme specialisations based on building traditions and periods of history can be referenced in Figure 6.2.

Region	Potential programme specialisations
Northeast	Heavy timber framing (Oak and Pine) Finish carpentry (Oak, Maple and Pine) Plaster Stonemasonry (Granite and Marble) Pre-colonial structures
Mid-Atlantic	Heavy timber framing (Oak and Pine) Brick masonry Pre-colonial structures Leaded glass Tile Gilding
Southeast	Frame carpentry (Pine and Cypress) Brick masonry Plaster Antebellum structures Ironwork
Mid-south	Stonemasonry (Sedimentary stone and Marble) Dry stone masonry (Sedimentary stone) Heavy timber framing (Oak and Pine) Plaster Gilding Frame carpentry (Oak and Pine) Victorian architecture
Midwest	Stonemasonry (Limestone and Marble) Frame carpentry (Oak and Pine) Heavy Timber framing (Oak and Pine)
Central	Sod construction Frame Carpentry (Pine) Stonemasonry (Limestone) Prairie style architecture
Mountain	Timber Framing (Colorado, Utah, Wyoming, Montana) Adobe (New Mexico, Arizona) Frame Carpentry (Pine) Victorian architecture
Pacific West	Frame carpentry (Douglas Fir and Redwood) Concrete Timber Framing (Oregon and Washington) Bungalow architecture Mid-century modern architecture

Figure 6.2: Potential Regional Programme Specialisations

As demonstrated in Figure 6.2, although several regions will have duplications in their overall potential programme specialisation, this proposal has been further devolved to focus on the variations of the crafts in individual regions. Heavy timber framing and masonry, it can be argued, have drastic regional variances, necessitating multiple training locations based on specialisations in the crafts. Even in the individual regions, programme specialisations may vary between states. The unique aspects of adobe construction for example, are not observed north of southern Colorado, thus making instruction on this technique potentially unnecessary in programmes based in Montana or Wyoming.

Depending on the demand and specialisations of the individual programmes, some regions may have the capacity to support more than one programme in its boundaries. New England and Mid-Atlantic regions, given their large populations and depth of historic resources, could potentially support multiple programme locations, while regions with dispersed centres and small populations, such as the Central or Mountain regions may only have the capacity to support one. In the West, the geographical isolation of Alaska and Hawaii may necessitate the formation of independent programmes in those states, operating on a limited basis depending on the needs of the local industry.

The rich history of building traditions and materials in the US, coupled with the vast size of the country may necessitate the US heritage craft training field approach its training through a regional perspective. Since training is localised in the US educational framework, this regional approach may have the potential to ensure programmes meet the needs of their local building fields while simultaneously contributing to the continuation of the heritage crafts throughout the country.

6.4.2 Establishment of a consortium of programmes

While the establishment of a regional approach to heritage craft training may be instrumental for the continuance of the wide range of building techniques and materials found throughout the US, instituting of a regional approach could be strengthened by the formation of a national consortium of programmes to offer support and guidance for their partner courses. By establishing a national consortium, similar to the National Heritage Training Group (NHTG) and the Council on Training in Architectural Conservation (COTAC) in the UK, the US heritage craft training network may be able to mobilise together to alleviate some of the concerns of the individual programmes, therefore assisting the punctualisation of their individual networks.

The heritage craft industry, being small, has little direct political influence to combat a threat of closure, as demonstrated by Bill Hole and John Moore's experiences. Furthermore, the current national consortium of conservation programmes, the National Council for Preservation Education (NCPE), comprised primarily of graduate school courses, has elected to move away from becoming an accrediting body, restricting the ability of the consortium to assist programmes in need (Mertz, 2015). NCPE's membership base is varied as well, with programmes being found under craft, architecture, urban planning, public policy and public history based systems, potentially further fragmenting the coalition (Appendix XXVII). This lack of a strong cohesive national consortium of programmes may have wide ranging effects on individual course's ability to resist closure attempts due to budgetary restrictions or enrollment issues.

Without a national support structure, these programmes may continue to fail due to local conditions, and each failure could give potential college administrators further justification for closing their own existing courses or resisting the formation of a new programme.

National Core Curriculum

While the regional variations are extensive, the basic knowledge of the heritage craft can be seen as consistent regardless of the location. The understanding of conservation philosophies, job site safety, architectural history, field documentation, and construction mathematics have been identified as universal applications of heritage craft practice. Currently, when a new programme is established, the instructors often must formulate the composition of these standard classes, exerting significant time and effort to frame the structure of these classes (Mertz, 2015, Swerdorff, 2015 and Hole, 2015). An established consortium of programmes could institute a standardisation of this core curriculum, to be delivered in conjunction with regional craft specialisations. By standardising these courses, a basic framework for new programmes could be established, creating a national educational basis for heritage craft courses and permitting a greater comprehension of these programmes to campus administrators. Given that these classes constitute only a fraction of the modules taken by students in their specified coursework, it can be stated that the standardisation of these theoretical classes does not constitute a national standard like the NVQ system for heritage craft in the US, instead providing a universal basis in which craft programmes can build on based on their regional specialty.

Student exchange systems

While the standardisation of universal course components can be seen as needed to assist in the formation of additional programmes, the standardisation of credits per class may also assist students' education goals in heritage craft. As participants' educational goals evolve, students may be interested in gaining additional knowledge about an individual craft which is unavailable at their home institution. By formalising credit hour offerings throughout the consortium of programmes, a system of student exchange could be initiated, allowing students to expand not only their craft skills, but their experiences in the larger heritage field.

This type of student exchange could only be possible with a coordination of credit hours between institutions to ensure students receive proper credit during their visiting periods. As funding streams for students become more restricted in terms of credit hours, a programme of student exchanges would require the formation of agreements between institutions, which could be made less problematic with the standardisation of credit hour structures. Credit transfer systems, it can therefore be argued, will both expand student learning opportunities and support

individual programmes through strengthening of relationships with allied network actors. While potentially difficult, these transfer systems can be seen as beneficial for the greater heritage craft field, through the potential production of more holistically trained craftspeople, which could more readily be prepared to practice in multiple regional specialisations.

"Mobile" instructors

The retention of qualified instructors for the existing programmes was a concern raised by many of the interview participants. Understanding that qualified instructors in this field are a rarity, which is potentially aggravated by the singular offering of their specialisation per year, the establishment of a consortium may allow courses to share instructor pools across multiple programmes. Since programmes often offer courses based on yearly seasonal conditions, programmes in the consortium, by working together, could coordinate scheduling of courses to ensure these instructor's field are offered at alternative time periods, permitting them to work at multiple institutions. While it can be seen as impractical to assume all adjunct instructors would be willing to relocate several times per year, if a limited number of the instructors are willing to pursue this avenue, it could be nationally beneficial, assisting programmes fill apertures in their instructor pools. During this research, no such existing consortiums for the sharing of adjunct or part time faculty were identified, thus making a proposal such as this unique with no established guidelines to examine.

The established framework of the National Council for Preservation Education could provide a natural platform for the formation of such a consortium. The establishment of a "working group" in the organisation may allow the minority percentage of craft programmes the opportunity to address issues which are unique to their situations and could potentially permit them to begin to formulate the structural framework of the consortium.

The establishment of a consortium of craft programmes is often a long and complicated process, requiring significant dedication in the existing programmes to become established. In ANT terms, this would require the formation of a new actor-network, therefore requiring actors to identify and execute the four elements of the translation process to achieve punctualisation. However, once a consortium is established, it can be argued its ability to assist each programme, through the multiple avenues identified in this section, could form a basis to encourage the establishment of additional programmes in regions, structuring a more holistic national approach to heritage craft. In studying UK counterparts to this approach, namely the IHBC and COTAC, it is important to note that the decisions regarding the continuing operations of individual departments will remain in the purview of schools in which they operate in. As demonstrated by experiences with

the University of Birmingham, along with the redundancy of the Textile Conservation programme at the University of Southampton and others, the support of organisations such as these had little effect on the final decisions of the universities. It is important therefore, to acknowledge that the formation of such a consortium may not protect individual programmes from closure, and the continuance of these courses will be dependent on the financial and reputational needs of the institutions in which they exist.

Unlike the UK system, the fragmentation of the US educational system does not permit the establishment of a national qualification framework for heritage craft, instead relying on regional networks to execute training, which necessitates a more flexible approach to establishing guidelines for training. While this can be observed as a weakness of the US system, upon greater examination, it can be argued that this fragmentation allows programmes to adapt to their own regional or localised needs, permitting more innovation in individual programmes and enhancing the complexity of the training opportunities. While the heritage craft training system in the US has been identified as being much smaller and under greater threat than in the UK, the opportunities to expand the system to encompass the complexity of American building history, drawn from numerous cultural sources to form a unique American architectural heritage, are exceptionally great. By formulating a regional approach to training, supported by a national consortium of programmes and potentially operating under the oversight of accreditation, the expansion of the US heritage craft training network may be justified not due to the antiquity of the structures, but due to the intricacy of the American building tradition.

6.5 Cross cultural recommendations

Although the educational structures and issues facing the UK and US networks are considerably dissimilar, overarching themes have arisen during this research which can be applied to both countries' approaches to heritage craft education.

6.5.1 Increased integration of heritage crafts and new build techniques

In discussions with both practitioners and educational providers, it can be argued that heritage craft and new construction techniques need to be better integrated in educational programmes. Currently, the separation between "old" and "new" build techniques in education may place the two courses in direct competition for students, space, and resources and while potentially limiting students' ability to find gainful employment in the field.

The 2013 follow-up report from NTHG indicated that of the 1,163 UK contractors interviewed for the survey, 91.6% of them identified themselves as mainstream construction contractors that

also undertook heritage work (NHTG, 2013: p. 42), indicating a need for employees to be well versed in both "new" and "old" work. Indeed, even in heritage projects, there is a significant amount of new construction which occurs on site. Urban regeneration and adaptive rehabilitation projects in which heritage structures are adapted to new uses involve substantial new construction practices.

Understanding that a considerable proportion of graduates of heritage craft programmes will be employed by SMBEs, the blending of heritage and modern construction techniques can be seen as essential for graduates to fulfil their company's needs. Furthermore, the need for heritage craft practitioners is not uniform across the UK or US, particularly in rural areas. The need for a practitioner to be diverse in their abilities therefore is often central to ensure continued employment in the heritage fields.

The current inclination to divide "old" and "new" work in training can be seen as providing a disservice to the students in the programmes. One could argue that the basics of building construction has changed little in the past 500 years, and many basic building methods are universal techniques which transcended the barriers of "new" and "old" construction practices. Recognising this communal basis of practice, the potential for incorporation of these techniques in a singular programme is pronounced. Accepting that the current frameworks of the UK and US educational systems are structured towards shorter, more intensive courses, a student's basic understanding of general construction techniques have been argued as essential to grasp some of the complex practices involved in heritage crafts. As Gerald Lynch noted, craft practices can be observed as a circle, with heritage being placed at the top of that circle. Currently, students are entering programmes attempting to grasp the top 180 degrees of that circle, without studying the bottom 180 degrees which forms the foundational understanding of their craft (Lynch, 2014: p.31). It can therefore be justified that the blending of "new" and "old" construction techniques in a training programme is critical to create a holistic understanding of one's profession. Much like the City and Guild's practices experienced by the UK *Intermediary* and *Transitional* participants, this study suggests that programmes should return to the practice of integration of heritage and modern construction techniques in their study. As construction companies diversify their practices to include both new construction and heritage crafts, schools should adapt to meet the changing needs of industry and increased integration of new construction and heritage practices is valuable to ensure heritage craft education remains viable in the modern educational structures of both countries. By expanding beyond the network of heritage craft to include those in the wider and often overlapping new construction network, heritage craft education could potentially mobilise a substantial and influential network of allies to support their cause.

6.5.2 Increased direct communication with industry

In this research, a considerable disconnect was observed between practitioners and educators. This disconnection between industry and education can be seen as having serious ramifications for heritage craft education. Culpability for this disconnection, this thesis argues, can be placed on both factions, as practitioners need to comprehend the limitations placed on educational programmes in terms of time and resources. They also may need to acknowledge that entry level practitioners will require additional training to become competent in the field. Educational participant John Moore noted his frustration with industry:

> We have students in our classes usually for about three semesters. Employers have to pull up their big boy pants and take on the responsibility for that on the job training…. they're going to have to step up and if we want trades training to continue then there's going to have to be an on the job training…they're going to have to take some of that responsibility (Moore, 2015: p. 11).

John's frustrations reflect a larger dissatisfaction in the educational world regarding the expectations placed on programmes by industry as the desires of an apprentice often far surpass the ability of programmes to fulfil them. Economically for companies, it is advantageous for a new employee to be competent at their trade to a level in which they need little to no supervision while on site, but the expectation of employers that they will receive this competency level from a recent graduate being paid entry level wages may be unrealistic based on the length of actual training in the workplace that is available during a course. The newly formulated apprenticeship scheme in the UK, initiated in 2017, is an attempt to address some of these concerns, and further research into the success of this scheme should be conducted once the framework is fully integrated in the current system.

Conversely, it could be said that educational providers are failing to properly engage with industry to understand the needs of practitioners and to voice the issues they are experiencing in their courses. This lack of engagement with industry can be argued as hindering the development of their programmes, as they fail to comprehend changes experienced in industry and neglect to utilise the expertise and resources of industry partners. This failure to engage has left many practitioners aggrieved with educators, formulating perceptions of their abilities and skill levels. Gerard Lynch noted his opinion of some brick laying instructors in the UK:

> So what's happening now is we're attracting in the wrong type of people. A lot them, in my opinion are failed bricklayers, who did an okay job on site, but are now looking for a cushy job at a college
> (Lynch, 2104: p. 26).

While Gerard's opinions may seem extreme, it is argued in this research that this type of frustration with educators permeates throughout networks, and is restricting the growth of the industry.

Training future generations can be considered a collaborative process. The network of knowledge transfer across generational boundaries transcends the formalised academic settings in which these fields have been placed, and currently, educators and practitioners may not comprehend each other's interessment in the network. Increased direct communication, outside established formalised bodies, could be initiated by both parties to achieve a more cohesive working relationship. In ANT terms, this communication may increase enrollment and therefore the punctualisation of the network. While formalised organisations can be seen as having their role in the collaborative structure, this research maintains that enhanced understanding of the needs of the opposing group is best accomplished through informal communications and partnerships. Local advisory boards, common to programmes in the US, often formulate relationships with local companies, garnering partnerships regarding student placement, adjunct instructors, and donated materials, all issues which have been identified by educational providers in both countries. While these advisory boards are often a structured component of the educational process, the meetings have been described as very informal in nature, held in a relaxed, open atmosphere where both sides are free to express their opinions and concerns (Mertz, 2015, Moore, 2015, and Hole, 2015). Further information regarding advisory board practices can be referenced in the educational providers' interview transcripts located in Appendices XXVII-XXXVIII.

By formulating direct professional relationships between educators and practitioners, both aspects of the training system could improve by understanding the barriers faced by the other and adjusting their practices or perceptions to greater serve the needs of the student. Educators could receive direct feedback on their practices with the potential for additional support, the practitioners may have a direct input on the training procedures, assisting in tailoring training to their needs and therefore having direct influence on their potential workers. While the short-term advantages for localised networks are great, the long-term advantages for the national networks are potentially much more significant.

The perception of the “craft time bomb” due to young practitioners not being trained in the heritage crafts is arguably a consequence of the failures of these two parties to effectively communicate their needs and issues, therefore restricting the growth of the industry. The long-term benefit to the networks of increased communication would be a continuation of craft knowledge to future generations and the perpetuation of practice in the industry, particularly in SMBEs, which are often not engaged with formalised development of training standards. By engaging with representatives of SMBE companies, educators may have the opportunity to develop a greater understanding of the needs of these companies, while conversely these SMBEs could better contribute to the formation of training standards. This research therefore, has demonstrated that direct communication, outside established industry bodies, may assist in achieving an enhanced enrollment of practitioners in the educational network, potentially strengthening its punctualisation.

6.5.3 Increased outreach to potential student populations

When examining the route to practicing their craft that the practitioners pursued, it was observed that many of the participants did not choose heritage crafts as their first career. Many studied art, architecture, or engineering programmes, with several contemplating a career in the military before deciding on heritage crafts. These circuitous routes to choosing heritage craft, it can be argued, can be traced to the societal disregard of vocational trades and the encouragement of both parents and school officials toward university education and away from craft training. While this societal issue may persist, the heritage craft education field has the potential to contest this trend by promoting heritage crafts to graduates as a supplement to their original field of study. As identified in this research, the average age of students in programmes is in their mid-twenties, potentially denoting not only a lack of outreach to school leavers, but a growing dissatisfaction in university education and a desire to pursue a career based on working with their hands. It can therefore be argued that programmes may find it advantageous to focus their recruitment on former university students, either graduates or leavers, along with those looking to retrain for a new career rather than recent compulsory school graduates. Currently, the students looking for a career change have been proven to be the most successful students in terms of graduation and placement rates and serve as a solid foundation in which to expand an enrollment base. Programmes can potentially recruit prospective students from the “maker’s movement”, the growing trends in artisan crafts ranging from foods to traditional crafts, with groups such as the Heritage Crafts Association (HCA) raising awareness of various endangered heritage crafts in the UK through its 2017 Radcliffe Red List (Heritage Crafts Association, 2017). These individuals, who already have an interest in working with their hands could be a valuable recruitment avenue for programmes. In attracting this growing population, schools may benefit

by targeting individuals with backgrounds in three specific areas; art, architecture, and engineering. Individuals from these groups, it can be argued, can formulate their studies around specific crafts which directly relate to their previous studies. A vital area of concern when relying on attracting re-trainers to fill courses revolve around potential familial restrictions placed on female participants. While many educational providers acknowledged the high percentage of female students in their courses (Lee, 2015, Devlin, 2015, Sandusky, 2015, Mertz, 2015, Swerdorff, 2015, Hole, 2015, and Henshaw, 2015), a potentially greater number of women which could enroll in these courses may be impeded from studies due to personal and societal pressures surrounding caring responsibilities and perceived roles of women in the family domain.

Students with artistic backgrounds were common in the generational interview participants. Using their established spatial comprehension, students with a background in conceptual art may be attracted to courses in wood or stone carving, along with blacksmithing and related metal crafts. Conversely, students who concentrated on three-dimensional design may be attracted to plaster working, given their understanding of mould making and casting. As Henry Orton noted in his route to plastering, the transition from 3-dimensional design to plaster working was simple, as many of the concepts and techniques are similar (Orton, 2015).

Painting and illustration-based art students can potentially make the conversion to heritage crafts such as leaded glass and decorative finishes. By appealing to these skilled artists, programmes specialising in these trades may attract these graduates by offering them an opportunity to continue practicing their craft through practical applications of their skills in heritage practice. The concepts and practices between the heritage building craft and artistic fields, it has been argued, are often interchangeable and indeed heritage crafts have been termed by many as “building arts” (Morris, 1882), with practitioners respected as artisans working in mediums related to the construction and repair of both new and heritage buildings. Art based students and re-trainers represent a significant potential source of new students for these courses and programmes, particularly those based in interior finishes such as painting, glass, and plaster, along with stone and wood carving, could benefit by concentrating their recruiting efforts in attracting these students.

Architecture students also represent another potential avenue of recruitment for heritage craft programmes. The field of architectural design developed directly from the building craft world, where in the sixteenth and seventeenth centuries, designers and builders were often considered of equal value (Hanson, 2003). The separation of the building and design fields can be identified as having a significant impact on building design and performance, with architects having limited

exposure to the practical application of craft in their studies. Indeed, as the architecture design field becomes more complicated with the advent of computer aided design and the growing complexity of building codes, students have often been required to focus their studies on conceptual design practices at the expense of craft skills, which can be found in the requirements of certification in the architecture fields of both professional frameworks.

While this trend away from practical application to a conceptual model has been prevalent for the previous 50 years, some schools are beginning to return to a more practical application of architecture. A growing subsection of “design-build” programmes, in which students first design and then construct a structure are attempting to bridge the divide between design and craft, with Auburn University’s Rural Studio programme being recognised as one of the first and most influential of these courses (www.ruralstudio.org) .

Comprehending the increasing popularity of these design-build programmes, heritage craft programmes can attract architecture graduates to their courses by appealing to their interests in building design. Unlike their artist counterparts, architecture graduates may potentially be attracted to courses such as heavy timber framing, and brick and stonemasonry rather than decorative arts, due to their direct relationships with architectural design. Understanding of structural forces, along with rendering and detailing skills allow these students to comprehend structural design principles, potentially permitting them to advance in their chosen craft earlier than others.

The architecture and heritage craft trades can be perceived as being constructed from the common practice of creating the built environment, which are beginning to return to the collective origins. This return however, can be identified as being instigated in architecture programmes, with heritage craft courses having little integration with their architecture counterparts. Excluding a few exceptions such as the Prince’s Foundation in the UK and ACBA in the US, heritage craft education can be viewed as limiting their ability to mobilise the potential allied network of architects by failing to directly engage with the architecture field. These programmes could attract architecture students by marketing their courses as a continuation of their previous studies rather than a change in career. Indeed, even if architecture graduates return to the design field after studying heritage craft, their enhanced understanding of building practices and material sciences may assist them in specifying work which may escalate the need for qualified heritage craft practitioners.

Similar to their architect counterparts, the field of engineering comes directly from the building industry. The practice of engineering however, has subdivided into individual specialisations such as mechanical, structural, and civil engineering, all with potential applications in the heritage craft realm. Much like their architecture equivalents, students must learn hand and computer drawing, material dynamics, and structural forces, providing them with beneficial previous knowledge for the heritage craft sphere. These students, like architecture graduates, may potentially be attracted to courses such as timber framing and masonry, given their interest in structural and materials dynamics. Unlike their architecture equivalents however, it can be observed that heritage craft programmes cannot be marketed as a continuation of their studies, but as a specialised subset of engineering: heritage craft engineering. This specialisation can be defined as one in which traditional structural designs are observed through the amalgamation of craft practices and engineering philosophies.

As observed throughout this research, both practitioners and educators have noted concerns surrounding how to appropriately market these courses to reach interested individuals, describing societal disregards for vocational education hindering the ability to attract dedicated students (Lynch, 2015, Christian, 2015, Russack, 2015, Webb, 2015, Purcell, 2015, and Wilkins, 2015), as vocational education is often perceived as an avenue for those who are not prepared for university and thus not ready for professional employment (Orton, 2015, and McRitchie, 2015) and courses have become dependent on college graduates and career changers to fill their courses (Lee, 2015, Mertz, 2015, and Swerdorff, 2015). These returning students however, enter programmes with different concerns than their younger counterparts.

As demonstrated, programmes may find it financially judicious to model their marketing away from attempting to attract secondary school leavers and instead concentrate on university leavers and graduates, along with career changers potentially targeting students with a first degree in art, architecture and engineering, giving them a practical application to their conceptual university training. Relying on these students however, could have its drawbacks. As funding streams for students become more restricted, it is more difficult for learners with first degrees to obtain additional funding, particularly for programmes at or below their current awarded level. Understanding that levels of attrition due to financial restrictions would be higher in this student population than secondary school graduates, it can be argued that schools should be prepared for a greater number of students failing to complete due to circumstances beyond the programme's control, which may be addressed through increasing the flexibility of course offerings or assisting in securing outside funding. Regardless of the funding concerns, increased marketing and recruitment of career changing students over secondary school graduates may

prove instrumental for the growth and sustainability of these programmes. Understanding that greater societal issues regarding heritage crafts are unlikely to change, this thesis contends that programmes should concentrate their limited resources on attracting those who have adhered to societal pressures and chosen to either discover or return to their desires to engage with craft skills. By engaging with students and programmes from connected networks in the building and artistic fields, heritage craft programmes can work to secure punctualisation of the networks by appealing to larger student populations, thus increasing enrollment and therefore sustainability of the system.

6.5.4 Increased partnerships with heritage organisations (blending of multiple champions)

When questioned about the reasoning behind the founding of their programmes, educational provider participant responses classified them in either the internal push or external pull categories, initiated by a programme champion. Recognising that courses need a programme champion to support their founding and early development, this research argues that programmes will remain vulnerable when they are relying on one individual, organisation, or event to ensure their programme endures. It is recommended therefore that programmes individually formulate local and regional networks of programme champions, comprising of both internal and external advocates which can collectively represent the value of the course to a wider community. In ANT terms, this blending of multiple champions will mobilise allies in the translation process, assisting in continuing the punctualisation of the network.

Similar to the need for increased dialogue with industry, the formation of an association of programme champions has the potential to allow the instructor to gain a greater understanding of local and regional developments in the heritage field. By keeping the programme abreast of major works scheduled on their structures and potential grant funding opportunities, these allies could play an integral role in programme development and sustainability. By engaging with these champions, programmes have the opportunity to expand their promotional capabilities by allowing organisations to potentially market their partnerships with the course in their own fundraising activities. Internal champions, noting the influence of these organisations in their community and recognising that board members and individuals associated with heritage may be influential in other aspects of the community, may be hesitant to withdraw support of the course if outside champions have expressed their assistance.

To appeal to these organisations, programmes must be willing to be flexible, understanding that programme champions will arrive with pre-conceived ideas or agendas which may be monetary, personal or community based. Programmes should be willing to work with these champions to

achieve their goals while concurrently growing and supporting the students and not becoming completely reliant on their agendas. Support may include assisting on community projects, participating in promotional events, or joining in grant applications or schemes. These desires potentially will require the instructors to become flexible in their approach to formulating class schedules and projects as well as being willing to dedicate additional personal time outside of working hours to attend meetings and events for these causes.

Similar to the need for industry support, this research argues that programme instructors must acknowledge that heritage conservation is a collective effort between multiple entities, and this larger actor-network outside of the training realm directly influences the economic vitality of heritage crafts. The possibility of increased visibility through wider network partnerships, along with the introduction of previously inaccessible funding streams, may alleviate some of the issues with marketing and funding these courses confront. It has been concluded that the formulation of recommendations for balanced frameworks in the course of this research would be injudicious, as individual programmes must establish their own balance based on their distinctive institutional context.

Once an understanding of a programme's and outside organisation's ability to best support each other is established, a working relationship may be formulated which has the potential to lead to additional partnerships with ancillary organisations, potentially expanding the programme's influence in the community. In ANT terms, these partnerships may further expand the allied networks and assist to strengthen punctualisation of the existing network. While an association of champions may not be sufficient to protect a programme against closure due to extenuating circumstances, the support of multiple outside partners may prove influential in persuading the decisions of administrators. This research argues that programmes, to ensure the value of the courses is recognised in the larger network of the heritage conservation industry, must make a concerted effort to engage with the larger networks of heritage conservation outside those who are directly involved with heritage crafts, assisting in the mobilisation of allies, which has been identified in this research as a primary failure of the current translation process in both networks.

6.5.5 Engagement with heritage networks to formulate new models of heritage craft training delivery

Drawing on the findings from interviews with practitioners and educational providers, several potential models of engagement with heritage sites can be proposed that offer different archetypes of training delivery which have the potential to add value to education through collaborative partnerships with the wider heritage conservation networks of practice.

Engagement with local and regional organisations may assist programmes in alleviating concerns with workspaces, materials, and budgets, and these proposed models have the potential to be built upon to establish a larger network of training opportunities in both networks, while concurrently contributing to the continued maintenance of heritage sites.

While grant funding has been noted by participants as being beneficial for advancing the quality of their courses, the dependency that many programmes have on external grants to operate has been identified as exposing courses to disparities in yearly funding, which may affect programmes' abilities to engage in long-term planning. To ensure the long-term viability of programmes, coupled with the necessity for courses to expand their outreach to both industry and heritage partners, this research argues that courses should work to expand their learning to outside their workshops and engage directly with the conservation of heritage sites.

Several courses studied already engage with outside heritage organisations to assist in their educational practices, including Clastop Community College and Historicorps in the US (Swerdorff, 2015 and Henshaw, 2015) and the Prince's Foundation in the UK (Sandusky, 2015). While these educational models have proven successful in various degrees, this research has determined that programmes need to considerably increase their engagement with historic sites to assist them in mitigating their space and budgetary restrictions.

Heritage sites and organisations have traditionally faced the arduous tasks of fundraising and maintaining their historic properties. As the comprehension of historic significance continues to evolve and expand, the number of organisations and sites increases yearly. While this expansion can be seen as valuable to increasing engagement with heritage among the general population, this development also expands the number of parties seeking a limited supply of funding from both governmental and private entities. As funding avenues become more competitive, organisations have increasingly needed to explore alternative methods of maintaining their structures. Heritage craft programmes may offer these organisations additional opportunities to conserve their structures while simultaneously assisting in the training of the next generation of heritage craft practitioners.

In studying current innovative practices, the blending of workshop and on-site training has been argued by many interview participants as fundamental to a holistic comprehension of craft practices (Lynch, 2014, Orton, 2014, Toyne, 2014, Ellis, 2014, McRitchie, 2014, Sasser, 2014, Webb, 2014, and Purcell, 2014). Although some full-time programmes, notably in the US, engage with on-site projects in a limited capacity, (Mertz, 2015, Broadwater, 2015, and Hole, 2015),

these full time offerings, while potentially being more shielded from the variations in the building industry, often do not carry the same prestige as apprenticeship based programmes (Billyard, 2015). The lack of respect identified through the research is based on the perception in the crafts that workshop-based learning fails to simulate the workplace experience. To address this industry concern, programmes should blend workshop and site-based learning in their training, and financially besieged historic sites have the potential to offer ideal locations in which students can engage with worksite conditions in a controlled educational environment.

Potential Partnership Parameters

Working through a course's association of programme champions framework proposed in section 6.5.4, programmes may identify appropriate sites which could benefit from student engagement and are willing to offer their structures to assist in student learning. Once sites and projects are identified, a programmatic agreement can be formed between the two organisations. From this research it is possible to identify several key areas that may be central for the success of such a venture:

1. **The heritage organisation provides funding for all materials needed to complete the project:** This will alleviate the courses need to supply materials for that module or section.
2. **Any approval for repairs must be obtained by the organisation:** This would include listed building consent in the UK and building permits or historic district review in the US.
3. **The course must complete the work in established time frame:** This may ensure programmes identify projects which they can complete in their academic calendar. As programmes often only offer a module once per year, this will avoid prolonged interludes of repair.
4. **The programme will not receive additional monetary compensation for the work:** This will safeguard continued support of industry partners, as programmes may be perceived as appropriating contract work from companies.
5. **Both organisations are permitted to market the partnership to assist in increasing their visibility in the community:** This may assist both organisations in effectively leveraging their limited marketing resources to demonstrate their commitment to community engagement.

In this partnership, both entities can potentially gain significant advantages through the conservation of limited budgetary resources, and each organisation must comprehend the potential drawbacks of such an agreement.

Course leaders would need to determine the extent of work the students will be able to achieve in the term in conjunction with their stated educational goals for a class. Failure to complete projects in the stated period or accepting projects beyond the students' expertise level may cause considerable damage to the reputation of the programme in its network of practice, potentially limiting its ability to obtain future projects. Furthermore, course leaders may need to consider travel time, weather conditions, and potential delays in materials or permitting in their planning process. Programmes, it can be contended, should not base the entirety of a course or module around a project, but rather use a partnership as a group assignment or project in the greater course structure.

Much like their educational counterparts, heritage organisations may need to take into consideration the potential drawbacks of such a partnership. The possibility for greater problems being discovered during the course of the students' work, necessitating the stoppage of the project and the redirection of funding to address these issues is a possibility, as is the added costs of building permits, materials and equipment which may burden limited resources. Perhaps the most valuable consideration before initiating such a partnership is an understanding by heritage organisations that student workers are not fully qualified professionals, and the completion of the project could take longer than if undertaken by private industry. Long term exposure to the elements, errors by students, and the potential for higher than anticipated material costs due to repeated student mistakes are possible. From the experiences of educational providers, the approach is seen to work effectively where heritage organisations enter such a partnership with a patient, open mentality, understanding that their commitment to the students' learning may in the long term, save them money while increasing their marketing and funding capabilities. Often, funding streams, such as the HLF, require educational engagement in their award structure, and partnerships with heritage craft training programmes have the potential to demonstrate their ability to initiate such programming.

While this partnership may be beneficial to programmes and organisations, it can be argued by industry that these partnerships restrict work for practitioners and therefore limit their ability to accept apprentices or grow their businesses. By performing smaller projects, often deferred maintenance, it can be maintained that heritage organisations can reserve more of their funding for larger scale projects which are outside the ability of programmes to complete. Those projects therefore, can become available for practitioners to tender, thus assisting them in developing their business. While this proposal has potential benefits for programmes, industry and heritage sites, this research indicates that there are several limitations to this type of engagement. It has been determined that programmes should not engage in any project which involves a tendering

process since they can easily underbid practitioners as they do not have to employ a workforce or directly pay for insurance. Furthermore, programmes should only engage with government and non-government organisations and not private property owners for obvious ethical reasons around private gain from educational activities. By engaging with industry at the initiation of such a partnership to ensure conflicts do not arise, programmes may be able to ensure continued support of their professional partners.

Establishment of training centres at heritage sites

In viewing heritage craft training networks beyond the individual existing programmes, it has been identified that both countries possess the ability to expand training delivery models to include regional centres for craft training, established at existing heritage sites in need of repair and engaging with multiple levels of practitioners. Incorporating components of the Prince's Foundation continuous site improvement along with the Historicorps mobile classroom these innovative initiatives could be combined with the desire of some practitioners to establish centres to train and upskill workforces (Ellis, 2014). The training networks in the UK and US, working with their industry and organisational networks, have the capability to establish a series of regional skills centres throughout their countries in which students can receive a framework of instruction under the authority of an educational institution while concurrently engaging with historic structures in need of repair. The establishment of these centres, this thesis has determined, may permit a greater outreach for programmes while limiting their needs for established workspaces on campus. Furthermore, by structuring the programmes using the partnership frameworks and industry support, these skills centres can assist in maintaining notable heritage sites while liberating resources for larger projects.

Potential approaches for UK training centres

In the UK, the regional skills centre model may have the opportunity to be established under the current NVQ structure. Understanding that the framework of the NVQ permits flexibility due to its block release system, schools could engage students in a full-time programme under a block release model by serving as the "company" working at a heritage site. This could prove invaluable during times of economic recession in the building trades, continuing the training of craft workers when apprenticeships become scarce. In this model, students could attend their instruction as normal during their block release and engage with the heritage site during their working time in which repair campaigns are structured around the on-site competencies students are required to demonstrate. Noting the issues raised by some practitioners and educational providers concerning apprentices working with companies who currently do not have work scheduled that demonstrate certain competencies, (Toyne, 2014, Ellis, 2014, Wilkins, 2014, McGibbon, 2015, and

Billyard, 2015) these sites could also be used by apprentices from other companies to demonstrate their abilities to external assessors, which may assist in alleviating a major concern in the current apprenticeship structure. Ideally, the entirety of instruction could relocate to the heritage site, relieving the college of the burden of maintaining a workspace on campus.

For the abundance of heritage sites in the UK, many of which are in dire need of repairs and do not possess either the in-house maintenance crews or financial capabilities to hire practitioners to perform the work, the establishment of a regional skills centre in their site may prove essential to the safeguard the future of some buildings currently at risk. Potential national partners could include the National Trust, using their network of 300 properties as well as their landscapes and tenanted properties, the Churches Conservation Trust and its continuously expanding inventory of redundant churches, or English Heritage's approximately 400 sites and landscapes throughout the country. While many of the structures in these networks require constant maintenance campaigns, regional skills centres established at these sites may be limited in scope due to the types of repairs needed, and may be required to operate at multiple locations simultaneously to ensure the totality of the required training can be accomplished.

Possibly the ideal locations for regional skills centres in the UK exists in the network of medieval cathedrals found throughout the country. These structures and their corresponding close properties represent multiple epochs of English building styles and techniques. Few of these cathedrals have permanent Works Departments but have a continuous need for maintenance and repair. Many also possess structures in their inventories of close properties which could be converted into workshop and classroom spaces in which the skills centres can operate. By establishing regional centres at major cathedrals, multiple programmes, such as stone and brick masonry, joinery, glass, and roofing can operate concurrently on site, with the possibility of drawing in modern trades such as electrical and mechanical as well. Using the prominence of cathedrals, coupled with the community engagement components of these partnerships, these centres could perform necessary maintenance of these sites while liberating funding to engage in larger projects. It is important to note that regional skills centres independently should not be depended upon to conserve the entirety of a cathedral or other heritage sites, and engagement with professional practitioners is also necessary to ensure significant works initiatives are completed.

Currently, Leeds Building College is in the process of initiating a similar programme in the new construction fields. Tentatively titled "Skills Villages", this programme will operate on several large new housing estate projects with the students working directly on-site with practitioners

constructing small buildings such as garages and electrical sub-stations. This programme will engage students in various trades including masonry, carpentry, electrical and mechanical, to permit students to develop not only their practical skills in their craft, but to comprehend the importance of "soft skills" such as time management, appearance, and proper workplace etiquette. By working on-site along with practitioners, it is anticipated that companies will be given the opportunity to observe students during their classes and potentially recruit directly from the classroom into their companies (Billyard, 2015). Although this programme is in its infancy and the effectiveness of this structure is yet to be determined, the Leeds' Skills Village model is an innovative initiative which should be judiciously studied in the future to determine the advantages and drawbacks of such an arrangement. While the programme's effectiveness has not been confirmed, it provides a valuable model which could potentially be replicated in the heritage craft fields.

Potential approaches for US training centres

In the US, the establishment of a regional skills network may first require the formation of the proposed regional approach to training along with the formation of a consortium of programmes. Without the initiation of these two enterprises, the formation of a regional skills centre structure will potentially be difficult to obtain, as the underlying framework needed to establish this system is currently non-existent. Once these structures are established, it can be argued that skills centres can be created based on the identified regional specialisations.

The state park systems, in which individual states own and operate protected lands and historic sites in their boundaries, provide a potential avenue for regional skills centre establishments. This is particularly valuable when examining the required funding mechanisms for programmes in the Community or Technical College systems, in which resources allocated must be spend in the school's state or service area. As the state parks are a separate branch of the state government, the ability to formulate partnerships via inter-governmental procedures to establish these skills centres may prove easily obtainable. The potential disadvantage of these agreements exists in the understanding that both agencies may be susceptible to state budgetary cuts due to revenue shortfalls and this partnership may not have the advantage of operating with two independent funding streams which could supplement deficiencies when shortages occur.

The establishment of US regional skills centres in the US National Park System may potentially eliminate the disadvantage of the single-stream funding structure found in the previously proposed state park scheme. Currently the National Park Service consists of 84 million acres of land protected in 410 individual sites, in which approximately 27,000 historic structures are

located. (National Park Service, 2016). At least one National Park unit exists in all fifty states, in both rural and urban areas, eliminating the concern surrounding the use of state funding outside state boundaries.

The Park System has a long-established history of supporting conservation activities, maintaining the National Register of Historic Places and sustaining internal programmes such as the National Centre for Preservation Training and Technology (NCPTT) and the Historic Preservation Training Centre (HPTC). The system also has had a leading role in the formation of the Secretary of Interior Standards for Historic Preservation, a system of guidelines for heritage conservation practice in the US (National Park Service, 2016). Although the Park system has been influential in protecting America's natural and built environment and setting guidelines for practice throughout the country, the organisation has suffered considerable strain over the previous twenty years due to restricted budgets and an extensive backlog of maintenance projects. In 2016, in conjunction with the celebration of the Park Service's 100th anniversary, the Park Service released a statement noting that the system currently has a $11.9 billion USD backlog of maintenance work, with Park Service Director Jonathan Jarvice stating; "While Congress provided increases this year, the annual bill for maintenance in America's National Parks is still almost twice as much as is appropriated" (National Park Service, 2016: p.1).

While this backlog is not exclusive to heritage structures, the maintenance concerns on sites in the Park System are substantial, necessitating the need for alternative methods to conserve these structures to be developed. The establishment of regional skills centres in the National Park Service therefore has the potential to serve a two-fold approach of training craft practitioners while contributing to reducing the maintenance backlog in the Park Service. Park sites often have established workshop spaces, unused structures which could be converted to workshops and classrooms, and internal maintenance crews which can work alongside apprentices. Larger Parks often maintain educational centres, temporary and long-term housing options, and extensive infrastructure systems. Certain Parks have existing towns in their boundaries, permitting students additional potential opportunities for housing and employment.

Many Parks also receive additional income from concession sales and non-government associations raising funds for the needs of the specific park. Additionally, the National Park Foundation is a national organization which raises money and awareness of Park Service initiatives (National Park Foundation, 2016). Due to these multiple funding streams, along with potentially greater networks of individuals interested in certain aspects of American history such as the Civil War or westward expansion, regional skills centres operating in the Park Service may

have the opportunity to access these multiple funding streams to support their activities, further alleviating their financing issues.

The concept of establishing training centres in the National Park System is not original. The 1968 Whitehill Report recommended the establishment of "Conservation Centres for Traditional Building Crafts", noting an ideal location being Independence Hall National Landmark in Philadelphia, Pennsylvania (PTN.org, 2016). This recommendation however, was for an independent centre, absent from association with an educational institution, and focused towards those practicing the trades and having the desire to obtain traditional skills. This recommendation reflects the national philosophy towards higher education at the time, in which post-high school education was reserved for the elite and employment obtained through on-site training. Modern society however, greatly values the obtaining of a college degree and therefore this thesis maintains a partnership with an educational institution is fundamental to ensure sustainability of the centre.

Continued professional development at training centres

While this research argues that the training of practitioners in a formal academic framework would be the primary focus of the regional centres in the UK and US, the system could also serve as a clearinghouse for training opportunities and upskilling for the larger network of practitioners engaged with heritage activities. Continuing Professional Development (CPD) courses for architects, engineers, and planners focused on craft practice could potentially be offered, supplementing the budgets of the centres. Furthermore, upskilling short courses designed for those already practicing, based on specific elements of their craft is a further potential offering of the regional centres. The establishment of regional skills centres and their short-term upskilling programmes may allow the continuation of these practices while eliminating the necessity of dedicating limited class time for training in the academic programmes.

To summarise, the formation of a regional skills centre system based on collaboration between educational providers, heritage organisations, and industry practitioners requires significant investment, both monetarily and operationally from all parties. In the UK, educational providers may need to develop greater flexibility in their approach to formulating courses around the needs of the heritage sites in which they serve, adapting their full-time courses and potentially serving as a direct assessment site for crew report submissions. Heritage site operators, it has been argued, will need to understand how the needs and practices of education differ from those of industry practitioners, and project timeframes may be longer than anticipated due to these differences. Industry partners may have to be reassured that these centres are not competition

for employment, but an avenue in which minor work is performed to liberate funding for larger campaigns which they can perform. Conversely in the US, a national structure of core curriculum should be established to ensure continuity across regional boundaries. By operating in the state or National Park Systems, these centres can serve a dual purpose of educating students and performing essential public service for the benefit of the greater population.

While the barriers to the establishment of a regional system of heritage craft centres may seem great, given the complexity of the potential partnerships and the significant financial investment which will need to be expended during initiation, the formation of these schemes would represent a new model for heritage craft training, blending formalised training with work-based experience while assisting heritage organisations conserve their historic structures using limited financial resources. Before proposals such as these are originated, careful examination of the Leeds Skills Village programme and related initiatives, albeit based on new construction procedures, should be further studied to determine advantages and shortcomings in the framework to better formulate a plan for a larger system of training in these regional centres.

6.6 Conclusion

Throughout the course of this research, it has been shown that the training of heritage craft practitioners has undergone significant changes in both societies. While these changes have affected the approaches taken in both countries regarding the continuance of heritage crafts, it has been contented that, from an ANT perspective, while the networks have experienced some issues regarding continued punctualisation, they have not been significantly altered from their historical origins, but rather currently suffer from translation issues which transcend cultural networks, namely a misunderstanding of the interessment roles of practitioners and educational providers and the failure to effectively mobilise allies to ensure support over wider networks of both education and heritage conservation.

While the issues surrounding heritage craft education in both countries seem great, innovative practices are currently being attempted inside both frameworks, and further initiatives may be developed to assist both networks in adapting to the changing nature of both the industry and educational systems. The proposals set out in this chapter are based on the identification of the failures through the examination of the historical progression of craft training, along with the previously discussed findings from practitioners and educational providers. It has argued in this chapter that these recommendations can assist in addressing these failures of the translation process, thus ensuring continued punctualisation and therefore future sustainability of these networks. The mobilsation of allies, either human or inanimate, has been identified as a

significant shortcoming of both networks to ensure punctualisation of the existing networks. By identifying actors which may assist in the continuation of the network (interessment) such as other programmes, heritage organisations, and programme champions, courses may be able to mobilise a greater network of allies to support their goals. This thesis contends that programmes must increase outreach and flexibility to ensure they can better collaborate with the wider heritage and construction networks, thus increasing programme sustainability and encouraging the expansion of the existing network. The proposals in this chapter, drawing on the findings of the study and the experiences of participating practitioners are designed to assist in addressing the current shortcomings of the networks through inventive educational approaches which permit courses to continuously engage with the wider heritage networks, thus assisting in solidifying their punctualisation and ensuring the continuance of the generational transfer of craft knowledge.

Understanding that the heritage craft training network exists as a component of several larger, often intertwined networks of practice, the adoption of the proposals in this chapter may have wider positive implications for the ancillary networks which heritage crafts are associated with, thus solidifying coherence (punctualisation) of these networks and the actors which operate therein.

The building industry encompasses multiple networks which often overlap and are sometimes at odds with each other. One group of allied networks which could potentially directly and indirectly benefit from the proposals set forth in this chapter are the designers; architects, interior designers and planners. These networks of practitioners are the ones which specify the work performed on heritage buildings, often without direct input from the craft practitioners (Harris, 2014 and Norton, 2015). If members of these designer networks are permitted to directly participate with these practices, through CPD courses or engagement events, they may gain an enhanced appreciation for the skill involved in practicing these crafts, thus gaining heightened respect for these expertise that often goes overlooked in the planning process. This increased level of respect may potentially allowing greater communication between networks on a project, assisting the industry to return to the designer-builder relationship which existed before the separation of the two fields (Hanson, 2003). By supporting the redefinition the heritage craft training network, allied designer networks may strengthen their own practices by gaining a larger skilled workforce which will allow them to specify best practice techniques on projects with decreased concerns about obtaining qualified workers or adding significant costs to a project. In ANT terms, the improvement of the heritage craft training network will increase the punctualisation of the designer networks by solidifying the confidence that these designer actors

have pertaining to the interessment and enrollment roles that craft practitioners serve in the building or repair process.

Educational orgnisations could also benefit from the implementation of the proposals set forth in this chapter. Drawing from the educational provider interviews it has been argued that these programmes face numerous issues which affect their ability to survive, and many only do so through their reputation as a "prestige" programme in their institution. If the initiatives recommended in this chapter are implemented, Colleges may have the opportunity to expand on the "prestige" status of these programmes to help draw in additional actors and networks to engage with their institutions while simultaneously alleviating budgetary, space and instructor concerns that many of these courses face. By blending multiple champions that assist in supporting these courses, institutions may have the ability to engage with these new actor's personal and professional networks which may have been previously unaware of the college's initiatives, thus mobilising additional allies to support the wider goals of the college. Furthermore, by using the programme's activities with wider networks, such as the National Park Service in the US and the network of Cathedrals in the UK, schools have the potential to expose themselves to a wider audience than they have been traditionally engaged with, and could use this opportunity to dispel societal perceptions of the value of their training for potential students and employers. In ANT terms, by implementing the proposals in this thesis, colleges, using the work performed by their heritage craft programmes and their "prestige status", have the opportunity to mobilise allies for not only these heritage craft courses, but also other sections of the College, thus assisting in formulating or continuing punctualisation of the College's individual course networks as well as the institution as a whole.

Perhaps the most immediate and substantial beneficiary of the adoption of these recommendations would be the network of heritage sites in both countries. The potential for these sites to receive much needed repairs at a discounted rate by learners would assist them to apply their limited resources to other initiatives. Furthermore, by using the repairs the students are doing as a promotional tool, these sites can leverage the work performed to engage with wider networks of potential allies including grant funders, donors, and industry partners. In ANT terms, by implementing the formation of on-site training activities their sites, heritage organisations can mobilise previously unexploited allied networks to expand their impact, thus potentially raising allies' interessment and enrollment to their activities therefore solidifying the punctualisation of their network.

In summation, the recommendations put forth in this chapter will assist programmes and allied networks to increase the understanding of the needs and limitations of each other's enrollment roles within the network, Furthermore, by blending multiple programme champions and directly engaging with heritage sites to act as training centres, the current network can increase their punctualisation through the process of mobilising additional allies to support their cause. These additional allied networks; industry groups, educational organisations, and heritage sites will directly benefit from these proposals by expanding their own networks to include potential allies which they may never have engaged with before. Indeed, even if designers, organisations and sites did not directly participate in these new initiatives, they have the potential to benefit from these schemes through the development of a more competent workforce that can sustain the generation transfer of craft knowledge for the future.

Chapter 7 Conclusion

7.1 Introduction

Throughout the course of this research, several key themes have arisen regarding the current delivery of heritage craft training in both the UK and the US, namely historical and current misunderstandings of the nature of craft training, dissatisfaction of practitioners with the current training delivery, and pressures facing training providers in the current academic frameworks. When examining these themes through ANT methodology, it has been argued that the failures of the current training networks in both countries have occurred in the final element of the translation process; the mobilisation of allies (see above p. 24). This failure of the mobilisation of allies, in ANT terms, has been demonstrated in this research as causing a disconnect between the practitioners and providers, potentially leading to long term ramifications for the continuance of the generational transfer of knowledge in heritage crafts. The proposals set forth in Chapter 6 of this study present a number of scenarios and potential strategies that could be adopted by educational providers to assist in re-engaging with both practitioners and wider networks of allies, thus completing the translation process.

This study has identified three separate, yet intertwined issues facing the current heritage craft training networks that need to be addressed; a reassessment of traditional craft training practices throughout history, a greater understanding of the transitions of craft training since the Second World War, and the disparities between the perception of craft education and the realities of practice. While there are many concerns about the current structures of heritage craft education in both countries, this thesis proposes that many of the apprehensions facing these systems may be addressed by examining the three major issues which are potentially restricting the continuation of heritage craft knowledge transfer in both countries by undermining attempts made by educational providers to initiate and maintain courses. These issues can further be argued as being exacerbated by failings in the educational framework to address biases held by industry, therefore damaging the potential for collaborative partnerships which can be seen as necessary for students to obtain a holistic understanding of their craft.

7.2 Reassessing traditional craft training practices throughout history

Chapter 3 has argued that the generational transfer of knowledge in craft practice was never as fluid as commonly perceived. In the UK, medieval Guilds experienced a higher percentage of apprentices that did not complete their training than commonly believed, and the concept of this system is based more on Victorian idealistic perceptions of medieval society than on realities of the medieval economic structure. The amalgamation of Guilds, along with the rise of mercantilist policies caused a transition of training away from individual Guilds during the nineteenth century

and into a national training system under the City and Guilds of London. A rise of formalised training for craft practices, supported by the government and demanded by industry, transformed the perception of craft training, including the concepts of exceptionally high rates of completion and significant industry support which continues to this day. The City and Guilds training system is currently upheld by many as the ideal model for craft education and espoused as the system which many argue the current NVQ training is failing to sustain. The national system of training, begun with the 1563 Statute of Artificers Act, which set the standard until its repeal in 1812, was adapted to meet the needs of the Victorian era through the City and Guilds system and has transitioned into the modern NVQ framework, mirroring larger changes in the UK building industry. This national structure, as concluded in Chapter 3, has historically not been without its faults, as Guild power decreased, new industries developed, and an evolving society caused several disruptions in the Actor-Network of craft training, necessitating multiple translations of the network, which it has been demonstrated, are often unidentified or disregarded by their modern counterparts.

In the US, an equivalent system of formalised national training never developed, relying instead on local networks of support. Although the 1563 Statute of Artificers model was carried over to North America during colonisation, the need for skilled workers, the availability of new opportunities, and the lack of cooperation between colonies and later states, coupled with mercantilism and later laissez-faire economic policies impeded the development of a cohesive national standard for training. Influxes of proficient immigrant workers from Europe also hindered the development of training systems on a national level, as the availability of labour limited the need for training initiatives, therefore restraining the development of a national system of craft training. This lack of national standards necessitated the need for local training initiatives, which varied in quality and availability between individual locales. This localised approach was reinforced with the 1917 Smith-Hughes Act that established Federal funding for vocational training, which was then distributed to the individual states for dispersion to local communities who were required to provide matching funds for training. This method of training continues to the present, with 53 different educational systems operating in the country. While attempts were made, most notably through the American Federation of Labour's "Mechanical Schools", to create a system independent from Federal funding requirements, the focus of vocational training in the US has remained tied to Federal funding being filtered through the states to the local level. Even private institutions, such as the American College of the Building Arts, although not tied to a local training system, are dependent on Federal funding through student loan programmes to finance their continued operations. The perception of a need to return to the apprenticeship system in the US, argued for by many participants, can be

considered more misguided than in the UK, because a formalised national network of training in the US never existed, nor, it can be claimed, could the current filtration of funding to the local level support it.

In examining the findings discussed in Chapter 3, it is argued that the training networks which developed in both countries were never as well-organised as commonly perceived. Indeed, apprenticeships, until the late nineteenth century, had a higher non-completion rate than commonly perceived by modern actors (see above p. 35-36). It is therefore determined from these findings, that the Actor-Network of craft training in both countries was never as codified as perceived by the Victorian philosophers such as John Ruskin and William Morris, whose ideas helped shape the formation of the Arts and Crafts and Conservation movements. The modern perception of the continuity of training networks and breakdown of traditional training practices, it has been argued is therefore misplaced, being shaped more from the Victorian influences than medieval realties. A greater understanding by current practitioners of the historical progression of craft training, dispelling nineteenth century idealised visions of the "happy artisan"(see above p. 48) may allow a more realistic and sympathetic understanding of the issues facing current educational providers and develop more pragmatic expectations of educational outcomes in modern pedagogic frameworks, therefore assisting in mobilising allies; practitioners, government officials, amenity societies, and others to support the current network.

7.3 Transitions of craft training after the Second World War

The conclusion of the Second World War has been demonstrated as a pivotal period regarding the continuation of heritage craft practice and therefore training. As the building industry moved even further from bespoke structures and towards mass production, the skill set required of craftspeople was also modified. In response to the needs of industry, training programmes, as studied through ANT methodology, engaged in the four steps of translation process (see above p. 24) modifying their educational structure to reflect the changes in industry. Through the study of three generations of craft practitioners; the *Intermediary*, *Transitional*, and *Inaugural*, the progression from the City and Guilds framework to the NVQ system in the UK and the informal and on-site mentorship to a formalised system existing in 2 and 4-year college programmes in the US, it has been determined that each generation has taken specific and valuable roles in the continuation of heritage craft practice in their own networks.

Members of the *Intermediary* Generation, learning under previous systems, actively promoted traditional trades through the formation of various specialised organisations, such as the Building Limes Forum and British Brick Society in the UK and the Timber Framers Guild and Preservation

Trades Network in the US. These organisations have been demonstrated as crucial to the continuation of craft knowledge outside the formalised educational systems, therefore serving as the first step (problematisation) is the formation of the new heritage craft training network.

Transitional Generation members in both countries, Chapter 4 determined, encountered notable obstructions when attempting to learn heritage craft skills. *Transitional* Generation members, seeing the lack of formalised training opportunities in both countries have taken an active role in originating new programmes and training opportunities, either through the educational realm or in their own practice. As the profession of heritage conservation developed, members of this generation, relying on the information collected and disseminated by the organisations that the *Intermediary* Generation founded, progressed heritage craft in the formal academic realm as an independent field of study, thereby, alongside members of the *Intermediary* Generation, advancing steps two and three (interessment and enrollment) of the formation of the modern heritage craft training networks.

The *Inaugural* Generation of practitioners are the first to have been able to pursue careers directly related to heritage crafts through formalised, degree granting programmes in both countries, often after pursuing degrees in art and design or engineering. It should be noted however, that the process of informal study through on-site mentoring still exists, with several participants continuing traditions experienced by their *Intermediary* and *Transitional* counterparts. Being the first generation to have the opportunity to engage with the newly developed academic approaches to heritage craft training, they experienced the drawbacks of the current models of training and are in the unique position to offer opinions about the quality of training currently offered in both countries and to assist in formulating future policy. Many of the *Inaugural* Generation, being new to the industry, have yet to take significant roles in the network, but can be seen as being instrumental to continuing the enrollment needs of the developing modern network in the future.

In examining the transition of heritage craft training since the conclusion of the Second World War by studying generational participants responses using ANT methodology, it has been asserted that the general perception is that heritage craft training system has broken down due to the changes in the building industry and the need to educate workers in modern construction practices at the expense of traditional training. It has been observed when examining the progression of craft training from its medieval origins through it modern incarnation that the system never completely broke down, but simply transitioned over the years to adapt to the changing societal desires of formalised training, and larger changes in the building industry.

During this transition, new specified networks of heritage craft training have been formulating to address the needs of the emerging conservation industry.

The ethnographic approach taken through these generational interviews has revealed enduring perceptions of the historical composition of the Actor-Network relationships in craft training that underlies modern practitioners' apprehensions towards current educational practices. These misconceptions of the composition and quality of both historical and their own training experiences can be seen as helping shape their current concerns of the modern training system. These negative attitudes, it can be argued, help formulate the predominant perception that heritage craft skills training is failing. It is against this background of concerns of the current system, coupled with a desire to return to previous training frameworks, that the networks have the potential to reassess their understanding of their own histories and to reinterpret modern training efforts in the context of their historical shortcomings.

7.4 Disparities between perception of craft education and realities of practice

This thesis has demonstrated that there are significant disparities between the perception in industry of the practices of educational providers and the realities of the structures in which these programmes exist. Understanding that each programme operates in the network of their own institution, thereby experiencing unique concerns relative to their situation, several issues were identified which transcend individual networks and cultural boundaries.

In the UK educational system, two significant disparities were observed between the perception of modern heritage craft education and the realities of practice; the misunderstanding of the processes of modern education, particularly the funding associated with the NVQ system, along with a disconnect between the CITB and the realities of practice in the greater heritage craft industry.

The misunderstandings of the processes related to the NVQ system indicate a breakdown of communication between the educational providers who supply the training, and the practitioners, many of which were trained under the City and Guilds system. This thesis argues that this disruption in communication between groups of actors in the network has led to the mistrust of the processes of the modern system, assisting in the beginning stages of the failure of translation of the training network (see above p. 24). In addition to the lack of trust of the modern system among the practitioner actors, it has been asserted that the disconnect between the CITB, and the larger construction and heritage fields present a significant issue to the future of heritage craft training. The CITB, it has been stated by many participants, influences the

modifications of the current NVQ systems towards the needs of larger companies, which do not represent the concerns of the greater industry, which is further exacerbating the distrust of the current system. It can be determined that this breakdown of trust has the potential to negatively influence the industry for multiple generations. This breakdown of communication can be seen as signifying the beginning of a breakdown of the entire network, as distrust of the practices of network partners is leading to a loss of the coherence (punctualisation) of the training network. As this coherence (punctualisation) is lost, as Latour argues, the network must be reformed when a critical mass of actors recognises the potential for a complete loss of the network (translation), thereby leading to a cessation of the current network, affecting the other allied networks in which it interacts with (see above p. 23-25).

This research maintains that in the US, the localised approach to education has limited the formation of a national training network similar to the UK system. With the US series of networks however, disparities still exist between the practitioners' perception and the realities of craft training practice. Unlike the UK system however, it can be stated that the disparities in the US system are related to a misunderstanding of the historical contexts of training in the US along with a lack of comprehension of the complexities of the individual state systems and the difficulties of working across these boundaries.

The perception in the US of a history of formalised craft training, through the formation of a network based on the traditional Guild system, can be seen as affecting the understanding of the fragmented nature of American training networks. As demonstrated in Chapter 3, the formalised training network approach, while initiated during the colonial period, failed to become established due to the overwhelming demand for skilled workers throughout the individual colonies and the lack of willingness of colonies to work together in enforcing apprenticeship rules. While the common perception is that the absence of a national training network in the US is a modern problem, the current incarnation of the heritage craft training network in the US can be regarded as a modern representation of the historical system. Practitioner misunderstanding of the historical context of heritage craft training in the US, it has been argued, has led to a perception that the coherence (punctualisation) of the system has failed, necessitating the reconstruction of the non-existent former system instead of supporting the continuation of the current incarnation of the historical training network. While it has been established that the current industry relies on various labour streams, including informal learning and immigrant populations, reflecting its historical origins, training has also begun to extend into formal academic settings, potentially reflecting a larger societal push towards higher education. The perception of many US participants, it has been maintained, is these formal academic

programmes are the modern incarnation of the “lost” network of training and therefore should reflect those perceived historical compositions. Practitioners, by comparing these educational programmes with misconstrued visions of the historical training system which never formally existed, can be viewed as misunderstanding the roles these programmes serve in the heritage craft network, and therefore are setting unrealistic expectations of the delegated roles (interessment) for the educational providers in the network.

In addition to this misunderstanding of the historical contexts of training in the US, it has been acknowledged that there is a lack of awareness of the complexities of individual state educational guidelines, regional accreditation practices, and the difficulties in operating across these boundaries. As studied in Chapters 5 and 6, state guidelines and regional accreditation standards can constrain a programme’s ability to effectively conduct training needed for the industry. The desire for longer, more comprehensive training from institutions by practitioners, and the desire for programmes to work collaboratively across state boundaries reflect a potential lack of insight of the limitations in higher education. These misunderstandings may be reflected in an aversion towards formalised training, particularly by the *Intermediary* and *Transitional* Generations, but it should be noted that in US generational practitioner interviews, subjects expressed less dissatisfaction with the training system itself than their UK counterparts, instead directing their frustration towards larger educational and societal dissuasions against craft practice as a career.

While the disparities in the US system differ from their UK counterparts, the lack of historical understanding of craft training, along with the lack of comprehension of the complexities of formalised education procedures has led to the beginnings of the breakdown of coherence (punctualisation) of the US system. While this breakdown can be observed as not as pronounced as in the UK, given the fragmentation of the system, these misunderstandings can be observed as indicative of a lack of communication between educational providers and practitioners which may need be addressed to ensure continuity of the existing network.

While the two training networks have experienced their own unique concerns regarding the breakdown of communication between educational providers and practitioners, two cross cultural disparities were identified in Chapters 4 and 5 of this study; the expectations of a graduate’s abilities by industry and the effects on recruiting due to societal perceptions of career opportunities in the trades. These disparities can be observed as representing a larger breakdown of communication between groups of actors in the networks which transcend cultural boundaries. These issues however, could be noted as having an influence on the perception and

ultimately the delivery of heritage craft training, with recommendations for increased interactions between practitioners and providers proposed in Chapter 6.

By examining the educational providers' interview responses in the framework of ANT, several noted that their network of practitioners request a greater range of skills from graduates than can be effectively taught in the course's allotted time structure. This over expectation of graduate abilities by practitioners may denote a misunderstanding by these actors of the delegated roles (interessment) of educational providers in the current network framework. This desire can further be perceived as an indication of a need for practitioners to have a greater range of skills from their workforce, thus reducing the need for on-site training and therefore eliminating a portion of their traditional duties (enrollment) in the system; the continuance of training after formal education. The need for practitioners to have realistic expectations of learning objectives in craft training programmes, coupled with the comprehension that training must continue after the completion of the student's formal coursework may require greater communication between educational providers and practitioners to gain a compromise in the training goals which can be accomplished.

When interviewing both generational participants and educational providers, many contributors noted a growing societal dissuasion to encouraging students to pursue craft practice as a career, leaving the building trades to those considered not academically prepared for higher education. Indeed, the term vocational education has, in the perception of many participants, developed negative connotations, which affect the ability of programmes to recruit students, therefore effecting the quality of graduates and eventually practitioners in the field. Generational participants' recollections regarding the lack of exposure to heritage craft careers during compulsory education, coupled with the acknowledgement of educational providers that the average age of students enrolling in these programmes is in their mid-twenties can be observed as indicating a failure in the wider educational network to acknowledge the value of heritage craft careers, therefore restricting the ability of the network to recruit talented students. This research argues that to effectively combat this problem, a greater dialogue between compulsory school staff, educational providers, practitioners, students, and parents to encourage younger students to enroll in these programmes, permitting these courses to gain greater stability regarding funding, student enrollment and visibility. It is important to note however when proposing this increased communication, that larger societal issues regarding the nature of the construction industry along with the preference for university education over vocational training for a larger percentage of both countries populations have repositioned craft practice within larger societal contexts which are beyond the scope of this current study.

While it is valuable to comprehend that the training network was never as codified as generally perceived, the breakdown of communication between actor groups in the network has been exacerbated in the last twenty years, necessitating an immediate response to these concerns, which were addressed in Chapter 6 of this study. The need for greater communication between actor groups across the network should be articulated to ensure the coherence (punctualisation) is continued in the existing network. As stated in Chapter 2, once coherence of an existing network fails, a new network must be formulated, which is a greater task than addressing concerns in the present framework.

7.5 Modifying approaches for heritage craft education for the future

To address the issues currently facing heritage craft education in the UK and US, approaches to operating these programmes in new ways have been proposed in Chapter 6 of this study. These are potential initiatives to facilitate the traditional forms of craft knowledge transfer across multiple boundaries of both networks.

In the current educational programmes, there are several innovative practices which are being implemented in both countries. These range from small initiatives such as the City of Glasgow College's technology integration to the Prince's Foundation limited residency programme in the UK, and the Historicorps' "mobile classroom" framework and the American College of the Building Arts independent four-year model in the US. While these initiatives have provided innovative case studies in modern educational contexts, disadvantages to these innovative practices have also been identified, as described in Chapter 6 (see above p. 170-183). This thesis has maintained that in order to effectively secure a sustainable framework for heritage craft training in the context of each society's educational structure, the larger initiatives such as those proposed in Chapter 6 would be most effective in achieving the kind of transformational change in approach this research has identified as needed.

This study has proposed two initiatives to sustain the continuity of generational knowledge transfer through formalised academic environments in the UK. The overreliance in the UK system on apprenticeship-based education, following the established traditional training framework, it has been argued, can impede the development of future practitioners during lean economic conditions, as potential trainees may not have the ability to secure the required apprenticeships needed to complete their programme. To address this concern, this study has proposed a greater integration of full time course offerings in recognised training avenues should be formulated to ensure continuity of training delivery irrespective of larger economic conditions. Concurrently, an increased transparency of the processes in the NVQ system, notably the funding mechanisms,

needs to be initiated by educational providers to address the misconceptions in the industry of the “ticking boxes” concept to assist in the prevention the breakdown of coherence (punctualisation) of the network (see above p. 184-190).

The framework of the US educational system, as described in Chapter 3, exists in a fragmented structure relying on a local and state contextual network. The findings from this study suggest that adopting a national model would unlikely be feasible given the dynamics of the US educational system, coupled with the variations of building traditions and materiality across various regions. It has been proposed therefore, that the establishment of a regional approach to craft training, using a general core curriculum but based on the variances of building traditions, be instituted within the boundaries and specialties found in the eight regions identified in Chapter 6 (see above p. 192-197). This thesis has argued that these regional specialisations would allow students to gain practical training relevant to their region while concurrently permitting programmes the opportunity to serve as the centre for training for their particular crafts in the US. Once regional programmes are established, a network of trainers may be developed to establish standardisation of programme components and learning outcomes for shared modules across regional boundaries. Such a network, operating in a consortium using established programme standards, may assist students to expand their educational opportunities by permitting them to travel between courses to gain knowledge in regional construction techniques, increasing their marketability as practitioners upon matriculation. Mobile instructors, bringing their craft experience to multiple programmes through partnerships established with individual members could permit courses to retain the highest quality instructors on their limited budgets while allowing those practitioners who desire to teach greater opportunities to engage with students. Furthermore, these programmes may be able to support each other during threats of reduction or closure.

Unlike the UK system, where this study suggests that coherence (punctualisation) in the existing network must be maintained through greater communication, networks in the US must advance beyond their current localised structure to formulate a larger national network, which could permit greater opportunities for training throughout the country.

Although the UK and US educational systems are considerably dissimilar, both in their frameworks and their issues, this research shows that approaches could be adopted by both training networks to ensure continuation of the generational transfer of craft skills in modern educational systems. Greater integration and direct communication, this thesis has argued, must be established to ensure both assemblages of actors in the networks understand both their role

in training, as well as their counterparts. Network communication furthermore, should be expanded to incorporate a greater number of heritage organisations to enable partnerships between groups to be formulated (see above p. 202-204). By mobilising these allies in the larger conservation network which do not directly engage in craft practice but have a vested interest in the vitality of practitioners, these training programmes can increase the viability by engaging in short course training opportunities as well as developing networks of support when faced with the potential of workforce reduction or closure. It has been proposed in this thesis that the educational process should not be seen as an isolated actor in the larger heritage conservation network, but as an active partner in the repair and maintenance of heritage sites. Educational providers therefore, need to reposition themselves in the wider heritage conservation network as integral components of the field which need to be supported and connected with.

Recognising the issues that educational providers identified regarding recruitment of students as well as a divide between new and heritage craft techniques, this study has proposed that programmes should increase their engagement with their new construction counterparts as well as ancillary educational subjects to expand their recruitment capacity and therefore the vitality of their programmes (see above p. 200-202; 204-208). In the interviews with practitioners and educational providers, it was shown that heritage craft was the secondary choice for many practitioners, with many pursuing architecture, engineering, or art as their initial focus, with military service also serving as a potential career path. Review of the student demographics of programmes in both countries concluded that the average age of students was in their mid-twenties, with many pursuing a primary degree before entering the heritage craft field. These findings suggest that training networks therefore should increase engagement with these areas of study to assist in the recruitment of future student populations. Additionally, understanding that many practitioners operate both with the heritage craft practices as well as new construction techniques (see above p. 200-202), the integration of modern construction practices in heritage craft programmes could ensure the marketability of students upon completion of their programme.

Using paradigms of community engagement in programmes such as the Prince's Foundation in the UK and the Historicorps and Clatsop programmes in the US, heritage craft training programmes, working with a larger network of heritage organisations, have the opportunity to expand their programmes in established heritage sites in need of repair, providing a dual service of educating students as well as assisting heritage organisations to effectively leverage their limited resources to maintain their historic sites. In the UK, partnerships can potentially be established with such organisations as the National Trust, Churches Conservation Trust, as well as

the larger cathedral network to establish these programmes on site. In the US, ideal partnerships could include the National Park Service as well as the park systems which exist in individual states. While serving as a valuable community engagement and marketing component for these programmes, partnerships with heritage organisations, and the expanded networks in which they operate therein, programmes have the potential to alleviate some of their largest concerns surrounding budgets, workshop space and material storage, assisting them to ensure sustainability in their individual Colleges (see above pp. 209-218).

Examining the issues currently facing heritage craft programmes in the UK and the US, this study has proposed several approaches to ensure continuity of craft knowledge in modern educational frameworks. It has been argued that a central component to the long-term sustainability of heritage craft training in modern educational frameworks is the necessity to increase direct communication between various actor groups in the existing network, as well as expanding the training network to include ancillary members both in the heritage field and beyond. By expanding communication, further partnerships may be formulated, expanding delegated roles (interessment) of the network and arresting the issues facing the coherence (punctualisation) in the networks.

This study however, has not been without its limitations. The researcher's role as both practitioner and educational provider, along with his previous relationships with many of the participants, may have influenced the responses in the interview process. While every effort has been made to limit these issues, there is a possibility that interview participants may not have been entirely honest in their responses. It has been argued in Chapter 2 that these previous relationships may have allowed the participants to feel at ease during the interview process, which permitted them to speak more candidly, it is difficult to determine the validity of all of perceptions put forth by participants.

Furthermore, the lack of a balance of female and male subjects within the interview participants may have influenced the outcomes of the findings of this thesis. While it can be argued that the interview sample is closely aligned with the female demographic of the UK and US construction industries, which is 13% and 9.1% respectively (CITB, 2015 and US Bureau of Labour Statistics, 2018), the lack of a balanced demographic in the research may have biased the findings of the study by potentially inadequately addressing the concerns of an important and growing subset of the field. Both the previous relationships that research had with interview subjects and the lack of gender balance in the interviews should be addressed in future avenues of this research.

7.6 Potential for future research

In examining the heritage craft education fields of both the UK and US, this research has undertaken an analysis of these two systems in a scope which has never been attempted before. While several studies have been performed in both countries (Whitehill, 1968, National Heritage Training Group, 2005, National Heritage Training Group 2008, and National Heritage Training Group 2013), no cross-cultural study of these two systems has been attempted. Additionally, the use of Actor-Network research in heritage studies is a relatively new methodological approach to examine the field. While this approach to studying the heritage craft field is innovative, it has been noted in Chapter One that the breadth of this research is limited (see p. 18 above). Understanding the limited scope of this current investigation, several avenues for future research have been identified to expand the identified findings in this study.

Longitudinal studies of the heritage industry

Given the time limitations of this research, a sample of practitioners and educational providers were selected to form a representational sample of the two actor groups (generational and educators). This sample does not embody the overall composition of the heritage craft field. Further work using these ethnographic methods could be initiated to formulate a greater understanding of how the individual generations identified have approached their entrance to the heritage craft field. By expanding the generational interview participants to study their entrance to the heritage craft field to include a greater number of female participants along with additional practitioners and educational providers who the researcher does not have a previous relationship with, an enhanced understanding of the findings identified in this thesis can be formulated, creating a more holistic understanding of the progression of heritage craft training over the previous fifty years.

Several educational providers in both countries did not respond for requests for interviews for this research. Notably in the UK, Weymouth College, York College, West Dean College, and the City and Guilds Institute of London did not respond to repeated enquires to participate in this study. In the US, Edgecombe Community College and North Bennett Street School did not reply to requests to be interviewed. The inclusion of these institutions, among others, would assist in gaining a greater understanding of the opinions of educational providers about the current operations of the existing actor-networks.

This thesis has examined four heritage crafts (masonry, timber, plaster, and generalists). Several important heritage crafts such as metal work, glazing, and decorative finishes were not studied in the course of this research. These fields, often being smaller and more specialised, may have

different concerns than the larger fields surveyed in this study. The ethnographic methods employed during this thesis can be applied to study the progression of these trades over the four generations identified. Further to these trades, crafts which are unique to both countries, such as thatching and lead working in the UK and adobe in the US, could be researched using Actor-Network methodology to examine how these trades operate in the current heritage craft industry.

The transitions in the conservation field since the conclusion of the Second World War have not been limited to the heritage craft sector. As identified in Chapter 3, the heritage industry has progressed rapidly in the previous seventy years. Using the innovative approaches undertaken in this thesis, research can be conducted to examine the evolution of other aspects of the built heritage field. Examinations of architects, surveyors, building archeologists, NGO staff, and government officials can be conducted to gain a heightened comprehension of how the industry has progressed in its formative years, along with how the networks can improve, both in training and practice, to achieve greater translation in the industry.

While market driven research of the construction industry is common in both countries, the study of the heritage craft subsection of the industry is incomplete, as many practitioners operate in both “new” and “heritage” work (NHTG, 2013). This research can be adapted to study how the generations identified approach both new and heritage projects. Furthermore, urban regeneration projects, which blend both “new” and “heritage” work, can be studied using this research’s methodology to examine how the integration of “new” and “heritage” work operates on-site and what skills can be identified that can be incorporated into a comprehensive training programme designed to adequately educate practitioners for this growing subsection of the built environment industry.

While this research studies the heritage craft training networks in both countries in order to identify approaches which both networks can initiate to improve their training delivery, this research can be further expanded to incorporate a wider range of trades and skills to gain a more comprehensive understanding of the current issues in the heritage craft training network. Additionally, the methods employed in this research can be applied in wider academic studies of the built environment industry to examine the progression of practitioners’ education and careers in the sector through the four generations identified in Chapter 4, coupled with the experiences of built environment educators to develop approaches to improve training delivery of various aspect of the field, thus improving translations of the various networks which operate in the sector.

Examination of the correlations between the "maker's movement" and heritage crafts

Many participants noted a rise in both societies of the "maker's movement", and a desire to support local industries (Warren, 2014, Webb, 2014, Russack, 2014, Wilkins, 2014, Billyard, 214, Swerdorff, 2014, and Broadwater, 2014). Indeed in both countries, the growth of the "creative industries" is seen as an important economic driver for the future, with craft being identified in both countries as a "creative industry" (ukcreative.org, 2017 and Americans for the Arts, 2015).

The "maker's movement", a reaction to mass production and an appeal to return to local, handmade objects can be seen as a modern incarnation of Ruskin and Morris philosophies about craft. While it has been proven in this research that the "happy artisan" ideal that was espoused by nineteenth century philosophers was based more on idealised visions of the past than the realities of practice, the "maker's movement" has demonstrated that these concepts are thriving in certain subsets of society in both the UK and US. The growing fields such as artisan food, clothing, and jewellery could be studied to identify the marketing and support structures that these trades have developed to grow their industries to determine if they could be applied to the heritage craft fields.

By studying the successes of the "maker's movement" and "creative industries" economic growth in both countries, the research conducted in this thesis can be expanded to determine how the actor-networks can adopt existing models to promote heritage crafts to the "Net Generation" (Young and Nichols, 2017: p.2). By engaging with the "maker's movement", the training network may have the opportunity to expand their allied networks to include a greater number of these "creative industries" which may not only recognise the value of heritage crafts' role in these larger initiatives but could actively support their continuation and growth. By examining the successes and growth of these movements, heritage craft training can adopt their methods to appeal to the next generation of practitioners, thus ensuring a continuance of the traditional generation transfer of knowledge.

7.7 Conclusion

As demonstrated in this thesis, the craft training network was reformed during the Post-War era from traditional site-based training into systemised academic settings, and has not broken down in recent years, but has had to adapt to the changes within the larger education network. Although the training network has not broken down, communication between various actors in the network has faltered and needs to be effectively re-established to ensure a complete breakdown of the system does not occur. Furthermore, the training network has become isolated from the larger heritage conservation world, and expanding the network to become more

inclusive of ancillary actors in the heritage craft field such as site managers, architects, conservation officers and volunteers could assist in establishing stability of the network and may ensure growth of training opportunities in both countries. The networks of training in both countries have continued, albeit in modern configurations, to follow their traditional patterns of practice, but the comprehension of how heritage craft training exists in modern educational frameworks is not fully understood, particularly by those practitioners who have never engaged, or have been detached for a significant period, from higher education. The problematisation therefore in the actor-networks of heritage craft training is not the reconstruction of a system of training which, despite the idealised visions of many, never existed, but to reform coherence (punctualisation) in the existing structure. Interessment of actors, both educators and practitioners must be re-established to ensure continued coherence (punctualisation) of these networks. From this redefined coherence (punctualisation), expansions for heritage craft training, working with heritage conservation partners, can ensure greater opportunities to expand the networks to include a larger number of programmes and students, ensuring the continuation of practitioners in the future. It can therefore be stated, that this research has determined that, contrary to popular perception, there is no “craft time bomb” (NHTG, 2005). Opportunities to studying heritage crafts are greater today than they have been in the previous 50 years. The issues in the current framework of heritage craft training, this thesis argues, lies in the misconceptions of the historical background of training, as well as a misunderstanding by many of how modern educational systems operate. By working with ancillary networks, potential exists in the current framework to reposition the training network as not only an integral component of the repair and maintenance of heritage structures, but as local creative industries which are essential to the urban regeneration and heritage tourism fields. This repositioning can only occur when both practitioners and educational providers increase communications and engagement with wider allied networks of practice.

The innovative methodological approach taken by this research, along with the scope of the study represents a multi-generational examination of a moment in time of a rapidly changing industry. The potential to expand this research to include a greater number of practitioners, crafts, and subsections of the built heritage sectors is profound, and augmentations to this thesis should be initiated to increase the understanding of the industry which may assist in securing greater sustainability of the network in the future.