INTERNATIONAL ASSOCIATION FOR THE STUDY OF TRADITIONAL ENVIRONMENTS

WORKING PAPER SERIES

ART, CRAFT, AND ARCHITECTURE

Noha Hussein

Angeliki Tsoukala and Aparajita Santra

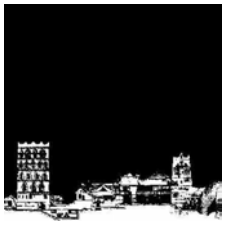
Mark Jarzombek, Eliyahu Keller, and Eytan Mann

Anjali Mittal, Namit Gandhi, Nishant Gautam, and Tarun Kumar

2020 - 2021
Volume 314

IASTE
207East5thAvenue Eugene,OR97401
tel: 541 712 7832 e: coordinator@iaste.org

www.iaste.org



TRADITIONAL DWELLINGS AND SETTLEMENTS WORKING PAPER SERIES

Volume 314
Contents

ART, CRAFT, AND ARCHITECTURE

Traditional Dwellings and Settlements

Working Paper Series

ARCHITECTURAL QURANIC INSCRIPTIONS AND THE DILEMMA OF INTERPRETATION

Noha Hussein

Volume 314

Pages 1-18

2020

ARCHITECTURAL QURANIC INSCRIPTIONS AND THE DILEMMA OF INTERPRETATION

◆ ◆ ◆

Through the following pages the researcher will try to identify and review the work of some authors of the field of Quranic epigraphy, which is mainly recognized as a subfield within Islamic art history. Through reviewing a brief history of the authors, their specific work in this field, and the review of their work in the field of Islamic art in general, the researcher will try to define the key concepts used by each author through their work, and how these concepts have assisted reaching their arguments and conclusions. This will help the researcher map out the ways in which this topic has been investigated, while showing the general undertaken approaches and methods.

1. INTRODUCTION

Architectural epigraphy, especially in buildings like historical Mosques which were considered the center of the Muslim city and political power, consisted mainly of Quranic inscriptions. Since late nineteenth and early twentieth century, documentation of Islamic Architecture has been carried out, concentrating mainly on historic inscriptions while abandoning Quranic ones. More recent work has confirmed the significance of Quranic inscriptions in Islamic architecture, referring to the fact that further studies of these inscriptions are clearly needed. Studies on Architectural Quranic inscriptions propose that the words of God carved on the walls of any building in general were used to impart new value, meaning and significance. In Mosques which are "Houses of God", verses were also inscribed to convey literal and embedded messages. Calligraphy on buildings, which were considered at that time a mean of written media, were usually highlighted, decorated and situated at different locations of the building. These inscriptions were not haphazardly chosen, instead they were selected deliberately depending on a number of factors including religious and political considerations, and they were, in many cases, accurately placed in relation to the architecture of the building. However, these efforts, along with others dealing with Islamic art and architecture, face similar challenges of interpretation. With a wide range of sparse and diverse interpretation philosophies and methodologies among the East and West, researchers are left to face the challenge of deciding which of these they should adopt in order to understand the meaning and significance of their own work. Despite the postmodern idea of relativism, and the fact that interpretation is with no doubt open and ambiguous, which both justifies the existence of such dilemma, it is still important to define methodologies and principles of interpretation, otherwise anything is true and valid. Tracking the factors that created this dilemma gives an understanding of its nature and how can we benefit from such diversity of cultures, experiences, philosophies and values while researching Quranic inscriptions.

This research aims to explore and present some scholars from different disciplines, concerned with architectural Quranic inscriptions in specific and Islamic art and inscriptions in general. This will be done through conducting

a comprehensive research on the extant material, and information about how, when and where these studies were made, followed by a critical review of materials' content, concepts, including terms and references. This will help the researcher track different philosophies and methodologies of interpretation. Through digging in, collating, organizing and introducing a number of philosophies not necessarily complementary but also opposing and contradicting at some points, the research aims to enhance the inclusiveness of Islamic art interpretation but at the same time highlight a number of neglected philosophies and methods.

2. ROBERT HILLENBRAND

Robert Hillenbrand is known as a historian of Islamic art and is currently a professorial fellow of the universities of Edinburgh and St Andrews. He started his career work long ago through his doctorate at Oxford on the tomb towers of Iran[1]. Although being British, he had access to German written publications. Some of his developed work and concepts drew on Richard Ettinghausen's writings (a German historian of Islamic art) especially those related to iconography[2]. Hillenbrand's interest in iconography along with his interest and intensive work in Islamic architecture and painting, with particular reference to Iran and to Umayyad Syria, all seem to formulate the way in which he defined and perceived Islamic art in general, and Quranic epigraphy in specific. The term iconography, "in its most specific sense, is the study of formal symbolism, defined by cultural convention" [3]. Symbolism and culture, these two notions and concepts seem to play a major role in Hillenbrand's approaches towards investigating and explaining Islamic inscriptions. This can be seen in the two main publications that he specified to this topic, entitled: "Qur'anic Epigraphy in Medieval Islamic Architecture', and "Islamic Monumental Inscriptions Contextualized: Location, Content, Legibility and Aesthetics'.

His first study, *'Qur'anic Epigraphy in Medieval Islamic Architecture'*, was first published in the year 1986 in the French journal *Revue des Etudes Islamiques,* which was once considered a leading journal in modern Islamic sociology[4]. The aim of this study was to address the question of: "whether the Quranic texts used in architectural inscriptions were chosen somewhat casually or, on the contrary, with the utmost deliberation"[5]. To answer this question Hillenbrand has chosen to undertake a preliminary investigation into the place of Quranic epigraphy in Islamic monuments, through a quantitative statistical review of Quranic inscriptions on mosques, recorded in the indices created by Erica Dodd and Shereen Khairallah in their book *The Image of the Word*. Through these indices, Dodd and Khairallah collated some 4,000 Quranic verses inscribed on Islamic buildings, mostly taken from Egypt, Levant and India. These verses were indexed according to their chapters in the Quran, to geographical location of the structures, and to their placing on or within the structure. This brings us to the two major limitations of this work. The first limitation, acknowledged by the author himself, lies in the fact that the statistical sample provided by these indices are not representative of the Islamic world as a whole. In his study, Hillenbrand notified the reader that conclusions drawn from this study shouldn't be enforced on the rest

of the Islamic world "without further ado".

The second limitation lies in the use of statistical method itself, while dealing with Quranic epigraphy as both a form of Islamic art and historical material. Art, as a product of men and history, seems to be too complex and too diversely conditioned to be subjected to generalization[6]. Statistical method, when used for the purposes of natural sciences, usually overlooks qualitative differences and considers them of trivial importance. However, for history, those qualitative differences are what might matter the most. The frequency of occurrences and the weight of numbers, for the purposes of history are not, mostly, considered demonstrative, but rather heuristic. It may direct the historian's attention to certain areas of study, but it cannot be enough to draw satisfying conclusions and venture generalizations. The author, who seemed aware of this limitation, more likely wanted to make use of the plentiful raw material offered for the first time by these indices. Consequently, he did obtain some interesting questions through his statistical observations. He has also reached some preliminary conclusions, while closely looking at some examples of Quranic epigraphy, and the relevancy of their content to specific mosque architecture. To briefly summarize his findings, Hillenbrand wrote:

"...the findings which emerge from the foregoing (and admittedly brief) survey are somewhat low-key and are liable to disappoint champions of the theory that epigraphy has a significantly iconographic role in Islamic art. These findings suggest that, in the case of the quintessential and most popular Islamic building - the mosque - no attempt was made on a regular and methodical basis to make the inscription a commentary on the architecture which it decorated. There seems to have been very little desire to dovetail Quranic inscriptions and appropriate architectural features, or to select and conflate relevant quotations from a given *sura*, or to restrict the content of the inscriptions to passages which bear closely on the purpose of the building. In short, the selection of the inscriptions was - it seems - surprisingly undirected." [7] .

These preliminary findings didn't seem to convince a scholar like Gülru Necipoğlu. Necipoğlu is a Turkish-born American professor of Islamic Art at Harvard University. She is also the author of a study published in 2007, entitled '*Qur'anic Inscriptions on Sinan's Imperial Mosques: A comparison with Their Safavid and Mughal Counterparts'*, that will be discussed briefly later in this report. In her study, she critiqued Hillenbrand's work and another work by Sheila Blaire, *Islamic inscriptions*, and argued that these assumptions needed sensitive contextual reconsiderations[8]. According to Necipoğlu, the use of such indices is useful only for exploring the selection frequency of certain verses but not for drawing ahistorical generalized conclusions. She argued that a methodology that adopts a statistical approach towards studying Islamic epigraphy will probably fail to show the nuanced implications of Qur'anic epigraphy in specific contexts, and that even 'clichés' can be filled with potent contextual meaning.

On the concept of *iconography* and *symbolism*, which Hillenbrand repeatedly referred to and used through his vocabulary, and references which were not without Richard Ettinghausen's work: "Arabic Epigraphy: Communication or Symbolic Affirmation", Necipoğlu argued that polarities like 'symbolic affirmation' versus 'communication', or the 'deliberate' versus 'random' are meaningless if not steadily grounded in time and space[8]. This is in line with what Berlekamp suggested about the danger of oversimplification when pursuing an iconographic approach towards studying Islamic art. In her review of Iconography of Islamic art: studies in honor of Robert Hillenbrand, she wrote:

"…when the specific circumstances under which particular forms were vested with particular meanings are left unquestioned, iconographic approaches can easily flatten images, objects and buildings into haphazard assemblages of code-like symbols, whose meaning float disconnected from time and space."[9]

In spite of all the above, this study has provided promising statements about the field of Quranic epigraphy and offered an important insight for the purpose of this research. Through his study, Hillenbrand suggested that there has been a correlation between the variety of functions of the building and the range of choice of Quranic verses. Through his widely informed career in both Islamic art and architecture, the author understands the wide-ranging functions of the mosque as a building type. The mosque, since its earliest times, has served a variety of functions within the Muslim community from religious to secular. Its role extends to almost all aspects of human life. According to Hillenbrand, since Quran is also relevant to all human life, this could explain the almost endless range of Quranic verses found in mosque architecture, which might support the theory of intended choice of verses in Islamic architecture[5]. Building on what has been said, it is fair to ask, if one can choose from a wide range of verses, why would the person in charge of choosing favors one verse over the other. Besides, Hillenbrand seemed to focus mainly on the iconographic function of the inscriptions in relation to the architectural features more than anything else, thus not giving enough emphasis on contemporary socio-political, theological and other contextual aspects that, Necipoğlu has suggested, might have earned the verse a special meaning.

Moving to the concept of *culture*, Robert has published his study entitled "*Islamic Monumental Inscriptions Contextualized: Location, Content, Legibility and Aesthetics'* in a more recent year, in 2012 in the proceedings series "Beiträge zur Islamischen Kunst und Archäologie" (Contributions to Islamic Art and Archaeology). These series were published by the Ernst Herzfeld Society for Studies in Islamic Art and Archaeology, which was founded in 2005 in Germany. This paper, in terms of its theme, approach and arguments, was not too far from what Hillenbrand has adapted throughout his career. The theme of cultural encounters and cross-cultural influences has been marked throughout his analysis of Islamic art and architecture[10]. Reviewing some of his

previous work, it is not hard to notice Hillenbrand's conviction that Islamic art and architecture, especially the Ummayad art, has grounds in the classical, especially Roman, world of the Mediterranean[11]. In this paper, he aimed to briefly examine the characteristic features of Islamic inscriptions on Islamic architecture, through contextualizing them within wider historical, geographical and cultural context. Consequently, according to Hillenbrand, this requires focusing on earlier non-Islamic traditions, while trying to understand how Islamic inscriptions relate to and differ from the epigraphic traditions of other cultures. These cultures include Mediterranean and Western Asian cultures[12].

This approach might be controversial in the way it has appeared through his observations. At the beginning of his paper, Hillenbrand stated, confidently, that there are very strict conventions that have limited the value of Islamic inscriptions, compared to inscriptions of other cultures. According to Hillenbrand, these conventions have determined what and what should not appear in Islamic inscriptions[12]. However, the reader fails to find satisfying discussions about this taken for-granted statements upon which the rest of the paper rests. It would have been highly valuable, for the reader, to find out what are these conventions, where did they come from and what are the intellectual and cultural foundations behind them. This would have also made a worthwhile contribution to this paper's aim, since it would have helped distinguish between meanings inherent in the forms, and meanings adapted from other cultures. This distinction, as Grabar once suggested, can only be understood through understanding the Islamic culture first[13].

To illustrate, in his paper, Hillenbrand referred to an inscription on a foundation brick of an Early Bronze Age temple at Mari in eastern Syria, which was hidden from the public by being placed inwards. According to Hillenbrand's reference, it was meant to be visible only to the gods. He commented on that, suggesting that "This appeal to divine readership recalls inscriptions of the Muslim creed located far beyond human sight at the top of minarets"[12].

A brief review of the essence of ancient Mesopotamian culture, against Islamic culture, would put such a statement to question. Reviewing the introduction of a book about the Art of Ancient Mesopotamia, which Hillenbrand has cited, himself, shows that the essence of Mesopotamian culture was mainly based "on a comprehensive religious outlook on the world", it clearly states that "Anyone wishing to grasp the essence and unity of Mesopotamian architecture and art can only attempt to understand the conceptions of god generally accepted then, and the ideas of kingship directly bound up with them, by studying the buildings and works of art which have been rediscovered."[14]. The question that rises here is, how can such foundational inscriptions of Mesopotamia, which came out of a different doctrine, recall Islamic inscriptions. Wouldn't that also require the understanding of the essence of Islamic art and culture, within its religious and aesthetic basis. If

commonalities are found within these essences, the reader would argue that, only then such a recall would sound relevant. Without this, Hillenbrand's attempt, to exemplify how Islamic inscriptions owe a debt to epigraphy of previous traditions, seems obscure for those from outside the field. On the other hand, if it would be argued that these studies were meant for those within the field, it would still lack grounded arguments, as well as it would further raise the interdisciplinary barriers and challenges within the field of Islamic art history as a whole.

Hillenbrand has made multiple attempts to interpret or explain the placing of Islamic inscriptions too high in Islamic architecture. Beside the above attempt, in his previous study, on one occasion he made a similar reference, but this time to Gothic sculptures. He suggested that Islamic inscriptions could be of similar purpose as Christian sculptures which were carved to glorify God. He went on saying "...but common sense forbids the notion that the inscriptions in particular held a specific message aimed at those who used the building"[5]. On another occasion, specifically on the use of Quranic inscriptions too high on minarets, Hillenbrand applied his theory of divine readership, while distinguishing between Quranic and historical inscriptions. He clearly indicated that "the higher ones were for God; the lower ones for man."[5]. Later in this recent study, Hillenbrand repeated this concept and added that these high inscriptions instituted a message from man to God and served as a bridge between the two[12].

These repeated attempts, of interpreting Islamic inscriptions mainly through other cultures, or common sense, bring back the concerns of Grabar about explaining a culture through the lens of another [13]. It is understandable that there have been cultural influences on Islamic art and architecture. And according to Hillenbrand, there are vast areas of common ground between Islamic and Western traditions that make bringing some intuitive understanding to the study of Islamic architecture by Western scholars possible[11]. But the question is, would that *alone* be enough to understand Islamic art and architecture. What if some material of Islamic culture is brought into the picture?

The perception of God in Islam, and the communication between Him and man is discussed in many books of Muslim written heritage. One example is a book of eight volumes written by Husayn b. Mas'ud al-Baghawi (who died in the early twelfth century). It is classified as a narration-based exegesis of the Quran relying on eleven chains of narrations, which Al-Baghawi mentioned in the introduction of his work[15]. On the exegesis of one of the verses[16], Al-Baghawi mentioned two narrations[17] through which the Prophet Mohammed teaches his companions not to raise their voices in supplication, and that God is near and all hearing[15]. This example from a well-known, yet untranslated, book from Muslim heritage might possibly put Hillenbrand's attempts and theory of divine readership into question.

Despite these approach-related challenges, this study highlighted important information about Quranic epigraphy and Islamic inscriptions in general. Hillenbrand pointed out that Islamic culture is, after all, unique in the way it has given epigraphy such prominence in its architecture. According to Hillenbrand, this unparalleled quality has no match in the sacred buildings of any other culture, not in Judaism or Zoroastrianism, nor in Christianity or the paganism of the classical or Arabian world. It was not also a practice limited to the early centuries of Islam. This has emphasized its architecture's role in directly addressing its viewers, as well as its role as a repository of scripture, or "a Sacred Book in brick or stone" in cases in which very long Quranic inscriptions were used[12].

On the top of that, Hillenbrand highlighted how Quranic inscriptions have long been neglected in scholarship, in spite the fact that they have greatly predominated over the historical inscriptions, which catalogues, indices and scholars, have usually over emphasized. This over emphasis has, according to Hillenbrand, slanted scholars' understanding of the nature of Islamic epigraphy, since it has underrepresented the dominant role that the Quran has taken in Islamic epigraphy. He even argued that, considering the general religious context and its reflection on the verses chosen for Quranic inscriptions could show further significance to that role.

3. CAROL HILLENBRAND

Carole Hillenbrand is a British academic and an Islamic historian. Her scholarly work and interests not just cover historical topics related to the Middle East and medieval Muslim empires[18], but also include topics related to Sufism and Islamic political thought[19]. She taught, as a professor of Islamic history at the university of Edinbrugh and published in these areas with the conviction that Islamic history and Islamic studies should perceive Islam as both a religion and a civilization, and that these studies cannot but be language-based[17]. This is consequent upon her career that started in Eastern language studies, where she became fluent in Arabic, Turkish and Persian, and then specialized in medieval Arabic chronicles for four decades[16].

Carole Hillenbrand is well known for her work on the Crusades[20], for which she was awarded a prestigious prize for Islamic Studies in 2005. One of Carole's major work that can represent her approach towards Islamic history is her book *'The crusades: Islamic perspective'*, which was first published in 1999. Through this book, Hillenbrand examined the history of the Crusades solely from Muslim historical resources. She introduced, into a field that has long been dominated by Western accounts, a wide range of undiscovered and untranslated references about the Crusades, from the Islamic world. Her knowledge of Eastern languages has made a wealth of non-Western historical sources accessible and valuable to her research[16]. Hillenbrand's approach was inspired by a number of her colleagues and professors including Jonathan Riley-Smith[21], Emmanuel Sivan[22] and Donald Richards[23]. Her approach was considered a move away from traditional Western historiography, that has

presented the history of the Crusades solely from the crusaders own perspective and chroniclers[16]. In her book, which explored a period of history shared between Crusaders and Muslims, she stated that "It is, of course, vital to avoid viewing Islamic history, or for that matter any other kind of history, exclusively from the Western perspective."[24].

Carole Hillenbrand has approached the study of Quranic epigraphy with similar convictions and skills. Her experience with languages and Arabic chronicles can be marked through her methodology of her single work on the subject, entitled '*Some Reflections on the use of the Quran in monumental inscriptions in Syria and Palestine in the 12th and 13th centuries',* which was published in 2004, within a book of fifteen essays entitled '*Islamic Reflections, Arabic Musings: Studies in Honour of Alan Jones*'. These essays were seen as interpretive articles, challenging the Orientalist perspectives in their fields of enquiry and suggesting new approaches towards well-known material[25]. Subsequently, this was seen in Hillenbrand's study, in which she aimed to answer a similar question of her husband's, Robert Hillenbrand, but through a different way. In her article, she discussed in detail four cases, which she closely evaluated in order to discover whether Quranic quotations were chosen "with a specific agenda or was the repertoire of Quranic quotations on buildings long fixed throughout the Islamic world, thus rendering specific contextual analyses inappropriate and ultimately fruitless"[26]. Unlike her husband, Carole Hillenbrand has specified a certain area, Syria and Palestine; and a period of study, the twelfth and thirteenth centuries. She made extensive search through the corpus of extant monumental Muslim inscriptions recorded for that specific time and place, as well as other indices like of Dodd and Khairallah's to see where else these inscriptions were used. For each inscription she would describe its monument and the monument's location in the city. She would also gather information on: who built the monument, his/her personal character, role and the nature of his /her relationship with others; when was it built; what was the content of the inscription, its material and colour. Furthermore, she would describe related historical events using narrations from local chroniclers, like Ibn- Al Qalanisi and Ibn Wasil, and biographers like Bahaa-eldin Bin Shaddad.

When investigating the Quranic verses used, Hillenbrand would not just review the verses themselves, but she would also look at the preceding and following verses, in an attempt to find a link between them. She would also examine the chapters, from which the verses were selected, and what semantics did they have among Muslims at that time. She would closely observe the choice of words and how they related to the historical context. She would also look at other historical inscriptions present on the monument and relate to their used terms. Finally, Hillenbrand would review these verses in books of Muslim commentators of the Quran, from the thirteenth and fourteenth centuries like Al-Baidawi and Ibn-Kathir to see how these verses were interpreted. Only a scholar who is knowledgeable of the language in which these sources were written, which many Islam art Western scholars lack, can undertake these methods of investigation.

Through her studied cases, Hillenbrand reached some notable findings. For the inscription on the tomb of Safwat Al-Mulk, she stated that the choice of the Quranic quotation is a clear example of synecdoche[27]. She argued that sometimes, for reasons related to space and positioning, short verses were used. However, these verses, when well-chosen, presented a whole story, or "the tip of an iceberg", that contemporary readers have been well aware of. For another inscription on Madrasah of Salah El-Din in Jerusalem, she argued that it was a clear example of using Quranic quotation as a trademark for the ruler. In a third case she found that Quranic verses used on the Cenotaph of Barakat Khan "were chosen with utmost care and didactic purpose to serve as a warning, not just to the person commemorated but also to humanity at large."

This valuable contextual Quranic investigation and findings, Hillenbrand argued, is most likely to be lost when the enquiry is limited to the actual words of the inscriptions. She views the investigation of the physical characteristics of the inscription, as only the first step of the enquiry. She argued that "It is only when the entire range of meanings traditionally associated with a given verse, and indeed its parent surah (chapter), are investigated that such inscriptions are liable to yield their full value." She concluded, advising that Quranic epigraphy scholarship should shift from mere epigraphy to include Quranic studies.

Although Quranic epigraphy is not among her usual areas of research, Hillenbrand, similar to her studies of the Crusades, was able to offer a fresh eye at the topic, and utilize sources that had been previously overlooked, i.e. Quran and Arabic chronicles. She described Quranic epigraphy, as a field still at a very rudimentary stage, that scholars should be aware of its overwhelming data, as well as its scatteredness and survival that, she argued, discourage generalizations.

4. GULRU NECIPOGLU

Gulru Necipoglu is an Aga Khan Professor of Islamic Art, and the Director of the Aga Khan Program of Islamic Architecture at the Department of History of Art and Architecture at Harvard University. Necipoglu, born in Turkey, continued her education in The United States studying late Medieval and Renaissance art history for her B.A. Specializing in Islamic art and architecture, she particularly focused on the Ottoman empire and Eastern Islamic lands, in both her M.A and PhD at Harvard university. Her scholarship publications and critical interest cover many subjects in Islamic art, including ornament, geometry and the methodological and historiographical issues related to the field.

In 1995, Necipoglu wrote her well-known book *The Topkapi Scroll: Geometry and Ornament in Islamic Architecture.* Through this book she tried to examine the late fifteenth century Topkapi scroll[28] and its geometric designs,

within a range of intellectual, contextual and historical studies including Islamic philosophy and theology, politics, mechanics and mathematics, aesthetics, and architectural practice in both the Islamic and Western worlds[29]. In her book, she expressed her rejection of the idea of a timeless essence of Islamic culture, as well as both the positivist and essentialist approaches of Western Orientalism towards Islamic ornament. According to Necipoglu, these approaches have either treated Islamic ornament as ahistorical and static unit, having no meaning or context, or have associated it with some religio-spiritual or cosmological meaning. Necipoglu showed that such claims had no visual or literal evidence, instead she found clear linkages to historical meanings and contexts that she used to discuss some of the fundamental aesthetic principles of Islamic art[20].

Necipoglu's approach towards Islamic ornament, and Islamic art and architecture in general, challenged pre-modern and modern approaches and recent debates on the field of Islamic art. Necipoglu considered Islamic art and its visual communication too complex to fit in the inherited frameworks of traditional methods that tend to marginalize new interpretive and theoretical approaches[30]. She critiqued "the fear of fragmentation" sensed through recent writings of Blair and Bloom[31] due to the growing scope and diversity of the disciplines of Islamic art, which they believe, "threatens to pull our field apart so that there will be nothing left at all"[32]. Instead, Necipoglu found no growing danger in the fragmentation and expansion of the field, which she believed, similar to Western art, have never been unified[21].

Necipoglu's tendency towards a more holistic approach, that examines Islamic art as a cultural phenomenon extending outside its regional and historical boundaries, is clearly shown through her study of Quranic epigraphy in a book chapter entitled*: Quranic inscriptions on Sinan's imperial mosques: a comparison with their Safavid and Maghul counterpart.* The chapter is originally a selected proceeding form the International Colloquium '*Word of God, Art of Man: The Qur'an and its Creative Expressions'* which was held at the Ismaili Centre in London in 2003, later published as a book in 2007. The aim of Necipoglu's article was to interpret the predominance of Quranic epigraphy that took place with the rise of imperial mosques construction in the Ottoman empire and its counterparts of Safavid and Mughal empires. Her comparative historical approach, through examining the formal and referential functions of Quranic epigraphy in the imperial mosques of these three late Islamic empires that were "generally studied in isolation", has, according to Necipoglu, highlighted the imperial sovereignty expressed by these empires through constructing official religious identities. It has also revealed some methodological questions and concerns related to studying Quranic epigraphy as a whole[33].

In her study, beside her previous work on Sinan[34], Necipoglu used a wide range of data and references to support her arguments. These data references covered autobiographies of calligraphers and architects of these mosques, imperial decrees and accounts of mosques; and supporting historical documents including

commentaries of travelers and a census of the number of elementary schools in Istanbul, showing, what Necipoglu deduced as, the relatively high degree of basic literacy among the urban masses. She also used fatwas[35] of a contemporary Hanafi[36] jurist, treatise of Grand Vizier[37], and writings of 14th century scholar Ibn Khaldun and the 16th century Ottoman scholar Mustafa Ali, among other contextual and historical references about the studied mosques, their urban locations and the non-Quranic inscriptions present in these mosques. Through her study's findings, Necipoglu showed how the choice of the content of these Quranic inscriptions was controlled by capital, while aesthetic decisions were left to the architect. She argued that the epigraphic program of Sinan's major imperial mosques reflected the religious climates of the patron's sovereignty and the "individualized architectural iconography of each mosque". These Quranic inscriptions were far from random and were chosen with care in varied combinations offering several layers of reading on both the personal and public levels. According to Necipoglu, the transformation of religious orientation and the political visions of these patrons, as well as the aesthetic preferences, played significant roles in the choice of the inscriptions of these mosques.

Necipoglu also discussed the issue regarding the absence of Quranic epigraphy in one of Mughal Emperor's Mosques. She tracked this complete omission of Quranic text to the Emperor's ruling and personal biography, and his keenness on implying Hanafi jurisprudence on state administration. Necipoglu suggested that it might have been the austere Sunni orthodoxy of the Emperor and his ruling that has motivated such absence. She noted that there were certain legal opinions that regarded Quranic inscriptions in mosques as inappropriate, among them was a fatwa produced by Central Asian Hanafi jurist, Fakhr al-Din Qadi Khan. These observations, along with other prohibitions and orders given by the Emperor after his accession to power, including the compiling of authoritative rulings of former Hanafi jurists, justified Necipoglu's suggestion.

Necipoglu's compressed comparative study showed the rich diversity within the autonomous polities of three concurrent dynasties. This diversity, according to Necipoglu, is not compliant with the ahistorical generalization that some studies have tended to do. The cultural, ideological variations among these rulings, which were reflected through the criteria of choosing Quranic epigraphy, require a contextual investigation and understanding of those times. According to Necipoglu, the writings of prominent scholars can be of considerable significance, revealing some of the "contemporary religious attitudes and specific readings of Quranic verses open to varying interpretations."

5. CONCLUDING REFLECTIONS

Through this report, the researcher has tried to review some of the work of scholars who have studied Quranic epigraphy either as one of their main subjects or have referred to the subject through their writings. These few

pages have shown, according to the work of the mentioned scholars, what were the main concepts upon which Quranic verses or Islamic calligraphy were inscribed. Each of these concepts, despite the level of their relevancy and accuracy towards investigating Islamic art, have highlighted specific dimensions, perspectives, methods and references that have opened the way for further discussions and development of this field. They have highlighted important aspects that any study on inscriptions should include, the historical as well as the general aesthetical aspects, which they, as art historians, are best at. On the other hand, their less familiarity or sometimes neglection of culture specific aspects of Muslim societies have tended to overlook an *essential* perspective which Carole Hillenbrand and Gulru Necipoglu have tried to present, i.e. the religious climates of those societies, in their legal, philosophical and social aspects. They have both emphasized the role of understanding the Quran, and its contemporary conception in grasping the meaning of these inscriptions and their selection. This was also emphasized by some of the non-Western scholars who have put both the knowledge of Quran and its sciences, along with cultural history of Muslim societies as essential basis for the study of Islamic inscriptions[38], since some of these scholars were themselves Muslim calligraphers like Yusuf Dhanoun whose writings were not translated, thus overlooked.

Each culture has incredible sophisticated thought systems found in its aesthetic experiences, which cannot be understood outside its social context[39], as well as its historical origin. It is obvious how forcing the western experiences and perceptions on Islamic culture, has led to skeptical conclusions. What is considered problematic here is not the Western backgrounds of the scholars, nor their attempts to compare Islamic art and culture to other arts and cultures, it is their attempts to interpret Islamic art and culture within value systems, concepts, and practices of other cultures that are clearly different from it. This will more likely produce knowledge that is distorted and far from scientific accuracy[40]. It has been mostly archaeologists, orientalists, aestheticians, and art historians who have approached the study of Quranic epigraphy, through the field of Islamic art. Through their different positions, each scholar has taken on a certain perspective of study based on their research aims and design as well as their own backgrounds and skills. The above study have shown how scholars with further knowledge of Islamic culture were able to provide more relevant findings and conclusions. These were mainly the scholars who have mastered other languages including Arabic which have given them access to the culture-specific concepts and original resources.

It is important to note that there were almost no studies found by the researcher on the contemporary art of Quranic epigraphy in mosques. This almost complete absence of studies on contemporary art, itself, tells us how Islamic art has been mainly considered as a historical art of a past civilization. A civilization that has prevailed since the seventh century until the eighteenth century, which according to these studies, has marked the end of Islamic civilization, its architecture and arts[41]. However, some scholars, mainly Muslims, have

stepped into the field of Islamic art and studies with more fundamental philosophical perspectives. Unlike the historicism approach which considered Islamic art and its development as a historical phenomenon explained mainly through its geographical, political, and economic contexts, the scholars who were described as followers of the *traditionalism* approach have tended to overlook these historical factors of Islamic art, emphasizing its metaphysical and timeless characteristics such as wisdom, abstraction and symbolism. These scholars included Titus Burckhardt, Seyyed Hossein Nasr, Martin Lings, and Annemarie Schimmel[42]. This bipolarity between historicism and traditionalism, as well as functionalism[43], was described by Hanash as the epistemic Schizophrenia of the study of Islamic art between thought and act, or theory and practice[28]. Instead, he suggested that there should be a collective and comprehensive concept and analysis of Islamic art that merges these approaches into a new perception, that recognizes Islamic art as an objective product: of Islam, with it philosophies, laws and ethics; of Muslim thinkers, scholars, and artists; as well as non-Muslim artists working in the functional (political and social) contexts of Islamic culture, knowledge, and civilization. Through this critical analysis of art on its three levels of concept, subject and purpose, Islamic art would be recognized and perceived not just as a past historical or symbolic art, but also as a functional contemporary and future art[28].

According to Hanash, through the last few decades, a number of *post-historical* studies have emerged to the scene, addressing different human, social, contextual and functional dimensions of Islamic art, in relation to Islamic philosophy, culture, urbanization and production. These studies have considered Islamic art as a point of reference through which other sciences of Muslim societies and cultures are investigated and understood. For example, studies of the sociology of Islamic art, which is still a very understudied subject, examine the relationship between Islamic art and urban movements of Muslim societies which are presented through their culture, tradition and social systems that govern both artwork[44] and thought[45] .Among these few studies, was a study made by Fredrick Matoq in 2017. Matoq is a Lebanese sociologist who obtained his graduate education in France, in both literature and social sciences. He published books in sociology, heritage, history and crafts of Muslim societies in both Arabic and French. His main scholarly influence is Ibn Khaldun, who was a philosopher who lived through the 14th-15th centuries, and was considered as the founding Father of sociology in Muslim history. According to Matoq, in early Muslim intellectual and literary heritage, art belonged to the field of industry or craftsmanship and science. There was no need to distinguish between these fields since they all share a structure that required an intellectual foundation[46]. According to Ibn Khaldun, "a craft (an artifact) is a faculty (habit) of something (matter) concerned with action and thought."[47] . It is an integration between technical and intellectual knowledge, which applies on all kinds of practical fields. This harmony between arts, crafts, and sciences, which all belong and contribute to human urbanism, referred to integral harmony between the actors or components of the society that were all operating within a dynamic synergy that shares an epistemic space of both knowledge and belief[30].

One of the original social systems that has played a significant role in building and maintaining Islamic civilization, with its economic, social, political and administrative elements, throughout history, was the endowment system[27]. It was through this system, and its religiously inspired entities, that the finest and highly aesthetical Islamic art works (located for example in mosques, or madrasas, or manuscript copies of the Holy Qur'an), have emerged and developed. According to Matoq, what distinguishes the endowment system, as well as the artworks it encloses, that they all belong, not to an individual, but to the public[30]. Matoq argued, that the socio-religious framework of the endowment system, in which the artist has worked, was his partner in choosing the art topics, shapes and meanings. It was the meanings of Islamic art that has expressed the aims of Islamic endowment[30].

All these studies have shown the need to position Islamic art within a larger epistemological map of Islamic history and culture. It empathizes the adoption and creation of epistemological integrative framework, as suggested by Hanash, which requires the integration of the methods of previous studies of Quranic epigraphy and Islamic inscriptions, as well as essential theories of Islamic art within a ground understanding of Islamic philosophies and culture.

NOTES AND REFERENCES

[1] O'Kane, B. (ed.) (2007) *The Iconography of Islamic Art: Studies in Honour of Robert Hillenbrand*. Edinburgh University Press.

[2] Irwin, R. (2000) 'Islamic Art and Architecture by Robert Hillenbrand Review', *Journal of the Royal Asiatic Society*, 10(2), pp. 220–222.

[3] Berlekamp, P. (2010) 'Review of The Iconography of Islamic Art: Studies in Honour of Robert Hillenbrand, edited by Bernard O'Kane', *Journal of Near Eastern Studies*, 69, pp. 148–150.

[4] Gibb, H. A. R. (1932) 'Revue des Études Islamiques . Tome III , IV Review', *Bulletin of the School of Oriental Studies , University of London*, 6(4).

[5] Hillenbrand, R. (1986) 'Quranic Epigraphy in Medieval Islamic Architecture', in *Mélanges Dominique Sourdel, ed.L.Kalus: Revue des Etudes Islamiques LIV*. Paris: LIBRAIRIE ORIENTALISTE PAUL GEUTHNER, pp. 173–191.

[6] Hull, C. H. . (1914) 'The Service of Statistics to History', *The American Statistical Association*, 14(105), pp. 30–39.

[7] Hillenbrand, R. (1986) 'Quranic Epigraphy in Medieval Islamic Architecture', in *Mélanges Dominique Sourdel, ed.L.Kalus: Revue des Etudes Islamiques LIV*. Paris: LIBRAIRIE ORIENTALISTE PAUL GEUTHNER, pp. 173–191.

[8] Necipoğlu, G. (2007) 'Qur'anic Inscriptions on Sinan's Imperial Mosques: A comparison with Their Safavid and Mughal Counterparts', in Suleman, F. (ed.) *Word of God – Art of Man: The Qur'an and its Creative Expressions*. Oxford: Oxford University Press, pp. 69–104.

[9] Berlekamp, P. (2010) 'Review of The Iconography of Islamic Art: Studies in Honour of Robert Hillenbrand, edited by Bernard O'Kane', *Journal of Near Eastern Studies*, 69, pp. 148–150.

[10] Kana'an, R. (2001) 'Islamic Art and Architecture : World of Art Series by Robert Hillenbrand Review', *Journal of Islamic Studies*, 12(2), pp. 235–238.

[11] Hillenbrand, R. (2003) 'Studying Islamic Architecture: Challenges and Perspectives', *Architectural History*, 46, pp. 1–18. Available at: http://www.jstor.org/page/info/about/policies/terms.jsp (Accessed: 7 February 2020).

[12] Hillenbrand, R. (2012) 'Islamic Monumental Inscriptions Contextualized: Location, Content, Legibility and Aesthetics', in Lorenz Korn and Anja Heidenreich (eds) *Beiträge zur Islamischen Kunst und Archäologie*. 1st edn. Wiesbaden: Reichert, pp. 13–38. Available at: www.reichert-verlag.de (Accessed: 20 February 2020).

[13] Grabar, O. (1983) 'Reflections on The Study of Islamic Art', *Muqarnas*, 1, pp. 1–14. doi: 10.1080/00049536108255985.

[14] Moortgat, A. (1969) *The Art of Ancient Mesopotamia: The Classical Art of the Near East*. London/New York.

[15] Husayn b. Masud al-Baghawī (1989) *Tafsir al-Baghawi (Ma'alim al-Tanzil)*. Al Riyad: Dar Tiba.

Irwin, R. (2000) 'Islamic Art and Architecture by Robert Hillenbrand Review', *Journal of the Royal Asiatic Society*, 10(2), pp. 220–222.

[16] Quran 2:186, which its first part is translated: "[Prophet], if My servants ask you about Me, I am near. I respond to those who call Me, ..." (AbdelHaleem, 2004).

[17] One of these narrations precicely mentions the Muslim creed, or shahada, stating that: When the Messenger of God, may God's prayers and peace be upon him, went to Khaybar, people came across a valley and raised their voices saying: God is Greater, God is Greater, there is no god but God, so the Messenger of God, may God bless him and grant him peace, said: "Be gentle on yourselves, you are not calling who is deaf or absent. You are calling Who is All Hearing and Close, and He is with you."

[18] Houghton, R. and Peters, D. (2017) *An Analysis of Carole Hillenbrand's The Crusades Islamic Perspectives*. London: Routledge.

[19] Suleiman, Y. (2010) *Living Islamic History: Studies in Honour of Professor Carole Hillenbrand*. Edinburgh: Edinburgh University Press.

[20] The Crusades were a series of religiously motivated invasions of the region east of the Mediterranean by Christians from Western Europe between 1095 and 1291[16].

[21] A prominent British Crusades historian.

[22] The author of "*Modern Arab Historiography of the Crusades'*

[23] A long-time British advocate of the use of Islamic sources in the writing of history, who was Hillenbrand's professor while she was a student at Oxford[16].

[24] Hillenbrand, C. (1999) *The Crusades: Islamic Perspectives*. Edinburgh: Edinburgh University Press.

[25] Pettigrew, M. (2005) 'Review: Islamic Reflections , Arabic Musings : Studies in Honour of Alan Jones by Robert G . Hoyland and Philip F . Kennedy', *Journal of Arabic Literature,* 36(2), pp. 232–234.

[26] Hillenbrand, C. (2004) 'Some reflections on the use of the Qur'an in Monumental Inscriptions in Syria and Palestine in the twelfth centuries', in Hoyland, R. G. and Kennedy, P. F. (eds) *Islamic Reflections, Arabic Musings: Studies in Honour of Alan Jones (Gibb Memorial Trust Arabic Studies)*. Gibb Memorial Trust.

[27] A word or phrase in which a part of something is used to refer to the whole of it (Cambridge Dictionary).

[28] The Topkapi scroll is an important document created by master builders in the late medieval Iranian world. It compiles a rich repertory of geometric drawings for wall surfaces and vaults.

[29] Crane, H. (1998) 'Review The Topkapı Scroll: Geometry and Ornament in Islamic Architecture by Gülru Necipoğlu', *Iranian Studies, Historiography and Representation in Safavid and Afsharid Iran*, 31(2), pp. 299–304. Available at: http://www.jstor.com/stable/4311163.

[30] Necipoğlu, Gülru (2012) *The Concept of Islamic Art: Inherited Discourses and New Approaches*, *Journal of Art Historiography*.

[31] Check Blair, S. S. and Bloom, J. M. (2003) 'The mirage of Islamic art: Reflections on the study of an unwieldy field', Art Bulletin, 85(1), pp. 152–184.

[32] Blair, S. S. and Bloom, J. M. (2003) 'The mirage of Islamic art: Reflections on the study of an unwieldy field', *Art Bulletin*, 85(1), pp. 152–184. doi: 10.1080/00043079.2003.10787065.

[33] Necipoğlu, G. (2007) 'Qur'anic Inscriptions on Sinan's Imperial Mosques: A comparison with Their Safavid and Mughal Counterparts', in Suleman, F. (ed.) *Word of God – Art of Man: The Qur'an and its Creative Expressions*. Oxford: Oxford University Press, pp. 69–104.

[34] Mimar Koca Sinan (c. 1489-1588), the the Great Architect Sinan, was appointed chief royal architect to the Ottoman court by Sultan Suleyman I in 1539. During his fifty-year career he designed and constructed hundreds of buildings including mosques, palaces, harems, chapels, tombs, schools, almshouses, madrassahs, caravanserais, granaries, fountains, aqueducts and hospitals (Necipoğlu, 2005)

[35] Fatwa is a formal ruling or interpretation on a point of Islamic law given by a qualified legal scholar.

[36] The Hanafi School is one of the four major schools of Sunni Islamic legal reasoning and repositories of positive law.

[37] Vizier is originally the chief minister or representative of the ʿAbbāsid caliphs and later a high administrative officer in various Muslim countries, among Arabs, Persians, Turks, Mongols, and other eastern peoples.

[38] Uthman, M. (2018) 'Skills and knowledge required for reading and studying inscriptions', in *Pioneers of the study of Arabic and Islamic inscriptions, Egyptians and Arabs Seminar*. Alexandria.

[39] Nanay, B. (2019) *Aesthetics: A Very Short Introduction*. Oxford: Oxford University Press.

[40] Ghanem, I. (2016) *Endowments, society and politics in Egypt*. Cairo: Madarat for Research and Publishing.

[41] Hanash, I. M. (2019) 'Theories of Islamic art: interdisciplinarity and epistemological integration', in Okasha, R. J. (ed.) *Islamic Knowledge: Journal of Contemporary Islamic Thought - Volume 98*. International Institute of Islamic Thought (IIIT), pp. 85–122.

[42] Salmani, A. and Chatrbahr, H. (2018) 'A CRITICAL APPROACH TO HISTORICISM'S VIEW ON ISLAMIC CALLIGRAPHY', *National Academy of Managerial Staff of Culture and Arts Herald*, (3). doi: https://doi.org/10.32461/2226-3209.3.2018.176882.

[43] The functional studies of Islamic art have emphasized the functions of these art within the realm of human civilization in their social, cultural, religious or any other functions that can be applied by Islamic art (Hanash, 2019).

[44] which represents the method, the form and the practice (ibid.).

[45] which represents the vision, the content and the main aesthetic theory (ibid.).

[46] Matoq, F. (2017) *Sousyouloujya Alfn Alislami [Sociology of Islamic Art]*. Beirut: Montada Alma'ref.

[47] Rosenthal, F. (1958) *The Muqaddimah: An introduction to history by Ibn Khaldun*. London: Routledge & Kegan Paul.

Traditional Dwellings and Settlements
Working Paper Series

GARBAGE AS GENERATORS: ALTERNATIVE ECOSYSTEMS OF THE GLOBAL SOUTH

Angeliki Tsoukala and Aparajita Santra

Volume 314
Pages 19-34
2020

GARBAGE AS GENERATORS:
ALTERNATIVE ECOSYSTEMS OF THE GLOBAL SOUTH

◆ ◆ ◆

Waste is an inevitable and inexhaustible resource produced as a result of different urban metabolism processes. Cities of the Global South while adopting to the orders of globalization and world-class cities, have defined new spatialities of hygiene and order. These urban orders have reconfigured landscapes, creating alternate ecosystems that are sustained around garbage processing, where wastes of one becomes the livelihood and resource of the "other". This paper will explore the long-standing socio-spatial inequalities that have been solidified in the waste picking communities of Cairo, Delhi and Bogota, and discuss how these marginalized communities present a condition of conflicted territories and hybrid identities that are in constant contradiction and tension.

1. INTRODUCTION

Waste is "what we do not want or fail to use."[1]. Waste is embedded in multiplicities of "externalities, commodities, livelihoods, and even as inputs for production."[2] Industrialization and economic growth brought about with it manifold changes in the relationships between societies and the waste being generated by them. The expansion of the global economy after World War II led to proliferation of systems of mass production and consumption. People in wealthy nations were able to reap the benefits of it and experience disposable consumption on a mass scale.[3] Waste became an inevitable and every-increasing outcome of such processes. In the developing nations of the Global South, the sudden urbanizations buttressed the chasm between the social stance of different population and increased urban poverty in large urban fabrics. Due to the sudden escalation in urban populations, the trash of the cities of the Global South exceeded the highest levels of management of the city's Solid Waste Systems (SWS), both in amounts and in complexity. Informal landfills of trash made an appearance that decreased both the image of the cities as well as their hygiene.[4] These cities of the Global South in their attempt to become world-class demanded that city spaces should be disinfected of anything that is impure.

> The practical purpose of sanitation is to efficiently remove waste; that was its modernist promise. Here was technology that would purify urban space, that would allow populations physical and moral escape from the unacceptable; that would render shit secret. Transport it away from the body and home . . . out of sight, out of mind.[5]

As a result of globalization and inequalities in development, the increasing amount of the urban poor in the cities of the Global South saw waste management as an opportunity to become part of cities' functional systems and solidify their positions in the economic cycle of cities. The cities of the global South, in order to create an identity for themselves befitting the world-class image participate in grandiose urban visions that transform their urban landscapes, excluding the disenfranchised communities. These power inequalities seem

more pronounced for the waste-picking communities who survive on garbage on the peripheries of the hegemonic class and social orders. The role of informal waste-pickers in cities of the developing world is very important since their strategies and recycling systems have exceeded the formal companies' rates, by recycling up to 80% of a city's waste. However, the waste-picking communities have always been associated with an image of filth and shoddiness, representing the barbaric. Their professional association with literal 'waste' has resulted in various discrimination, stigma and exclusion being inflicted on them. However, Post industrialization and post liberalization of the economy there has been a rise of the private sector economy and proliferation of free-market globalizations that have reconfigured the landscapes around waste in cities. There has been a significant rise in the volume of waste being generated with a shift to modern techniques, discarding traditional mechanisms. As a result, waste as a commodity has brought about new opportunities for capital accumulation through privatization and incineration. These mechanisms become significant threats on the basic livelihoods of the waste-pickers. "Wastepickers collect, segregate and sell waste to recyclers, and to them the incinerator represents a bitter economic injustice because it threatens to dispossess them of a resource, that is waste."[6]

"Garbage, as the abject product of modernist development, becomes an emblem of the difference between our expectations of modernity and modernity and lived experience."[7] While, garbage is the excess by-product and the formal city discards it out of sight; it is also dependent on the informal economy for maintaining this condition. On the other hand, the garbage becomes a resource and livelihood source for the informal waste pickers. The garbage as a commodity can also become a mechanism of resistance for these informal waste-pickers to resist the hegemonic forces, when it tries to impinge on their agency. The "conceived spaces"[8] of modernity envision clean and hygienic spaces and associate the "impure" marginalized communities with filth and squalor, relegating the responsibility of maintaining cleanliness on them. On the other hand, the garbage as a commodity for transgression used by the marginalized waste-picking communities also has the power to destabilize the "lived" realities of the spaces of modernism.

This paper discusses the waste-pickers of three major cities in the developing world. It explores the conditions of mutual profitability and the unspoken consensus between the formal city and the informal waste-picking communities that has afforded the existence of these communities despite several initiatives by hegemonic actors to formalize them or topple them. The paper discusses the ecosystems around garbage in three cities of Cairo, Delhi and Bogota. It delineates the various factors and forces that have tried to govern these informal waste-picking communities in attempts to dissolve them under formalizing and privatizing initiatives. The paper also unpacks how these communities subverted the fragile orders of the formal city, through their everyday practices. The regimes of garbage subvert the regimes of the State and other powerful

actors by adopting resistance mechanism, using garbage itself as a tool, and thereby claim their right to the city. While investigating the three communities and their politics around waste, the paper will be unearthing the binaries of formal-informal, order-disorder, clean-dirty, center-periphery and us-them that operate within the apparatuses of power producing inequalities and resistance.

2. THEORETICAL FRAMEWORK

Modernism's cities with their penchant for establishing planned spaces and order inevitably resulted in the creation of unplanned outgrowths that reflected the inadequacies on part of the state and hegemonic forces. Ananya Roy calls these informal/ unplanned spaces as the "state of exception".[9] These ecosystems of "exception" have normalized their existence beyond the purview of the State planning and policies creating spaces of their own, that are not recognized by the formal narratives. These informal communities "build their own city without any reference whatsoever to the whole bureaucratic apparatus of planning and control in the formal city next door."[10] It ignores the dominant "apparatuses" of power that do not recognize their existence in the formal city. The waste picking communities also form a localized economy around garbage, finding their subsistence and livelihood resources from the wastes of the other.

What is interesting here is that the very formal actors that causes the 'othering' of the informal actors justify their existence in the very system by acknowledging their presence. Even though the waste pickers are based out of the informal economy and are considered to be a discarded outcome of the formal processes, the sustained and seamless operation of these informal systems challenges such narratives and affords the very existence of the tenets of cleanliness, hygiene and order of the formal city. The presence of these waste picking communities not only subsidizes various requirements of the formal sectors, it also challenges the dichotomies on which these communities are considered as the "other" by enabling the proper functioning of the formal city. "The constitutive outside is not a dialectical opposite but rather a condition of emergence, an outside that by being inside creates radical undecidability."[11]

While, the planned-ness and order of the formal cities tend to camouflage the chaos of the informal sector, the marginalized groups adopt tactical and strategic process situating it in their everyday politics and contestations of space as mechanisms to forge their agency and right to the city. In this regard, the lens of Environmental Psychology also becomes critical to understand the socio-cultural norms and practices of the informal waste-picking communities that enable them to become part of the formal city. While working in the Solid Waste Management of the cities, waste-pickers manage to assert different levels of control on different parts of their city. Control is assessed through employing different behaviors which assert one's presence over socio-cultural and physical space. The part of Environmental Psychology that is employed in order to

understand these relationships and how they affect place-making is the theory of Territoriality. When we refer to territoriality, we refer to a mechanism of regulating interaction between people. The main aim of territoriality is to assert control or ownership over the use of a space. A main characteristic of asserting the waste-pickers' culture over a territory is through personalization of their physical characteristics- manipulating space to fit the different labor functions around waste. A way of expressing territorial functioning is by buttressing the power and control of an individual or a group over a specific site, at the expense of another individual or group.[12] In the case of the waste-pickers, they started off as immigrant squatters and became part of the urban development schemes of cities.

The waste-pickers lives embody the everyday negotiations with the formal city and their wastes. Their agency is manifested in their community mobilizations and also in garbage being used a tool for resistance. "Agency presumes collectivity, which is where a group acts by synecdoche: the part that seems to agree is taken to stand for the whole... A performative contradiction connects the metonymy and the synecdoche into agential identity."[13] Sarah Moore in her article discusses the way in which a group of activists claimed their right to the city by blocking access to the municipal dumps in a neighborhood of Guillermo Gonzalez Guardado that was earlier a dumping ground of waste for Oaxaca city.[14] The garbage that piled up in the city caused discontent forcing the municipal authority to negotiate with the members of the community to end the blockade.[15] Thus, using garbage as a tool to block the roads, the waste-picking community connected via metonymy as highlighted by Spivak, and their synecdoche of resisting the municipal authorities became effective mechanisms to assert their right to the city.

In this context, Deleuze and Guattari's concept of "assemblages"[16] are concomitant with the rhizomatic association of the human and non-human actors that stabilizes the existence of these ecosystems around garbage. The agency of waste as a non-human actor is an important consideration under Latour's "actor-network theory".[17]

> The urban metabolism non-human entities lack agency but must be accounted for in a literal sense because a change in their character of quantity, or the way in which they are acted upon, can profoundly impact political economic processes.[18]

The co-relations between the human waste-pickers and the non-human networks, consisting of the waste itself, and its various collection, sorting, disposal and recycling processes support the social outcomes of the livelihoods and existence of the waste-pickers. "From an Actor-Network Theory perspective, waste is a socially constructed hybrid of objects, legislation, economics and human interpretation."[19] Thus, from the perspective of ANT, waste as a non-living entity has agency in mobilizing power struggles and inequalities.

Politics around waste also lead to class struggles, where the discarded by-product of one class becomes the resource of the other.

In this context it is also important to unearth the dichotomies of 're-presentation' and 'representation.' Zimring discusses about the histories of trash collection and says that waste, picking, collecting, repurposing and reselling tends to be dangerous, but is often the route towards upward social mobility. It provides the rag pickers a higher living wage than other menial works.[20] Thus, the waste-picking is normalized for these communities as a result of the inadequacy of the state to provide them with sustainable options for livelihood. While the powerful regimes of the modern city, represent these waste-picking communities with filth and squalor and as illegitimate occupants of the legal city, the waste-pickers on the other hand re-present themselves as agents who efficiently dispose and recycle the waste of the formal city, enabling the formal sectors to enjoy their fetish of the clean visual spectacle of the city. The waste-pickers by considering themselves to be the agents of this change and through their everyday survival and entrepreneurial mechanisms to find sustenance in these conditions of squalor, elevate themselves to a position of power.

3. THE ZABBALEEN OF CAIRO, EGYPT

In the late 19th century, there was not an official system of waste disposal in Cairo. Around 1910, a group of Coptic Christians migrated to Cairo from the Nile Valley located at the southern part of the country due to agriculture not being profitable enough for all the households. The Coptic Christians were named 'the Zabbaleen of Cairo'. The routes through Cairo, as allocated by the 1930s, were regulated by the Wahiya - internal Muslim immigrants-, and the trash was collected by the Zabbaleen, who used organic waste to feed to their pigs and recycled and sold the rest of the garbage[21]. It was from the Wahiya that the Zabbaleen were trained as garbage collectors and due to the need of organic waste for pigs, they went from waste collection to waste sorting.[22] Due to the efficient recycling routine, the Zabbaleen managed to achieve a recycling rate of 80% of the Cairo's garbage. Upon their arrival in Cairo, the Zabbaleen took over an area of Imbaba, but were later evicted by the Governor. That is when they moved to the abandoned foot of the Mokattam hills, where they were granted permission to stay by the Governor, who however never signed an official tenancy agreement. This put them in a position fluctuating between legality and illegality. Most Zabbaleen, even though they are claimed owners of land that they bought either from the government or from some previous inhabitants of the area, have no documentation to prove their ownership, and are thus in immediate trouble once faced with eviction. The lower part of the Mokattam Hills, as occupied by the Coptic Christians, called 'the inner city', is the subject of informal urban development as well as building techniques, since their settlements have adopted the trash-picking routine.

> (The buildings) are created in violation of current building laws and standards, although physically they have typically urban features, such as a rare and irregular grid of narrow streets, with small but completely built-up building plots and vertically ascending residential buildings, often with unfinished storeys with reinforcing wires sticking out of them (…) The informal feature of architecture I mentioned are characteristic of the Coptic illegally built city in the Manshiyat Naser District, known as 'the Garbage City. [23]

The urban outline, as well as the division that they adopted between the residential/working areas and the sacred church areas, are characteristic of the Coptic Christian culture, and part of the reason why they were gentrified and isolated from the Muslim urban fabric.

> The home for garbage collectors thereby becomes not merely a container of human life but an essential shelter for those life-sustaining, productive activities like in rural areas where home and workplace are combined and interrelated. Where the place of work is also the place of residence, group identities are reinforced, strengthened by residence patterns of clustering by kin and by place of origin.[24]

The movement of the Zabbaleen takes place on a different timetable than that of the rest of the inhabitants of Cairo. Long before dawn, groups of men with boys or with their young daughters go around the city in shifts, either collecting the trash in order to sort it out later, or sorting the trash on the spot between cardboard, glass or plastic to be collected later. The Cairo locals have become loyal customers of the Zabbaleen- the fee they pay to have their waste collected is analogous to the luxury of having their trash collected from their front door. The Zabbaleen using means such as donkeys, lorries, small-trucks or on foot can go through the nearest alleys. "Besides selling paper, plastic and homemade handicrafts from recycled MSW, pigs are the main source of income for the Zabaleen (…) Every 6 months, the waste collectors sell adult pigs, 5 to 15 pigs to a trader for $1.25 USD per kilogram (…)"[25] .Due to the strategic location of the Garbage City, the Zabbaleen have been vital to the tourist industry as the main pork breeders of Cairo. As for the importance of their urban setting and daily roles, once the garbage is collected it is then moved to the Garbage City –

> The well-kept and rich sacral part is separate, although culturally and symbolically connected with the residential part, whose unpaved streets without sidewalks serve as storages for the constantly sorted garbage heaps. On the ground floor of the residential building, sorting plants are organized, warehouses for particular types of waste, workshops converting waste for example into fine plastic.

> The residential part is completely dominate by rows of unplastered brick buildings erected in a storied structure.[26]

Neither ownership of lots, nor ownership of tracks was formalized by documentation. As a result of their dichotomous legal status, they did not enjoy any benefits from the government. Like every other postcolonial city in their drive to establish a modern image for themselves, Cairo also took certain 'cleaning' initiatives against the Zabbaleen community for establishing their world-classness.

> The authorities pursue a policy of moving the Zabbaleen activities further out of the city, claiming that this will turn the Zabbaleen neighborhoods into cleaner living environments while still allowing the trash sorting, recovering, trading and recycling to occur. But such relocations plans will increase the Zabbaleen's travelling distance and cost of services delivered (…), thus creating risks concerning the Zabaleen's foothold of trade and livelihood.[27]

The tensions between the State and the Zabbaleen community further increased when Cairo awarded their waste collection contracts to three European multinationals in 2003, depriving the Zabbaleens of their traditional livelihoods.[28] The conflicts were further crystallized with the government's decision to slaughter the Zabbaleen pig population in 2009 after the HINI Swine Flu outbreak. The pig population was a major part of the recycling processes of the community and also a source of their income. These initiatives taken by the government entrenched them in their state of crisis and perpetuated their vulnerable position as the "other". "Where there is power, there is resistance, and yet, or rather consequently, this resistance is never in a position of exteriority in relation to power."[29] Even though power is essentially repressive in its nature, there are always counter forces of resistance at play. The ambiguities of the modern clean spaces are that citizens who expect sanitary cities are also threatened by the dirt.[30] These porosities and fragilities of the formal hegemonic actors enables the affordance of hybrid identities. The waste pickers communities respond to outside threats to their livelihoods by building lasting networks and strong relationships with each other through local community-based organizations and environmental groups.[31] These mechanisms to create enterprise and action by the community forges new ways of claiming right to the city. In the case of the Zabbaleen the directives of the government to uproot the livelihoods of the waste pickers were met with resistance. The recycling rates fell in Cairo and the garbage remained uncollected and piled up the streets posing further unhygienic and unliveable conditions. As a result, the residents preferred to bypass the new systems of the government and continued to pay the traditional Zabbaleen waste pickers.[32] This demonstrated how traditional measures proved to be combative and resilient against the dominating forces that had tried to disrupt the livelihoods of these minorities.

4. THE DALITS OF DELHI, INDIA

India is a country whose waste system depends on the waste pickers in large amounts, especially since the industrialization of the country. This example highlights the long-standing power struggles and inequalities between the middle class and the poor. The Dalits are marginalized communities in India whose existence is not only at the periphery of the formal city, but they fall at the margins of hegemonic class order, wherein their lower-class normalizes their occupation with waste and filth. The cultural norms and practices of the country afford social fluctuation between the different castes and religions, which has led to a vast majority of urban poor in the larger Indian cities, depending on begging or short-term chores for their livelihood. India is a place that has undergone huge reformations in the 20th century and due to all the new industrial zones there was a drastic reduction of public support for the agricultural sector of India[33] which was accompanied by the dispossession of land from farmers as lots for the new industrial zones. The dispossession of land led to a great number of agrarian workers to lose their jobs and move towards big urban centers in search of new livelihoods. The large urban centers, such as Delhi became attractive destinations for these populations due to their burgeoning urbanization. "Solid-waste management is the responsibility of India's municipal governments, yet with few exceptions they discharge it execrably".[34] Dalits relocated within the urban fabric of the city, in proximity to both the trash land fields as well as the recycled-material sellers. Their squatter's neighborhoods are primarily made of scrap materials gathered during recycling collection cycles. According to the location of the landfills and allocated workers, the trash pickers regulate their neighborhoods accordingly- there are between 200 and 500 households organized together, and every 20 to 30 families are under the organization of a community leader names 'thikadar', who organizes community issues as well as issues arising with the owners of the land, whether private or owned by the government.[35]

There was a public interest litigation filed by the middle-class residents that forced the municipal authorities to demolish slums and any hazardous industries, that were detrimental to the environmental.[36] They called it the "environmental turn." These displacements and "metabolic reconfigurations" disenfranchised the very existence and livelihoods of the poor.[37] Amita Baviskar calls this the "bourgeois environmentalism" that disproportionately favored the middle-class interests.[38] In this context, it is important to understand the urban waste metabolism processes in Delhi. This system is interlinked to two value chains of the formal and the informal. "The generators of waste- e.g. the households and firms- are legally obliged to deposit their waste at a transfer station where it becomes the property of the municipal government."[39] However, the formal waste management system mostly remains overburdened by the huge population of Deli and enables the co-existence of the informal waste management system. "The relationship between the formal and informal value chains is mediated by approximately 150,000 – 200,000 waste pickers who gather recyclable waste at various leakage points along the formal chain."[40] Due to certain socio-cultural practices in India, there is a

clear marginalization of the Muslim population as well as the lower Hindu castes, and their exclusion from the society.[41] Thus, individuals who belong to these populations arrive in urban centers their only choice for a livelihood is trash-picking, since they are excluded from civil rights such as holding an ID and accessing public services (healthcare included). Due to the lack of proper identification and thus citizenship, their neighborhoods are not considered formal and are thus not part of transportation services or of hygiene schemes. Reportedly, trash pickers believe that waste picking and recycling is the most stable job and over the years the economic conditions of it have mitigated, making it more desirable. [42]

In the process of developing Indian cities,

> as world-class cities, the government has actively engaged in land speculation and active dispossession of land from the informal settlement dwellers thereby proliferating inequality and unequal access to services (….) transformation to world class cities was increasingly felt to cater to the entry of transnational corporations.[43]

The burgeoning urbanization of Delhi is what led to a further marginalization of the inhabitants of informal settlement such as the ragpickers, and with policies discontinued the networked water and power supply systems. As a result, the inhabitants of the informal settlements would have to resort to private companies for the supply of water and power- With the high household costs, the government's aim is to drive the settlers out of the city voluntarily without causing riots. This desire derives from the middle class' demands, as taxpayers, for a beautification of Delhi as well as more space allocated to the public in the urban fabric. In an attempt to compete in the global markets of beautiful cities, the government of Delhi allocated some of the recycling to private companies. The privatization drives forcibly removed the waste pickers or coerced them to pay a fee to continue their operations.[44] The waste-pickers saw these initiatives conflicting with their basic struggles for livelihood. "Since we don't have any other work, we are forced to do this filthy work. We are forced to pick up this waste. Still the government is trying to force us out. They want to produce electricity by burning our livelihood."[45]

Delhi government's initiative to privatize the waste collection system and remove the informal waste-pickers was also met with massive subversion. The population of Delhi was a huge impediment in the working of the formal waste collection systems, and it came with a lot of loopholes. The formal systems were unable to keep up to the waste being produced and ended up being inefficient and perpetuated the problem around waste and filth for the middle-class society. This problem was further compounded with the widespread use of cheap plastic in every sector of the economic that significantly increased the volume of inert waste.[46] The failure on part of the State to meet the environmental requirements of the state created discontent among them and they demanded to "clean up and flourish or pile up and perish."[47] In this situation, they started

relying on the informal waste pickers for the removal of their waste. This system reflected the multiple levels and hierarchies at which power operated and transformed spatialities and existence of these communities. The middle class not only desired the removal of waste to reduce their exposure to environmental hazards, but also wanted a clean space that became a symbol of their power and status. This proved to be beneficial for the informal waste pickers who found the means for their sustenance.

> Thus, while waste-pickers' main objective is to configure Delhi's metabolism in such a way that they maintain access to waste, middle class residents envision a metabolic configuration that produces a situated political ecology that insulates them from waste and enables a desired lifestyle.[48]

5. THE WASTE- PICKERS IN BOGOTA, COLOMBIA

Colombia is a rapidly urbanizing country, where 72% of its citizens already reside in cities.[49] Bogota, the capital of Colombia has had a great influx of people leading from a population of 0.5 million in 1950 to 7 million in 2010[50]. The influx of people, like in any other Latin American country, takes place due to the industrialization of the cities and the weakening of the support towards agrarian development. With more people losing their land or their jobs, the compensations distributed do not mirror the loss. Also, the modernization of cities like Bogota are facing an increase in population of 14% per year, while studies conducted in 2011 and 2012, have shown that 13.1% and 11.6% of the households live below the poverty line, the wealth distribution being very unequal.[51] The urbanization and modernization processes have resulted in an increase both of the urban poor and of the solid waste, which increased 160% in less than a decade, and keeps increasing.[52] The increase of solid waste, became the main source of livelihood for the urban poor creating an ecosystem where both the poor earned a steady income and the city profited from the improved recycle rates –

> In Bogota, recycling has been analyzed by accounting for the production of waste and the potential to increase the recycling rate, waste management and urban sustainability, the role of the waste pickers and their work to defend their rights and guarantee their work and improve conditions through their inclusion in Solid Waste Management Policies and educational strategies to achieve recycling culture (…)[53]

The informal waste-pickers of Bogota have managed to earn a place in the formal Waste Management System (WMS), while raising awareness for an institutionalized waste minimization, and became part of the Sustainable Development Goals (SDG) as set by the United Nations in 2015.[54] The main services performed by the waste-pickers are collection, sorting, cleaning and reusing materials, which provides a basic livelihood.[55] Inter-connectedness of different actors in the informal economy led to exceptional recycling

rates - the trash-pickers, cooperate both with small-size buyers of recyclable materials (paper, cardboard, glass, plastic, metal, textile) and with flea markets that resell second-hand items retrieved from the trash (books, clothes, records, etc). The waste-pickers choose the materials of the different households, that they sell to the 'bodegas', who sort, store and resell the recyclables to different industries to be reprocessed – "a self-organized symbiosis."[56] It is through the substantial presence of the links between the different sectors of the informal economy, as well as the Recyclers' Association representing the waste-pickers' livelihoods and work, that waste-pickers in Bogota were accepted in as part of WMS. The recycling associations created alliances with the industrial sector as part of their actions, due to their efficient waste management schemes[57]

Due to lack of in-situ sorting by the respective households, waste-pickers normally sort the garbage, which is calculated to be between 356 to 1200 tons daily, in front of the properties they collect it from, or in waste rooms in their own dwellings.[58] In the streetscape of Bogota, 20,000 waste-pickers work daily, dedicating 100% of their employment on the SWM activities – They follow predetermined routes as agreed informally amongst them or between the different associations that represent them, in order for each worker to manage to gain enough.[59] As mentioned, the informal economy consists of many interconnected branches, and recycling being part of it, functions as a free-market.

The Sustainable Development Goals (SDG) as set by the United Nations in 2015 opted for "the transformation of cities into sustainable territorial entities" [60] and buttressed the Colombian Government's aim of "Bogota as a safe desirable place to do business, to live and to visit"[61] where the waste systems became part of the beautification scheme of the developing cities in order to make them competitive in the global economic market. The waste-pickers, being internally displaced population opted for the alleviation of poverty which is accompanied by access to public services. Facing extinction, the Association of Recyclers of Bogota (ARB) and the different cooperatives showed leadership, and organization in order to improve the recycling culture in Bogota, reduce household waste and enforce recycling in Bogota.[62] Overtime, sustaining the waste-pickers proved profitable, since they provided better recycling rates and the informal system produced less Green House Gasses than the formal waste plants.[63] The formalization of their labor allowed waste-pickers in Bogota to substantiate their position in the economy of Colombia, become citizens of Bogota, get better training on hygiene strategies in waste processing and withstand the "self-organized symbiosis" as part of their labor system.

Garbage is an inevitable outcome of capital and will forever be on the rise. However, garbage as a commodity has the power to reconfigure landscapes of spatial inequalities and question the binaries around clean-dirty, inside-outside. The failure on part of the State in all the above examples to meet the demands around garbage

highlights the inherent weaknesses of these hegemonic powerful institutions who are legally entitled to maintain order in cities. On the contrary, the weakness of the State becomes an opportunity for the oppressed class, who use garbage as a tool to claim their rights to the city.

6. CONCLUSION

There is a disturbance in all the multiplicities around shit. There is an inestimable value of shit that is required to understand the contingency of the political.[64] "In other words, shit is good to think with because of the ways in which it can unsettle the boundaries between the body and its others, public and private, truth and concealment, state and environment, and, of course, pure and impure."[65] This shows how something as trivial as waste is associated with deep sociological hierarchies and dichotomies that can bring to the forefront inadequacies and fallacies of the hegemonic powerful actors. The three waste-picking communities in three different conditions of the word highlight the ambiguities in their re-presentation by the formal city with that of dystopia and disorder. These disenfranchised terrains of habitation and livelihood can become enormous power seats that questions the orderings of the State and its established binaries.

In all the three cases, while the State tried to disenfranchise the informal waste pickers of their rights and livelihoods, their inadequacy to enable social order and interests of the privileged classes led to the disruption of the formal established mechanisms of the State. It is indicative of a wider socio-psychological adaptation mechanism, where people create their own orders to protect their interests and needs in the absence of enabling formal structures. It is also a manifestation of the inherent desire in humans for recognition and rights, while people try to establish their place in the city. Conflicts over waste in these cities of the global south reflects how the struggle for health and wellbeing and attempts to achieve so-called order becomes a resource for the waste pickers in alleviating their struggles over livelihood and value. The socio-environmental conditions resulting from the social and urban metabolism processes have perpetuated the inequalities and divides and also enabled agency at the same time. There are questions that arise at this point. What defines the boundaries of the formal and informal? What defines waste, when the discarded by-product of one is the resource of the other? While the visual presence of waste becomes a threat to the formal city, it is an opportunity for the informal sector who derive their livelihoods from it? What is dirty then in a situation, where the lives of the waste pickers revolve around garbage who are trying to stabilize the cleanliness and visual spectacle of the formal city? Who maintains the order in the formal city? Who gains from it and who pays for it? All these processes reflect power struggles embedded in the everyday nexus of our cities. While the informal sector tends to be camouflaged, deprived and neglected from the formal orders of the city, the essential framework of the formal city would collapse without the informal. It shows a symbiotic relationship rather than that of domination, where each benefit from the existence of the other.

NOTES AND REFERENCES

[1] K.A. Gourlay. 1992. *World of Waste: Dilemmas of industrial development*. London: Zed BooksLtd.

[2] K. O'Neill. 2019. *Waste*. Cambridge, UK; Medford, MA: Polity Press.

[3] Ibid.

[4] K. Michael, T. Deshpande & G. Ziervogel, G, "Examining vulnerability in a dynamic urban setting: the case of Bangalore's interstate migrant waste pickers," 2019, *Climate and Development* 11, no. 8, pp. 667-678.

[5] S.A. Moore, "*The politics of garbage: Municipal solid waste in Oaxaca, Mexico*," 2008, *Society and Natural Resources* 21, no. 7: pp. 597-610

[6] D.C. Wilson, C. Velis & C. Cheeseman, C., "Role of informal sector recycling in waste management in developing countries," 2006, *Habitat International* 30, no. 4, pp. 797–808.

[7] S. A. Moore, "The Excess of Modernity: Garbage Politics in Oaxaca, Mexico," 2009, *The Professional Geographer* 61, no. 4, pp. 426-437.

[8] H. Lefebvre. 1991. *The production of space*. Malden, MA: Blackwell.

[9] A. Roy, "Urban Informality," 2005, *Journal of the American Planning Association* 71, no. 2, pp. 147-158

[10] P. Hall, P. & U. Pfeiffer. 2000. *Urban future 21: A global agenda for 21st century cities*. London: E & PN Spon.

[11] Roy, 2005.

[12] R.B. Taylor. 2010. *Human Territorial Functioning*. Cambridge: Cambridge University Press.

[13] G.C. Spivak, "Scattered speculations on the subaltern and the popular," 2005, *Postcolonial Studies* 8, no. 4: pp. 475–86.

[14] S.A. Moore, "*The politics of garbage: Municipal solid waste in Oaxaca, Mexico*," 2008, *Society and Natural Resources* 21, no. 7: pp. 597-610

[15] Ibid.

[16] G. Deleuze & F. Guattari. 1987. *A Thousand Plateaus*. London: Bloomsbury.

[17] B. Latour. 2005. *Reassembling the Social: An Introduction to Actor-Network-Theory*. Oxford: Oxford University Press.

[18] C. A. Zimring. 2015. *Clean and White: A History of Environmental Racism in the United States*. New York: NYU Press.

[19] Latour, 2005.

[20] Zimring, 2015.

[21] M. Didero & S. Eldefrawi,"Cairo's Zabbaleen. (Dis-)entangling the urban and social geography of informal livelihoods in a globalized megacit",2019, *Égypte/monde Arabe* 19, no. 1, pp. 91-110.

[22] K. Wiacek, "The Cairo Garbage City as a Self-Sufficient 'Inner City'", 2020, *Quart Nr* 55, no. 1, pp. 96-111.

[23] Ibid., pp. 102.

[24] W. Fahmi & K. Sutton, "Cairo's Contested Garbage: Sustainable Solid Waste Management and the Zabaleen's Right to the City", 2010, *Sustainability* 2, no. 6, pp. 1776.

[25] Ibid., pp. 1774.

[26] Wiacek, 2020, pp. 105.

[27] Fahmi & Sutton, 2010, pp. 1769.

[28] K. O'Neill. 2019. *Waste*. Cambridge, UK; Medford, MA: Polity Press.

[29] M. Foucault. 1978. *The history of sexuality*. New York: Pantheon Books.

[30] S. A. Moore, "The Excess of Modernity: Garbage Politics in Oaxaca, Mexico," 2009, *The Professional Geographer* 61, no. 4, pp. 426-437.

[31] K. O'Neill. 2019. *Waste*. Cambridge, UK; Medford, MA: Polity Press.

[32] Fahmi & Sutton, 2010, pp. 1769.

[33] K. Michael, T. Deshpande, G. Ziervogel, 2019.

[34] Anon, "Filthy India Mucking it up", April 5,2014, *Economist London Economist Newspaper Limited* 8881, pp. 54.

[35] K. Michael, T. Deshpande, G. Ziervogel, 2019.

[36] R. Negi. 2010. "Neoliberalism, environmentalism, and urban politics in Delhi." In *New Economic Policy in India: A Critical Analysis,* ed. W. Ahmed, A. Kundu & R. Peet, pp. 179–198. London: Routledge.

[37] F. Demaria & S. Schindler, "Contesting Urban Metabolism: Struggles Over Waste-to-Energy in Delhi, India," 2016, *Antipode* 48, no. 2, pp. 293-313.

[38] A. Baviskar, "Between violence and desire: Space, power, and identity in the making of metropolitan Delhi," 2010, *International Social Science Journal* 55, no. 175, pp. 89–98.

[39] Demaria & Schindler, 2016.

[40] B. Chaturvedi & V. Gidwani. 2011. "The right to waste: Informal sector recyclers and struggles for social justice in post-reform urban India." In *India's New Economic Policy: A Critical Analysis*, ed. W. Ahmed, A. Kundu & R. Peet, pp. 125–153. London: Routledge.

[41] K. Michael et. al, 2019.

[42] Ibid.

[43] Ibid.

[44] Ibid.

[45] Demaria & Schindler, 2016.

[46] Ibid.

[47] Ibid.

[48] Ibid.

[49] S. Vergara, A. Damgaard & D. Gomez, "The Efficiency of Informality: Quantifying Greenhouse Gas Reductions from Informal Recycling in Bogotá, Colombia", 2016, *Journal of Industrial ecology* 20, no. 1, pp. 107-119.

[50] M. Pardo, M. C. I., & W.A. Piña, "Solid waste management in Bogotá: the role of recycling associations as investigated through SWOT analysis", 2017, *Environment, Development and Sustainability: a Multidisciplinary Approach to the Theory and Practice of Sustainable Development* 19, no. 3, pp. 1067-1086.

[51] A. Padilla & J.C. Trujillo, "Waste disposal and households' heterogeneity: Identifying factors shaping attitudes towards source-separated recycling in Bogota, Colombia," 2018, *Waste Management* 74, pp. 16-33.

[52] Ibid.

[53] M. Pardo et. al, 2017, pp. 1070.

[54] Padilla & Trujilo, 2018.

[55] Ibid.

[56] Vergara et. al, 2016.

[57] Pardo et. al, 2017

[58] Padilla & Trujilo, 2018.

[59] Vergara et. al, 2016.

[60] Padilla & Trujilo, 2018.

[61] Vergara et. al, 2016, pp. 108.

[62] Pardo et. al, 2017

[63] Vergara et. al, 2016.

[64] G. Hawkins. 2003. "Down the drain: Shit and the politics of disturbance." In *Culture and waste: The creation and destruction of value*, eds. G. Hawkins and S. Muecke: 39–52. Lanham, MD: Rowman and Littlefield

[65] Ibid.

Traditional Dwellings and Settlements
Working Paper Series

SITE, ARCHIVE, MEDIUM AND THE CASE OF LIFTA

Mark Jarzombek, Eliyahu Keller, and Eytan Mann

Volume 314
Pages 35-56
2020

SITE, ARCHIVE, MEDIUM AND THE CASE OF LIFTA

◆ ◆ ◆

This article presents the work conducted during an experimental design research workshop within the MIT School of Architecture and Planning, taking place at Lifta, an evacuated Palestinian village located outside of Jerusalem. Taking Lifta's historical and archaeological complexity as its archive, students developed and designed thematic virtual experiences of the village, its multiple histories and narratives. The efforts provide epistemological and experiential cross-sections and aim to challenge the traditional narration and production of history in favor of a critical historiography of Lifta. Using these the article discusses the critical questions that arose from the work: can historical evidence be spatialised within the detailed context of the materiality of the site? What does an immersive form of representation entail for the pedagogy of architectural history? And what possibility does this framework offer for conveying the complexity of the site of Lifta for other, similarly complex sites?

1. INTRODUCTION: APPROACHING SITE

Over the past few decades there have been several 'expansions' of the field away from the more building-based mode of history writing, one of which has been in the direction that is generally called cultural history. Carl Schorske's 1978 book, *Fin-de-siècle Vienna: Politics and Culture* was particularly relevant to that generation of emerging scholars.[1] Since then, of course, the desire to situate buildings or sites in the complex conditions of their making or reception have become commonplace. Indeed, recent decades have seen a growing interest both in geographies and histories that were left outside the western canon.[2] In all of these however, the position of the architectural historian as a producer of knowledge is often left unchanged: research on the one side, learning on the other. Books require seminars, not to mention teachers who can contextualize and position these works, and as a result the connection learning and the proverbial studio much less how knowledge is produced has become ever more remote from the productive spaces of creativity. While the seminar format is important, we welcome the opportunity that sensory technologies such as real-time computer graphics and Virtual Reality (VR) provide in helping students come to grips with complicated contextual problems. Instead of just reading about sites and their associated histories in books, VR allows one to not only immerse oneself in a site, but also to move from one 'site' to another in the form of imaginary leaps in ways that help students and advanced researchers come to terms with the different valences that are at play.

The site we chose to test this was Lifta, an evacuated Palestinian village at the southwest entrance to modern-day Jerusalem. We chose it not to ask how we could 'recreate' it, but rather how to use VR to address the traumas that are associated with it. For a long time, such sites were seen as relatively peripheral to architectural history, but given the increasing instrumentalization of violence across the globe (or at least the increased recognition of its presence), such sites are no longer just 'problematic' but typical. In other words, whereas in earlier times a place like Lifta would have been positioned in the context of political history and

not architectural history, we would like to put these disciplines on more equal footing. Is Lifta perhaps not an excellent way to teach architecture as a starting point?

The hope of the exercise as discussed below – which brought in students who knew little if anything about the site – was for the students to observe their own learning process and map out a strategy that would help shape a pedagogical 'track' through the site that others could use. The theoretical basis of how the students worked was complex. The current tendency to call all multi-person work a 'collaboration' belies situations like this. What collaboration usually implies is a group of experts working together, where the ignorance of one is covered by the knowledge of the other. In that way, collaboration as a method, almost always fails to acknowledge ignorance itself. We wanted the students to accept the fact that they came to the project and the site not knowing very much about either. In that way they could see themselves operating toward a pedagogically-useful product while simultaneously being within the epistemological/ontological space of their own learning. We were asking them not to become experts, but to find 'a voice. The results were tactical in the sense that we – the sponsors of the workshop - did not propose a linear 'beginning' to the history of the site. Nor did we propose a final position that needed to be taken. Instead, we wanted the students to see their design as a compass through the site(s) that could be passed on to the next person. We stressed this in order to avoid the problem of a student wanting to make an 'artistic statement' that referenced only his or her subject position but that could not be handed down as a research platform for other people in a similar position.

Though Lifta brings one front and center into the political vortex, the pedagogical orientation of the workshop and its results-as-pedagogy was designed to stand back from these immediacies so that the students, coming to the site with little foreknowledge, would have the time and 'space' to come to terms with the site's multiple layers of meaning and history. The aim was a 'working through,' as defined by Sigmund Freud, rather than a working toward. For Freud, the process of 'working through' (*Durcharbeiten*) was linked, in the context of psychological trauma, to a person's will to recover. It was a form of labor that the patients had to internalize in order to go forward.[3] For the goals of the workshop the intention was to evoke the potential of this 'labor' in the cumulative efforts of the students not in their individual work, and even then, the cumulative effort was only a type of anticipatory sketch of something even more layered and complex. It was hoped that this type of proceduralism, cumulative and yet allowing the student's individuality its particular voice, would highlight a 'political' all unto its own.

The workshop we will describe below, however, was not meant to just challenge students eager to learn more about the world, but to challenge our own way of writing and researching architectural history. The texts of

architectural history, much like any other discourse, "are not a sure thing;" As Louis Howe noted, they too "can be recycled, reoccupied, even taken over."[4] Following this, and rather than utilizing the craft of historical making in the search for stability, we aimed to capitalize on "potential for incommensurability between intention and utterance, utterance and action" that exists within the study of architectural history, between the objects studied, those who study them, and those to whom this knowledge is conveyed, and to thus exploit this preformative space for the mutual production of a critical historiography of architecture, its history, and the traditions of its writing. Relatedly, although deploying techniques of reality capturing through 3D scanning and rendering, the technological method and approach was not seen as a tool for the precise documentation and recording of the site's supposed reality. Rather, we embraced the limitations of what can be understood as real within the designed VR space, and sought to exploit the capacity of VR to create jumps and links to other spaces, times and objects as part of its foundational capacity. In attempting to create a critical historiography of both the architecture, its writing and its pedagogy we saw VR as a medium that allowed us to work between various epistemological registers to create something that is just as much a part of architecture as it is part of the ways in which it can be taught and conveyed.

By importing archival materials as well 3D-scanned segments of the site, the VR design space allowed us to compare evidence with data, challenging the authority of both. We wanted to build a bridge to developments in the art world, where artists have used historical research, to become, in fact, ever more like historians.[5] The well-known African American artist Renee Green, for example, explains that in her work, she

> wanted to begin by examining an artifact, a text, a painting or a group of paintings, a decorative object, an image, a novel, a poem, a garden, a palace, a house. By beginning with these objects or places, and the contexts in which they appeared, it was possible to detect the intricate working of certain ideologies which were being put forth … and to attempt to decipher the contradictory pleasure which might accompany them.[6]

Similarly, the choreographer Netta Yerushalmy and historian Julia Foulkes developed a hybrid-event project called *Paramodernities*: part performance, part academic conference, and part town-hall gathering.
By placing artistic and historical interpretation in dialogue – and tension – with one another we can begin to open new ways of thinking about the past, as well as its representation in the present. Take for instance *Mitologies,* a VR piece created by Lebanese filmmaker Hisham Bizri in 1997. As Bizri describes it, the work is 'loosely based on the Cretan myth of the Minotaur, the Revelation of St. John, Dante's *Inferno*, and Dürer's woodcuts of the Apocalypse. Music from Richard Wagner's *Der Ring des Nibelungen* serves as a structural motif

for the unfolding narrative.' This amalgam of texts, images, objects and sounds is then brought together in an architectural model which

> fuses the exterior of a 3D church modeled after a Leonardo da Vinci sketch of a church that was never built with the interior of the Great Mosque of Cordoba. Beneath the church is a maze built as a "rhizome": every path is connected to every other one, with no center and no periphery. As viewers proceed through the maze, they find themselves on paths that lead to medieval curiosity rooms, to rooms populated by statues of Donatello, the iconography of Cesare Ripa, and so forth.[7]

Here, the historian-as-artist and the artist-as-historian are concerned with particular historical subjects as much as with the mediums and forms through which these histories are represented and conveyed. Rather than separating fiction from documentary modes of representation, works of fiction can be considered as historical documents in their own right; ones that are, in fact, as potentially valid as a starting point for reflecting on present conditions as documentary evidence, archival materials and other more 'conventional' documents may be.[8] The point is not to do a better history but to unpack history in contexts that defy linear reasoning and in ways that allow for interpretation and discussion. We thus purposefully picked a particularly complicated site, Lifta, a Palestinian village located on the slopes of the western entrance to Jerusalem, evacuated and depopulated by Israeli forces in 1948.

2. LIFTA AND BEYOND

The work presented here is the result of a collaboration between the MIT Department of Architecture and the Department of Bible Archaeology and Ancient Near East Studies at Ben-Gurion University (BGU). Students from MIT in collaboration with archaeologists from Ben-Gurion participated in the study of the evacuated village, and investigated through various methods the archaeological and architectural remains, as well as the various archives, narratives and stories told about the site. Following a series of preparatory lectures, ranging in topics from history, methodology, and technique, we embarked on a two-week long visit to Lifta and Jerusalem. At the site, we used advanced simulation techniques, 3D scanning, and real-time rendering, as well as an array of archival, historical and scholarly resources.

Though the proposed approach is intended to illuminate any site, the intervention in a contested site, both historically and in its present, becomes even more meaningful when pursuing what Howe has referred to as a quest for "an ethics of perplexities rather than principles." Thus, and unlike a variety of projects utilizing digital technologies, representation and mapping for the creation of legal or 'truth' claims, this intervention

seeks a continuous and processual position of "ethical becoming rather than being ethical."[9] In that sense, we were not looking to recover a single truth or knowledge about Lifta that is actionable in a legal sense.[10] Nor were we asking to discard or invalidate other histories and stories told within and of the site. Rather, we sought to explore, create and construct a space in which political, national, religious and mythical heritage and traditions do not subsume one another in a battle of discourses and documents, but rather cross-pollinate in the ongoing production of architectural histories in tension.

In pursuing this we were in general alignment with the artist Cliff McLucas and his notion of 'deep maps.' In McLucas's point of view deep maps need to be "sumptuous," and embrace a range of different media or registers in a sophisticated and multilayered orchestration." Such representational documents, are able to "bring together the amateur and the professional, the artist and the scientist, the official and the unofficial, the national and the local," and through the layering of narratives refuse the quest for "the authority and objectivity of conventional cartography, "and will be "politicized, passionate, and partisan," documents.[11] Nevertheless, with such an extensive check-list, making such a map can be a tall order. The expectation horizons envisioned by McLucas are, in fact, so intimidating that none but the most hearty will be in a position to fulfil them. Once again, this only emphasises the need for the broad situationalising space of pedagogy, as opposed to the space of abstract, art-world theorising.

One cannot achieve the results McLucas wants without extensive and continuous discussions, without input, without reading, learning and writing and without critiques. One also needs time: the time it takes to digest material, to travel, to think and create. The quality of the results depends on the competencies of the educators and students, on the material that can be placed at their disposal and even on the funding that is available. These things are rarely folded into the theoretical discussion or treated as background to the final project.

Instead of focusing on the end goal, we concentrated on the process, conceiving the workshop as an exercise in design research.[12] In that sense, we were using pedagogical methods that students were familiar with from design studios and seminars. These included daily reviews of the work and progress both during the visit to Lifta and in the workshop's final week, as well as public reviews with guests and critics from the collaborating institutions and beyond. The workshop, supported by special funding from MIT for student research and travel, also featured a cross-disciplinary range of, who had never previously worked together. While staff from MIT served both as instructors and, to a degree, curators of the work, the role of BGU staff within this framework was to introduce the MIT students to archaeological methodologies including site analysis, survey and approach. Those were delivered in the form of frontal and on-site lectures. The students, who all came

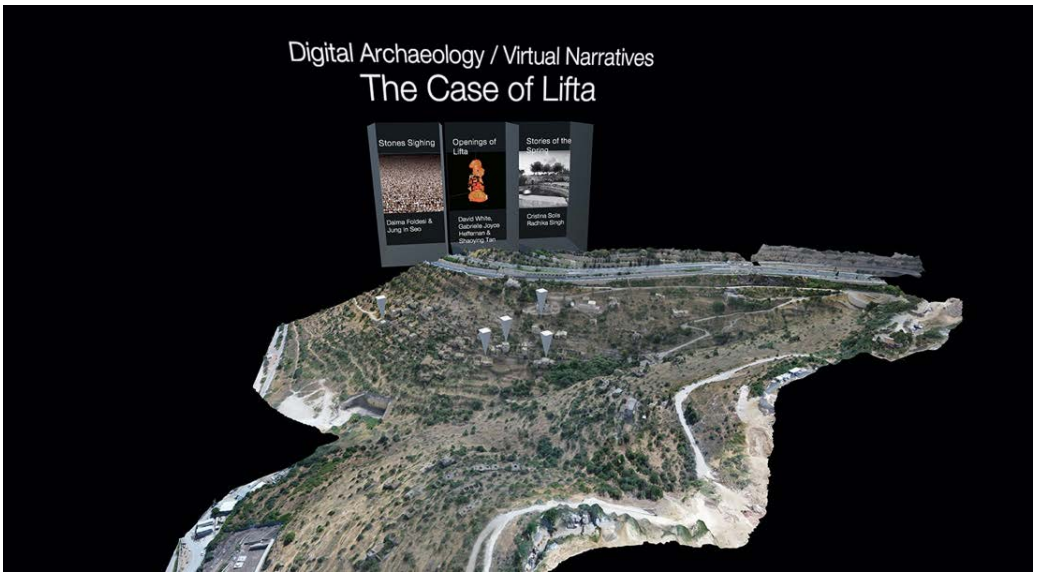
from a variety of geographic and disciplinary backgrounds, were asked to form small groups and to have conversations among themselves and in the process they developed the themes and topics that they wished to explore. All but one student have not visited Israel or Palestine prior to this workshop, and thus approached the set of issues at hand from a relatively uninitiated position. The final two weeks were spent back at MIT, where the students developed their projects for submission. There was a final presentation with a public review of the projects at the Keller Gallery in the MIT Department of Architecture. After experiencing the VR installations, a discussion about what was experienced took place, that pedagogical track moved the discussion out of virtual space of the screen and into back the classroom or beyond.

This might seem as just part and parcel of education, but for us these issues were designed to gravitate around the dialectic of incompleteness: the necessary incompleteness of the project's ambition and the structured incompleteness of our expectation horizon. We embraced the foggy, ontological nature of making a narrative so as to go against the tendency to assume that the maker of the narrative map is a type of scientist or perhaps amateur scientist. The narratives the students developed were all made within the framework of a range of gives-and-takes with their own situational realities – most of which can themselves be only vaguely mapped.[13] However, we made it clear that the final project was not just a narrative that mapped only backward onto their personal interests and experience, but had to have the potential to serve as a pedagogical tool for others. We hoped that the projects would reflect not how to learn, but how they learned. In that sense, pedagogy was not some backdrop to the final project, but a palpable force that circulated through these projects.

3. MEDIATION

The workshop included experimentation with technologies of mediation such as 3D environmental scanning that allowed the digitization of the structures on the site into photographic-models, and development of interactive and immersive imagery using game-engines.[14] We used these techniques to express multiple appearances of the site, and to amplify onto-epistemological gaps inherent within these appearances: topography, stones, maps, documents and photographs, are all utterances of Lifta. Howe's notion of discourse as occupiable, suggests that a "potential for incommensurability between intention and utterance, utterance and action, or between intention and action," always exists.[15] Language, speech and action are all ontological insistences that must be attended to, and more so, offer a creative opportunity to reframe the relations between them. Using a set of techniques and technologies we attempted to move beyond utterance and language, and include action. Thus, advocating a movement between historiography and sort of "historio-acting". On the one hand, this attempt asked to highlight the potential of purposefully emphasizing the incommensurable gap between historical documents and the material appearance of the site, while on the other, it sought to reconcile the very same gap by "smoothing" it.

Indeed, and while VR adheres to the limits of traditional historical studies, it also presents opportunities directly related to its representational capacities and experience that both stretch the boundaries of such inquiries and expose them. The complexity of Lifta's recent and more distant histories, as well as its material and political present conditions present precisely such a unique opportunity for experimentation and exposure. Rather than adhering to VR's hyped ability to transport one into realistic environments and creating a sense of 'being there', we considered VR for architectural history pedagogy as a move away from supposed objectivity, and as a challenge to the very notion of the real, which allows modes of interpretive surveying that are in flux. With a VR headset, one steps into these assembled landscapes and is able to inhabit the space, interact with objects within that space, and form new agency.



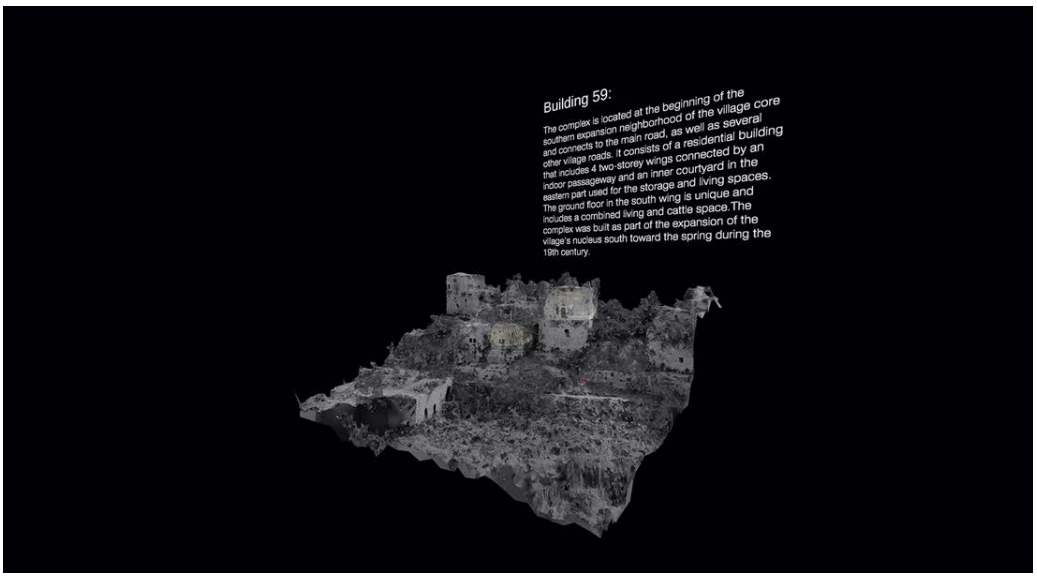


Fig. 1-3: Main site screenshots of VR installation 'Digital Archaeology, Virtual Narratives: The Case of Lifta." (Authors, 2019)

As a first step towards this, a digital model of the entire site was produced by photographic documentation from above, using a drone.[16] [Fig. 1–3] This model served not just as a 'site' for the interpretations by the student teams, but also as a type of portal for the student projects. In each project, the site, its various interlocutors, its archival resources, are all composed in the service of the narratives constructed by the students, through which Lifta's complex histories can be seen anew. The digital models which were collected on-site, were then imported into a game-design software to facilitate the design and curation of the installation. Here, a certain gaze is injected into the space, through the apparatus of a virtual, allowing for a kind of creative process to be employed by the visitor, who composes a world of the fragments offered and authored by the designers of each narrative. The efforts, which were exhibited publicly, provide epistemological and experiential cross-sections through the problematics of the site in the manner of a critical historiography.[17] Critical historiography accepts that history is written not just by historians, but by a wide range of actors. It also accepts the importance of the subject position of the researcher. Defining one's own subject position is, however, a slippery task, but to ignore it altogether is to assume that position of a normative universal.[18] By the same token, to reduce everything to subject position is to remove oneself from the realities of difference and otherness. Critical historiography is a space of operating between the pulls of objectivity and subjectivity. Within the theoretical context and intersection of conflict histories and their mediation – specifically in sites wrought by supposed objectivity of narratives such as Lifta – the framework offered by critical historiography opens up a unique space for both historical and pedagogical investigations. It is not a method as such.[19]

Lifta is one of the only remaining Palestinian villages that were neither completely demolished or resettled by a Jewish-Israeli population following the Israel-Arab war of 1948.[20] Nestled between the highways and cliffs leading to modern-day Jerusalem from the west, Lifta is a wounded landscape, where the marks left by soldiers and state violence, as well as the wear of time, the force of nature and the stains of neglect are all visible. The village has also been surveyed and excavated repeatedly from the beginnings of the archaeological study of Palestine and the Land of Israel at the end of the nineteenth century up to the most recent survey conducted by the Israeli Antiquities Authority in 2017.[21] Its material remains, its history under different government and empires, its present place within the Israeli-Palestinian conflict, and its uncertain future, all demonstrate the multiplicities of history's writing and construction. Indeed, Lifta is a unique and paradigmatic locus of conflicted histories, archaeology and landscape; of traumatic memories, contested presents, and potential futures.

Within the dominant Israeli and Jewish narrative, the village's biblical history points to the roots of Jewish habitation of the Land of Israel, marking the border between the lands of Judea and Benjamin as described in the Book of Joshua, and confirmed, supposedly, by various ancient maps; a vernacular fiction that has been used and abused by statesmen in the creation of national claims.[22] In Palestinian history, Lifta was one of the largest and most flourishing towns within British Mandatory Palestine. Today, it is a ruin, waiting for the return of its original occupants, and a battleground for activists from both sides of the political and national map. In between and beyond these narratives, the history of the village dates back to the thirteenth century BCE, and is speckled with unique stories, spaces and events.[23] Presently, the village is the only remnant to survive in such a remarkable condition in Israel and in neighbouring countries. It remains as a living testimony to the landscape that has been common in the land of Israel and Palestine for thousands of years of history.

Taken all together, the site is defined by temporal scales of deep time, modern history and urban processes, as well as by the borders of the map. As the investigation began, students were, therefore, faced with multiple decisions in demarcating and limiting their site of inquiry, and relatedly, by the scale and reach of the archive at hand. A study of any architectural site requires such limits to be set: Is the study limited to a particular period? Are only built spaces to be included or is the landscape, whether cultivated or not, within those limits? And what of the roads leading elsewhere? What are the trade routes, the streams, the terraces which condition the site's economy and activity? Or perhaps the limits should be set in accordance with municipal and legal definitions, themselves malleable and changing through history, their traces found in maps, construction documents, property bills and plans? And lastly, what are the disciplinary boundaries when

dealing with the history of destruction and state violence such as appears at Lifta? Can architectural history offer new perspectives on Lifta's destruction?[24]

In the process of designing a possible platform and interface for Lifta, the projects – as test cases – aim to further the potential of immersive technologies as a pedagogical tool, and to open the critical questions that arose from the research and the work: can historical evidence be spatialised within the detailed context of the materiality of site? What does an immersive form of representation entail for the pedagogy of architectural history? And what possibility does this framework offer for conveying the complexity of Lifta, in relation to other, similarly complex sites?

4. THE ARCHIVE

An enormous archive of documents, representations, surveys, testimonies and stories was collected to bring out the tension between narrative, representation, evidence and myth. These included a history of habitation, occupation, ownership, planning, design and surveying; an ever growing body of visual representations, images, drawings and works of art; a history of materials and waste, their decomposition, their layering, accumulation and continuous effects on the reality of the site; and a history of narration, activism and resistance by organisations such as the Save Lifta coalition, or our main guide throughout our fieldwork, the Palestinian refugee and former resident of Lifta, Ya'akub Uda.

As important as these all are, when we asked the students to use the digital mapping as a way to explore the archives, we stressed that there are many types of archives. Some, obviously, already exist and can be mined, like those just mentioned. Some, on the other hand, exist only abstractly, like newspaper articles or sets of postcards. They still need to be curated in order to tell a story. Some archives have not yet been created, but can be both created and curated in the same activity, like interviews or on-site documentation. And finally, there are some archives that can be works of art or fiction and that move between disciplinary realms.

In addressing this, the student-teams developed three themes that represented an intersection of the various materials, objects, narratives and historical studies to which they were exposed. The themes – Water, Stone, and Openings – are relevant to the site, but are also rooted in architectural and cultural histories that transcend the limits of Lifta, Palestine or Israel. Its water is more than just the local spring, but a deeply metaphysical proposition; its stones are imprinted, both literally and figuratively, with centuries of rituals and violence; and its openings are testimonies both to specific traditions of architecture and craftsmanship, and to state violence and neglect.

Fig. 4-6: Screenshots from "Stories of the Spring" VR installation. Project by Radihka Singh and Cristina Solis (Authors, 2019)

For some of the students, the archive that was brought to bear in the visualisation consisting of personal interviews conducted on site; for others it consisted of photographs, both old and recent; for others, these were the sounds recorded; and for others it consisted of more traditional archival documents and newspaper articles. In each case, students used multiple archives, sewing and stitching them together, as one would a fabric to develop a narrative that aimed to open epistemological questions. In this way the students learned that the site condenses certain possibilities of where to look for existing archives, while opening up possibilities of understanding and creating new ones.

The resultant epistemological message at the core of each of the three projects was curated using software which facilitated visual material that can be manipulated and interacted with in real time by a future viewer.[25] The scanned models of the site were implanted into VR, to be experienced in a room-scale scenario through a head-mounted display, thus allowing the viewer to inhabit the site in changing scales, to encounter a textual document, to move through a drawing, or to hear sounds emerging from a particular location designated in space.

One of the projects developed by the students, for example, focuses on the history of public rituals and present conflicts around Lifta's spring. Titled 'Stories of the Spring', it begins when one is placed inside a depopulated ruin of a house overlooking the village's water source. From there, the spectator is able to roam around in the evacuated interior in its current dilapidated state. On the crumbling floor of the Palestinian home, the students placed old family photographs of Palestinian refugees found in online archives, as if those were left behind while in a rush. Gazing on the photographs, the VR spectator triggers a text written by the early twentieth-century Palestinian ethnographer Tawfiq Canaan, describing the interior of Palestinian homes.[26] Simultaneously, a voice narrates the space: a testimony of the Palestinian refugee and native of Lifta recorded by the students while at the site, who shares the story of the family who owned the house. As the visitor approaches the house's window, a view of the spring itself is exposed, assuming the point of view of the house's original inhabitants.

The project goes further to present not only the spring's presence in history and past conflicts, but its contested present as well. The user finds herself standing by the spring's waters, witnessing next to the fresh water the accumulation of refuse. Within the scene, the visitor encounters a *tallit*: a piece of garment traditionally used by religious Jewish men, which, when focused on, activates the archive of which the scene is composed. Using cut-out figures from journalistic photographs, an array of news items, and sounds of children playing in the water recorded during our fieldwork, the VR exposes the visitor to daily conflicts occurring in Lifta between religious Jewish men who claim the space around the spring and use it as a

purifying *mikveh*, while preventing, at times aggressively, women of any ethnicity or religion to access the site.[27] To this the students added yet another artistic and archival reference: an visual excerpt from the work of Palestinian artist Raida Adon, who had placed empty dresses around the spring, representing Lifta's houses, now emptied of the bodies that used to inhabit them and which have been violently removed.[28]

5. SITE-ARCHIVE

Moving between the real, the imagined and the constructed means that we were not seeking some essential aspect of the site, nor were we trying to articulate some artistic or poetic take on it, but rather allow for multiple visions and voices. To do this required shifting from an epistemological to an ontological and operational perspective on the issue of the reciprocity of site and archive, objects and their narration. The viewer is expected to accept the doubling of history as both past events and present narratives, and not get caught up in dichotomous thinking (for example past as real versus past as constructed).[29] The immersive quality facilitates a reciprocity between the site as it is recorded, represented and narrated, as well as the numerous existing and constructed archives, or the various testimonies about the site. As these intermingle with one another through the work and the investigation, the site itself becomes yet another archive, while the archive transforms, or better yet, it is exposed, as what it always has been: a site of intervention and design.

Such archival interventions would require an engagement both with the archive and its absence. In a recent article Anne Gilliland and Michelle Caswell coined the concept of an 'impossible archival imaginary' as a way to undertake what the messy business of contesting, renegotiating, and redefining collective memory of the past to 'to take absences – and their attending affects – into account, and in situations where our ethics and humanity demand it, striving to turn impossible archival imaginaries into possibilities'. This means, they argue, that we should complicate 'the link between record and event in order to accommodate records collectively conjured by affect rather than created by event'.[30] And we would agree. Our work in Lifta aims to take a step further, to link absent records, events, and the site itself in the collective project of making an archive possible, while acknowledging that ontological absence.

The intermingling of site and archive is also evident in the project 'Stones Sighing**',** whose narrative focuses on the main building material, 'Jerusalem' limestone, from which the buildings were constructed. [Fig. 7–9] Giving voice, presence and representation to the history of the limestone, this project pulls strings from various sources in order to create a new space and expose the composition and decomposition of the site. The archives and histories brought into this space are multiple: a detailed scanning of various domestic spaces within Lifta, from early caves to dwellings almost completely collapsed under the weight of time; an archive

of drawings and diagrams depicting the traditional construction methods of Palestinian masons, and their appropriation by Israeli architects; historical texts, both primary and secondary, discussing the role, meaning and history of stone masonry; and lastly, an autobiographic poem, 'Standing before the Ruins of El-Birwha', written by the Palestinian national poet Mahmoud Darwish, which is used to structure the entire experience.[31]

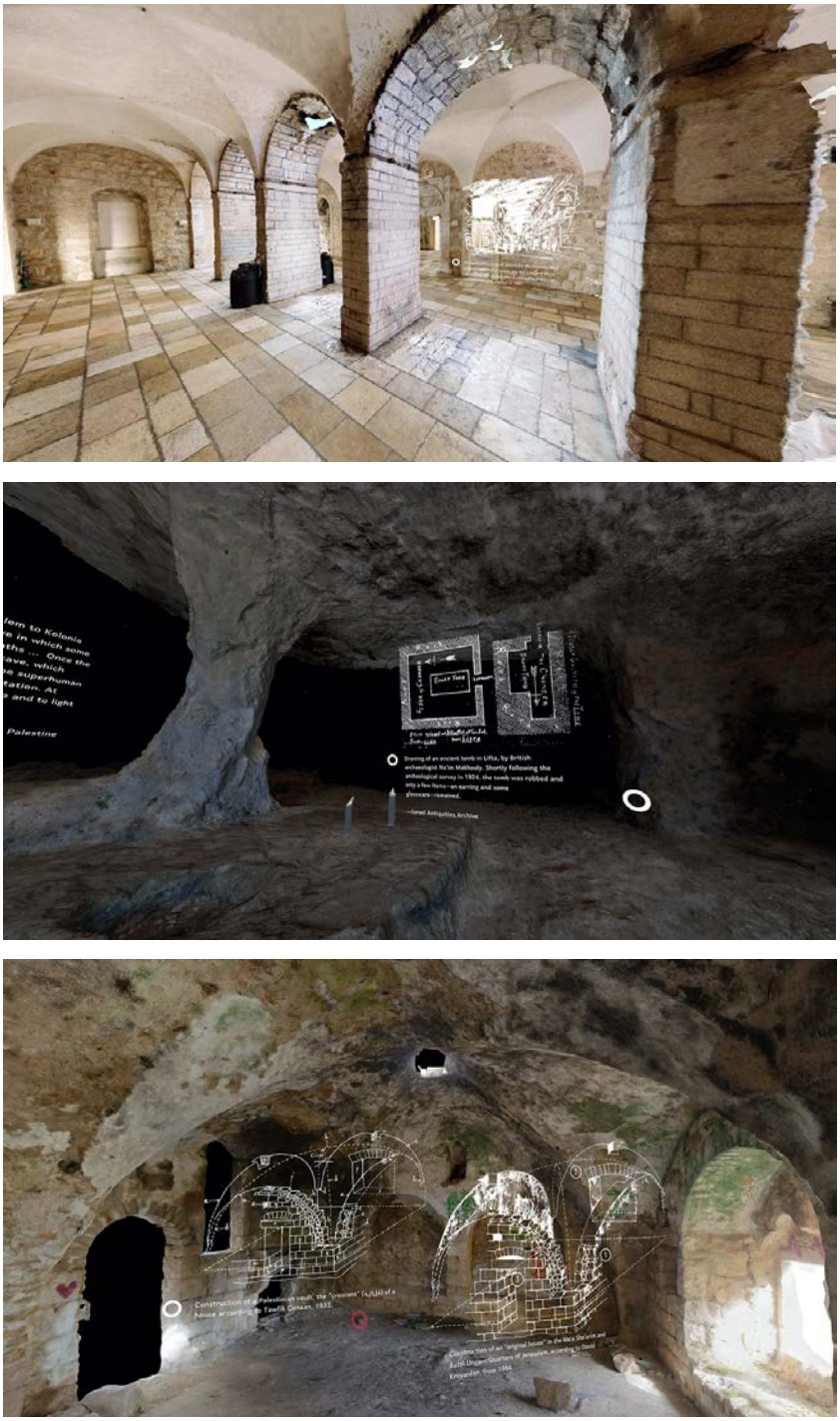


Fig. 7-9: Screenshots from "Stones Sighing" VR Installation. Project by Dalma Foldesi and Jung In Seo

Fig. 10-12: Screenshots from "Openings" VR installation. Project by Gabrielle Heffernan, Shaoying Tan and David White

Using these materials, the work weaves three narratives. The first is carried by the poem, inflecting the scene with the voice of Palestinian memory, and the story of the forced evacuation of 1948. The second focuses on the stones themselves. Here, every scene takes place in a space that represents a different moment in the life cycle of Lifta's stones, thus animating the supposedly silent material through its historical procession. It begins with an excavated cave, continues to one of Lifta's older houses, moves onto a late-Ottoman era residence, then a renovated house still occupied by an Israeli resident, and ends in a collapsed and punctured ruin. The third narrative revolves around the ideological, daily and symbolic role of stone. Focusing on the tradition of Palestinian masonry, the narrative exposes the manner in which traditional Palestinian methods and labour became an instrument in the service of Israeli ideology and architectural design. Adopting the vernacular traditions associated with masonry, modern Israeli architects often employed the stones of Lifta (and of other villages) in the cultivation of a biblical imaginary in the design of contemporary, quasi-vernacular architectural works.[32] To emphasise this, the narrative begins and ends in a space that is several kilometres removed from Lifta: the Mamilla shopping centre by the old city of Jerusalem, a contemporary architectural project inspired by the stone masonry embedded in Lifta's stones.

The third project is titled 'Openings,' and examines Lifta's history through the wide array of the apertures on the site, some of which are natural, some designed, some created by violence and war. [Fig. 10–12] The VR experience begins with a somewhat abstracted space, employing the notion of a cabinet of curiosities as instruments that 'sought out objects which appeared to transgress the boundaries between nature and artifice.'[33] Here the project offers a kind of aperture museum in which various scanned openings are arranged. While some apertures offer entrance to the original spaces in Lifta from which they were extracted by 3D scanning, others lead to archival texts and images related both to Lifta and to notions of photography and vision. Also, some of the openings connect beyond the limits of Lifta and provide the audience to look through them to related geographic locations, such as other Palestinian villages and cities, or sites of conflict and ruination throughout the world.[34]

Together, these works demonstrate several of the capacities that VR holds as a technological platform for critical historiography and critical thinking. Wearing the VR head-mounted display and moving around a gallery space, the viewer is required to take action: to move within representations, image, texts and sound, as part of an unfolding event taking place in accordance with one's action and the feedback of the machine. The participant is not a passive observer of the archive, but an archive maker, collecting and connecting materials from various sources. This invites a sort of theatricality in which the observer becomes an actor of sorts, not unlike an archaeologist who is recreating a story from the materials found.

The archaeologist's imagination, not unlike that of the designer of the VR experience in this particular scenario, constitutes a kind of dramaturgy, in that it resembles that of a writer, a choreographer, or a director who organises the motives, behaviours and actions of anonymous, fictional individuals within bounded analytic spaces in meaningful ways.[35] As soon as archaeologists begin to replicate, reconstruct, represent and restage the past, they invariably employ the scenographic devices and dramatic techniques of theatrical practice. VR, with its immersive and interactive constellation, brings the choreography of archaeology to the faraway, and dislocated observer and literalizes their subject position by asking that they lend their voice to the narration of history and take responsibility for that utterance. These technological affordances enable one to generate multiple, forking site-archives, in which the viewer becomes the narrator of the history constructed – another voice to be accounted for – as she generates narratives in real time in a sort of performative unfolding of archives, images and historical materials in space.[36]

What becomes clear through the intimate bond between an archiving gesture and a transformative gesture is that design research is not only fundamental to historical research and vice versa, but rather that they are mutually constitutive. Work, whether historical or projective, can only be experimental by both actively positioning itself relative to existing archives and through new archiving moves. Lifta, a unique, particular and significant case, is also representative of numerous other places, histories, archives and narrations, demanding a contemporary and complex way of engagement and pedagogy. Through the creation of unique spaces that have the capacity to sustain the perpetual tension already existing between multiple narrations, history itself can be told, created, learned and experienced in new, critical ways.

NOTES AND REFERENCES

[1] Carl E. Schorske, *Fin-De-Siecle Vienna: Politics and Culture*. New York: Vintage, 1980.

[2] One example is the work carried out by the Global Architecture History Teaching Collaborative whose mission originated in the desire to "offer a framework for instructors in breaking free of the Eurocentric canonical categories that structure the current historiographical narrative." (see: gahtc.org) Another recent example is the "Theory's Curriculum" project carried out by the online publishing platform e-flux architecture, which asked to challenge the traditional history and theory curriculums and offered a collection of alternative, non-western and non-canonical syllabi. (see: e-flux.com/architecture/curriculum/)

[3] Mark J. Sedler, "Freud's Concept of Working Through," *The Psychoanalytic Quarterly*, 52:1 (1983), p. 73- 98.

[4] Louis E. Howe, "Ontology and Refusal in Subaltern Ethics." *Administrative Theory & Praxis* 25, no. 2 (May 1, 2003), p. 281.

[5] Mark Godfrey shows a trend of an increasing number of artists whose practice starts with research in archives, and others who deploy what has been termed an archival form of research (with one object of inquiry leading to another). These varied research processes lead to works that invite viewers to think about the past; to make connections between events, characters, and objects; to join together in memory; and to reconsider the ways in which the past is represented in the wider culture. These tendencies are as prevalent in object-based work such as that of Carol Bove, Tom Burr, Mark Dion, Sam Durant, Renée Green, Thomas Hirschhorn, Ian Kiaer, Simon Starling, and Fred Wilson. Mark Godfrey, 'The artist as historian,' *October* 120 (Spring, 2007), p. 140-172.

[6] Renée Green, 'Introduction: Negotiations in the Contact Zone' Symposium,' in *Negotiations in the Contact Zone*, ed. Renée Green (Lisbon: Assírio & Alvim, 2003)

[7] Hisham Bizri, 'Story Telling in Virtual Reality,' *Leonardo* 33, no. 1 (February 2000), p. 17-19.

[8] It is worth noting however that any documentary 'evidence' entails an aspect of fiction or narrative. As Bill Nichols notes in his discussion of documentary cinema, while all documentaries aim to tell a 'true' story or depict a certain truth, they are still subjective artifacts, retelling history from a specific point of view. Though assuming an objective position, they are still personal perspectives. While 'fiction may be content to suspend disbelief (to accept the world as plausible) … non-fiction often wants to install belief (to accept the world as actual).' Bill Nichols, *Introduction to Documentary.* (Bloomington: Indiana University Press, 2001), p. 2.

[9] Hower, "Ontology," p. 294

[10] A prime example of this kind of approach is the work done by Eyal Weizman's Forensic Architecture: a research agency which develops and employs "new techniques for evidence gathering and presentation in the service of human rights and environmental investigations and in support of communities exposed to state violence and persecution. See: https://forensic-architecture.org/

[11] C. McLucas quoted in Trevor Harris, 'Deep Geography – Deep Mapping,' in *Deep maps and spatial narratives*, ed. David J. Bodenhamer, Corrigan, John Corrigan and Trevor Harris (Bloomington: University of Indiana Press, 2015), p. 39.

[12] The workshop took place during the 2019 summer and fall terms. It was funded by the MIT International Science & Technology Initiative (MISTI), which fosters collaboration between international institutions and MIT. Specifically, this was the first collaboration of its kind between the Architecture Department and the Department of Bible Archeology and Ancient Near East Studies, and was supported through a fund designated for collaboration between BGU and MIT. At the end of a selection process eight graduate students from the MIT School of Architecture and Planning were chosen (5 from the Master of Architecture program, 1 Design-Computation, 1 Art, Culture and Technology, and 1 City-Planning). The MIT students were joined in Israel by faculty and students from BGU led by faculty members Yuval Yekutieli and Eli Cohen. As a whole the workshop was conceived as an intensive 4-week program, which included a week of preparatory lectures, drone training, and software tutorials (Metashape, Unity, Reality Capture) prior to the visit to Lifta; a two-week long visit to Jerusalem, which included tours and lectures from BGU associates and others, daily fieldwork, and design reviews, including a public mid-review of the materials collected and project concepts; and a week-long intensive development of the projects themselves which took place at MIT in the VirtualXDesign Lab. Future collaborations between the departments and institutions are currently being considered, employing similar methodologies to other sites in Israel, as well as in the United States.

[13] For example, David J. Bodenhamer argues: 'How we construct these narratives will depend, in part, on the richness of our evidence and the tools at our command, but deep mapping can be an ideal storyboard for humanists. It goes beyond traditional uses of GIS and seeks to capture the essence of place and a humanistic

sense of distance, direction, and identity.' That as it might be, we would argue that narratives are only valuable if they expose the multiple potential 'essences' of a place and in that way do not try to foreclose either the past or the future. David J. Bodenhamer, 'Narrating Space and Place,' in *Deep maps and spatial narratives,* p. 23. Though we also generally agree with the following sentiment by Trevor Harris: 'A deep map then is more than a topographical product in that it interweaves physical geography and scientific analysis with biography, folklore, narrative, text, memories, emotions, stories, oral histories, and so much more to contribute to a richer, deeper mapping of space and place,' p. 39. We, however, would argue that there can only be deep maps (i.e. in plural), and secondly 'deep' can never been ascertained as a place to which one has ever arrived through any type of general prescription even with many 'deep maps.' 'Deep' should never promise an objectivity that it can never prove. After all, who is the judge of 'deep'? The three narrative maps that the students made are only the fragmented beginnings of a 'deep' that can never be achieved in this traumatised landscape, and yet, there can be no doubt that the whole experience was 'deep' for the students. See: Harris, 'Deep Geography – Deep Mapping.'

[14] For environmental scanning we used photogrammetry combined with LIDAR scanning, audio recordings. The software used for composing VR installation was mainly Unity3D.

[15] Here Howe specifically leans on Judith Butler's Excitable Speech: A Politics of the Performative. Howe, "Ontology," p. 281

[16] Deployment of drones for the purposes of cultural heritage and archaeological surveying has become prevalent in recent years, as drones became more affordable. (See Dominique Meyer, Elioth Fraijo, Eric Lo, Dominique Rissolo, and Falko Kuester, 'Optimizing UAV systems for rapid survey and reconstruction of large scale cultural heritage sites,' in *2015 Digital Heritage* 1, (IEEE, 2015), p. 151-154. In the field of digital heritage, the discussion on the use of drones has remained fairly technical, focusing on efficiency and urgency of the use of drones for surveying, modelling, and managing heritage sites for preservation purposes, leaving out a critical stance regarding the use of drones as instruments of state power. Such a stance is expressed by Lisa Parks and Caren Kaplan who trace the inherent militaristic instrumentality of drones. According to Caplan and Parks, disregarding the power inscribed in drone perspective might implicate one in continuing a colonising gaze, especially in conflict zones such as Lifta. (Lisa Parks and Caren Kaplan, *Life in the age of drone warfare* (Durham: Duke University Press, 2017). The work in Lifta, however, used drones with the purpose of allowing self-generated 3-D models, instead of using available city and state-made maps. This selected strategy aimed at repurposing drone imagery as part of critical design projects.

[17] Given the nature of VR, the exhibition could accommodate one visitor at a time, and over its duration had over 100 visitors both from MIT and beyond.

[18] Dominick LaCapra suggests the term 'Secondary Witnessing' to shed light on the intrinsic problem of the historian's positionality when witnessing destruction and violence: 'Experience involves affect both in the observed and in the observer.' For the observer 'the problem of experience should lead to the question of the role of empathy in historical understanding.' Empathy, LaCapra argues, becomes a kind of surrogate or virtual experience, centered not on identifying with or substituting for the experiences of others but rather on attending carefully to 'the possibly split-off, affective dimension' of those experiences. Dominick LaCapra, *Writing History, Writing Trauma* (Baltimore: Johns Hopkins University Press, 2001), p. 41.

[19] Mark Jarzombek, A Prolegomena to Critical Historiography,' *Journal of Architectural Education* 52, no. 4 (May 1999), p. 197-206.

[20] For a comprehensive study of the evacuation of Palestinian villages in 1948 and after see: Walid Khalidi, ed., *All That Remains: The Palestinian Villages Occupied and Depopulated by Israel in 1948* (Washington: Institute for Palestine Studies, 2006).

[21] Israeli Antiquities Authority, Conservation Administration, *Lifta Survey (2014-2017)* http://www.iaa-conservation.org.il/Projects_Item_heb.asp?site_id=3&subject_id=6&id=180

[22] In a recent study, architectural historian Alona Nitzan-Shiftan makes note of the use of Palestinian masonry motifs, methods and styles by Israeli architects and planners in post-1967 Jerusalem. According to Shiftan, the annexation and unification of the city after the Six-Day War was followed by a shift in the practice of architecture and planning and was meant to evoke an image of a biblical and vernacular -- rather than modern -- image of Jerusalem, and to lend historical, ideological and even religious legitimacy to the existence of the State. See: Alona Nitzan-Shiftan, *Seizing Jerusalem: The Architecture of Unilateral Unification* (Minneapolis: Minnesota University Press, 2017).

[23] Though not a consensus among archaeologists, a prevalent assumption is that the name 'Mei Nephtoah' was derived from the name of the 13th century Pharaoh Merneptah. As the argument goes, 'the 'Wells of Merneptah which are in the hills' is the group of springs at Lifta, near Jerusalem, and were so named by Merneptah after his victory over the Israelites, whom he compelled to evacuate Jerusalem itself.' Frank J. Yurco, 'Merneptah's Canaanite Campaign,' *Journal of the American Research Center in Egypt* 23 (1986), p.213.

[24] We, of course, believe that under certain terms it can. In recent years, architectural historians have pointed to the disciplinary issues that such engagement entails. For instance, architectural historian Andrew Herscher foregrounds the representational problem of architectural history when dealing with destruction: 'When architecture is destroyed, however, it is typically regarded as just such a product, effect, expression, or mediation. Destruction usually displaces architecture from architectural discourse, if not the domain of 'culture' more generally, and positions it in the domain of 'violence,' and so, in typical formulations, in radically different disciplinary sites and epistemological frameworks.' Andrew Herscher, *Violence Taking Place: The Architecture of the Kosovo Conflict* (Stanford: Stanford University Press, 2010), p. 4.

[25] The software development environment was done using tools for game design and development, mainly the game-engine Unity. The Video-game industry has pushed forward a new medium for real-time, interactive representation, which can be imported to architecture, history and pedagogy.

[26] Various writings by Tawfiq Canaan were used in the context of the work, whether his text about the tradition of Palestinian masonry, or the history of mythical beliefs in relation to water sources and springs in Palestine. See: Tawfiq Canaan, *The Palestinian Arab House: Its Architecture and Folklore* (Jerusalem: Syrian Orphanage Press, 1933); *Haunted Springs and Water Demons in Palestine* (Jerusalem: Palestine Oriental Society, 1922).

[27] For instance: Nir Hasson, 'Men and Women, Religious or Not, Battle for Rights at Israeli Springs,' Haaretz, June 29, 2018. https://www.haaretz.com/israel-news/.premium-men-and-women-religious-or-not-battle-for-rights-at-israeli-springs-1.6221515

[28] Laura Van Lij, *Interview with Raida Adon,* https://www.zochrot.org/en/testimony/54927, 2013

[29] Gavin Lucas. *Understanding the archaeological record* (New York: Cambridge University Press, 2012)

[30] It is worth noting that both Gilliland and Caswell are not historians. Gilliland is a scholar in the field of information studies, and Caswell in archival studies. Thus, their perspective offered in their work is a disciplinary one, but not that of the archival tourist, be it the historian, artist, or designer, but somewhat of an archival curator or even a gatekeeper, so to speak. Anne J. Gilliland and Michelle Caswell, 'Records and Their Imaginaries: Imagining the Impossible, Making Possible the Imagined,' *Archival Science* 16 (March 2016), p.75

[31] The English translation used by the students is by Senan Anton, and appears in the posthumous collection of the poet. See: Mahmoud Darwish, *I Don't Want This Poem to End: Early and Late Poems*, (Northampton: Interlink Publishing Group, 2017).

[32] Nitzan-Shiftan, *Seizing Jerusalem*.

[33] Stephanie Bowry, 'Before Museums: The Curiosity Cabinet as Metamorphe' *Museological Review*18 (2014), p. 30-42.

[34] Although somewhat problematic, one of the recurrent references when speaking to activists who are involved with Lifta is Machu Picchu. For instance, the architect Gadi Iron, who is part of the Save Lifta Coalition, states that 'We want to make a kind of Machu Pichu out of the village, Lifta is just as important.' 'Interview with Gadi Iron, Architect.' Accessed January 24, 2020. https://www.zochrot.org/en/testimony/54959. We have also encountered this reference in conversation with architects involved in the Save Lifta coalition during our fieldwork.

[35] Mike Pearson and Michael Shanks. *Theatre/Archaeology*. (London, New York: Routledge, 2001).

[36] A theory of performativity most frequently associated with the work of Judith Butler sees performative behaviour as one which enacts that to which it refers. In such anti-essentialism, gender, for example, can be described as performance, as both something one is doing and a thing done. Judith Butler, 'Performative Acts and Gender Constitution: An Essay in Phenomenology and Feminist Theory.' *Theatre Journal* 40, no. 4 (December, 1988), p. 519–31. In the case of a site's historical examination and the VR experience described here, one could argue that the archiving gesture operates similarly; the archive is both acted upon, while it is being enacted, that is, created anew by each user. An example of a performance art piece which intermingles site and archive - or for that matter, the subject of investigation and the evidence which allows its appearance, in a way that they become one and the same. This form of historical performance - where the act and the matter of examination are superimposed, can be found in the 2001 piece 'The Battle of Orgreave,' by British artist Jeremy Deller, who organised the restaging of a 1984 clash between police and striking miners. With this work, Deller resurrected the repressed memory of a troubled period of recent British history and, by involving protagonists from the clash, also triggered personal confrontations with that past. It was crucial that Deller used a battle reenactment society. Such societies are more frequently involved with English Civil War recreations. Their participation in this project points to the way in which English history tends to be addressed only when romanticised and no longer deemed to be of political impact.

Traditional Dwellings and Settlements
Working Paper Series

SOCIO-SPATIAL NETWORKS OF A TRADITIONAL CRAFT SETTLEMENT: AN ALTERNATIVE APPROACH TO UNDERSTANDING INTANGIBLE HERITAGE

Anjali Mittal, Nimit Gandhi, Nishant Gautam, and Tarun Kumar

Volume 314
Pages 57-78
2020

SOCIO-SPATIAL NETWORKS OF A TRADITIONAL CRAFT SETTLEMENT: AN ALTERNATIVE APPROACH TO UNDERSTANDING INTANGIBLE HERTITAGE

◆ ◆ ◆

The paper sets out to explore the alternative approach to the conceptualization of 'heritage'. extending beyond the tangible to the intangible. In the backdrop of material culture and its production processes the paper focuses on "Craft" based societies in a north Indian city of Firozabad. as its 'Genius Loci'. This research sets to argue that a new approach in understanding socio-cultural processes as spatial networks associated with the craft that augment the process of craft making becomes critical in contemporary times for self-sustaining these structures rather than having a product centric approach that has a snapping effect on the elasticity of these networks. In this context the paper brings forth the discussion at two levels, whether heritage can be established as a web of spatial networks? And how this shift from product to process centric approach results in a better sustenance of these intangible heritage systems in a contemporary society.

1. INTRODUCTION

Intangible cultural heritage is a result of complex processes and products of a crafts-based society which are layers of cultural interactions between generations of human evolution. In the present scenario we are able to identify such processes and products, but for multiple reasons the link between preservation of such processes is missed out and we tend to conserve and preserve only the products of these processes as intangible cultural heritage.

Every craft product is a result of a complex process of production with both social as well as spatial aspects. Each step involves different social groups with specific skills and social roles in the line of production. Furthermore, the spaces within which these processes take place provide the necessary backdrop and support for their sustenance. This is particularly seen in craft products with a traditional industrial base. Therefore, the argument lies "How often do we acknowledge the intangible cultural processes and tradition of a place when reading a craft-based society? Can there be a framework to develop an understanding of socio-spatial processes when considering a model of development for craft-based societies? Is there a tangible spatiality to the intangible cultural heritage? Can heritage be established as a web of spatial networks, manifestations of craft processes? These are the questions that this paper sets out to explore with respect to traditional craft-based societies in the backdrop of material cultural studies and its production process in the Indian context.

Further as Bortolotto points out, "In the modern world, where the sense of a living continuity with the past has been radically eroded, communities establish a relationship with their past by turning it into an authentic historical object."[1] He further points out that it is this obsession with "authenticity" that has led to the

perception of heritage as objects, something i.e., rather fixed and static.[2] Interestingly, it is further stated, "in contrast to this static dimension of products, to be conserved as authoritative relics of the past because of our modern obsession with deterioration, UNESCO's new idea of heritage [Intangible Cultural Heritage- ICH] proposes a dynamic approach focusing on processes to be safeguarded as devices for identity and cultural production. This attitude introduces a shift from an archival documentation paradigm based on philologically determined authenticity, to one that stresses the im- portance of reproduction and transmission of practices for elaboration and adaptation by future generations."[3]

As Antink highlights, "The drivers of economic growth are interconnected with deeper narratives about place, history and heritage that are often overlooked by politicians and policymakers alike."[4] It is therefore vital, "to focus on communities that are formed on the basis of shared interests and identities, with place playing a far less important role."[5]

It is these two premises a) the definition or inclusion of heritage/systems within ICH and b) the preservation of these systems that this paper wishes to contribute with specific reference to the craft of glass bangle making in the city of Firozabad located in the northern state of India. This provides the paper with its two-part structure. The first part presents a discussion centered around material culture illustrated through the case study of Firozabad. It includes, the historical overview, the process of production of a single bangle and commentary on associated socio-cultural processes. Second part discusses the nature of the current promotional policies for such traditional craft-based industries. It aims to argue that a shift from product-based to process-based perspectives is necessary for sustenance of these industries.

With reference to the definition of 'Intangible Cultural Heritage' (ICH) adopted by UNESCO this paper focuses on Firozabad (Fig. 1), a small industrial town near Agra, Uttar Pradesh, in Northern India.[6] It has emerged as the Glass City of India and is the center of manufacturing for various glass products- glassware, toys, chandeliers, beads and bangles.[7] It was during the Mughal rule in the 16th century many Persian craftsmen came to India and played an important role in the manufacture of the glass articles. This ushered a new era in the history of glass technology and Firozabad, a non- descript town on the outskirts of Agra and located on the bed of river Yamuna emerged as the center in glass manufacturing.

Fig. 1: Location map of Firozabad (Source: Masp of India, edited by Authors).

The paper particularly focuses on the craft of bangle making in Firozabad amongst others. Historically, its production had been confined to small scale household production, within a closed community which manifested itself within the domestic setup of families.[8] However, industrialization, requirements of mass production of glass bangles, and environ- mental considerations led to the separation and then relocation of the traditional production of glass to industrial zones on the outskirts of the city. Consequently, a large number of skilled and unskilled crafts-persons have been employed in these production units. However, the study has shown that the collective control and discipline of the tradition and craft of making glass products such as bangles is still critically alive in the domestic environment. It is this feature of the production process of bangle making - craft process which is a combination cottage as well as industrial units provides it with its peculiarity as a case study.[9]

Glass bangle is considered a cultural symbol of femininity in the Indian culture. Symbolic of a woman's marital status, it also forms an important daily accessory still worn by women across the country on a daily basis.[10] There are bangles for every occasion and ritual. Tracing the antiquity of glass bangles of modern times, Sankalia claims that it probably came into existence in the 14th century A.D. with the settling of Persian Muslims in India.[11] However, excavations in Kopia, UP provide concrete evidence that the craft of glass bangle making existed as early as 656 BC.[12] The craft of this cultural symbol, now defines Firozabad's living and thriving cultural heritage, deeply intertwined into the daily lives of its inhabitants.

2. RESEARCH METHODOLOGY

The research methodology for the study of the craft of bangle making is based on a grounded theory approach. Following on the ANT (Actor-Network Theory) notions of "following the actors to build up explanations", the

groundwork entailed following and mapping the movement of a glass bangle through the streets and fabric of the city of Firozabad.

The non-human actant - the glass bangle then revealed its complex structure and 'sociology of associations" which included both human and nonhuman actors.[13] The analysis of these associations revealed a dynamic structure of networks that are social as well as spatial. What emerges is a complex spatial structure arising out of a network of well-defined social roles and associations.

Research methods employed include both ethnographic as well as spatial and physical mapping techniques. The study heavily builds up on its analysis from the following: a) primary sources including semi-structured interviews with various participants of the bangle process such as factory owners, skilled craftsperson, retailers including unskilled laborer; b) secondary sources including reviewing relevant literature in the field of built environment, socio-cultural and spatial studies; reports, national and regional policy and planning documents; census and archival data pertaining to the bangle making craft in Firozabad.

The study is limited to the context of traditional craft-based settlements in Northern India with a single craft as their economic base. For the purpose of the study, handicrafts limited to single families/ master craftsmen have been kept out of discussion. This is primarily for two reasons: a) multiple craft bases have been avoided for reasons of increased complexity and probable horizontality in research and b) craft based primarily based on master craftsmen. This would not allow the reading of spatiality of these networks at the city level. The study therefore focuses on craft production processes that are a combination/ intersection of cottage based and industrial production systems.

The first half of this paper presents an analysis of the socio-cultural processes to establish the spatiality/ spatial configurations of this material culture, i.e., the craft of bangle making. It reveals processes and actors that have led to the formation of these networks. it further presents the key characteristics of these networks. The emerging characteristics are then applied to the framework provided by UN ICH for identification of Intangible heritage to establish the validity of these networks as intangible heritage. Through this conceptualization of heritage from the tangible to the intangible an alternative approach towards sustenance of such craft-based societies rooted in the inter-relationship between social structures and spatial structures with respect to traditional craft based economic activity is identified. The latter half of the paper focuses on policy implications for the economic development of such craft-based societies. It raises concerns on whether craft-based economies are sustainable in the long term primarily through the key-hole perspective of product-centric policies.

3. FIROZABAD: GLASS BANLE CAPITAL OF INDIA

Firozabad is a non - descript town on the outskirts of Agra and located on the bed of river Yamuna in India's largest state Uttar Pradesh. It is an established center in glass bangle production both nationally and internationally and known as the Glass bangle capital of India.[14] In 2010, it produced 68000 metric tons of glass bangles with an export of Rs. 500 crores.[15] Nearly 60% of the total population in Firozabad is directly involved in glass bangle making.[16] The production of bangles takes place both in the industrial units as well as household units as every single glass bangle traverses the entire length and breadth of the city.

Firozabad witnessed the inception of glass and bangle making as a cottage industry in the early 16th century, during the Mughal reign. Owing to its geographical location it has an abundant availability of raw material 'Reh' and an abundant supply of cheap skilled labor established Firozabad as the center of the glass industry and particularly glass bangles since early Mughal period.[17] Later during British times, the industry witnessed further boom with improved technology and saw the potential of exporting glass products. In his commentary on "The Indian Glass Industry" in 1937 Dixon notes the following about the Bangle industry in Firozabad:

> Firozabad, a town in the United Provinces near Tundla with a population of about twenty thousand, is almost entirely given over to the manufacture of bangle glass and bangles. The great demand for glass bangles in India has produced here a body of men, the Shishagars, descended from those who made desi bangles from the local Reh deposits, who have succeeded in concentrating almost the entire factory-made bangle industry of India in the town. It is estimated that the total value of the Bangle and bangle industry at Firozabad is in the neighborhood of Rs. 30 Lakhs annually…
>
> Bangle decorating is also carried out at Firozabad as a cottage industry of a considerable scale and some of the bangle factories do their own decorating.[18]

In his account he also mentions the co-existence of "Cottage Bangle Making" where bangles are made by aged villagers as a part-time employment and a skilled bangle maker can work with extraordinary rapidity to produce up to 1000 bangles a day.

The craft of bangle making is a complex, multi-layered process that involves skilled, semi-skilled and unskilled craft-persons located at multiple locations in an interconnected chain-like structure (Fig. 2) and (Fig.3).

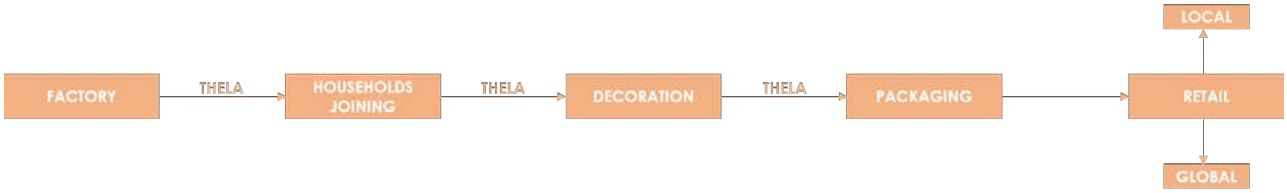


Fig. 2: Maps the line of production for one single bangle. (Source: Authors).


RETAIL
FACTORY
On an average the single bangle goes through 70-80 hands before reching to the end users.
After packaing these are exported to local and foreign markets for sales. The neighbouring countries to India are the largest consumers of glass bangles in international market.
After decoration these bangles are stacked up in thodas and sent back to godwons for packaging.
Raw Material is mixed with broken glass and added to the pot furnace.
The molten glass is then taken out wtih the help of metal tube.
The molten glass is then rolled on a cylindrical batton and made into a 4 feet long spiral roll.
After cooling down this spiral is cut into into individual un-jointed pieces and stacked into a smaller batches called
There 'Todas' are further carried on 'Thelas' (local carriage) by laborer to godwons or houses for decoration work.
COMMUNITY
The decoration process is separated based on the finish like solid color or embellishment. The decoration process involves harsh chemical and glitter dusts.
After 'Judai' these single pieces are agian stacked up in thodas and transported to local godwons from where these are distributed into community for deocration.
HOUSEHOLD
'Judai' the process in which the individual un-jointed pieces are soften by heating under direct fire from diagonal end and then twisted and joined from the other open end of spiral to form a close circular piece.
'Jhalai' the first process at houselod in which the broken pieces because of tranport are seprated from the good pieces.

Fig. 3: Map of the line of production for one single bangle. (Source: Base Graphic developed by students based on information collected by students as part of the academic design studio guided by the Authors).

The process begins in a semi mechanized industrial unit (factory) located on the outskirts of the city owned by the merchant class. Here the glass is prepared from basic raw materials. The hot molten liquid glass from the furnaces is skillfully kneaded and allowed to be rolled into springs of bangles. Rolling of hot molten glass into spiral springs is a highly skilled practice carried out by craft-persons called *Karigars*.

These springs are then manually cut with a diamond cutter into individual un-joint bangles by semi-skilled laborers. The un-joint bangles are then stacked into a bundle known as *thoras*, then transported to household units for further processing on four-wheeled carts. These four-wheeled carts, called *thelas* in the local dialect, have been specifically designed to carry a few hundred *thoras* bangles delicately through meandering the narrow streets of Firozabad.

At the household level (House) the un-joint bangles are joined meticulously using bare hands by a process of heating the ends of un-joint bangles locally called *jalai*. This is followed by the process of *judai* where the bangle is flattened to create the circular form. The bangle then travels to a skilled craftsperson (*karigars*) for decoration. Bangles are embellished with sequins, glitter etc. or maybe even polished with gold to create thousands of designs. Each pattern and color is representative of different cultural festivities and occasions and are produced based on a seasonal cycle of demand.

Even with industrialization of glass blowing and bangle spirals being produced in the industrial zones, the latter components of the craft of bangles as seen above have remained a household activity. An analysis of the production cycle through the day, reflects a cyclic integration with household activities as most of the industrial production is carried out in the mornings and then distributed in the households for completion during the day. The entire family is involved in the process of *jalai, judai* and decoration intertwined with the daily chores and activities within the household. This flexibility and integration has also led to the sustenance of the craft at the household level.

After the ornamentation is complete it moves to retailers for quality check and storage. It is packed into boxes and taken either to 'godowns' for exports or to local markets for retail purposes (shops). The *thela* (four-wheel cart) and the bangle thus assumes the role of a non-human actant and emerges as a connector between the various nodes of the network sprawling the streets and the fabric of the city. It has distinctly influenced the way of living, cultural practices and the economy of the city. The craft of glass bangle making has thus evolved in Firozabad for over a hundred years, involving it's people and the community as a whole.

4. CRAFT AS EMBODIED KNOWLEDGE

> Embodied knowledge is not confined only to motor skills, but is concerned with the variety of human experiences, all of which share the property of doing without representing. There is no need for representation because there exists a pre-reflective correspondence between body and world.[19]

This body, in case of Firozabad, is that of the craftsperson involved in the process with defined roles and the world is the community at large with a single purpose of making glass bangles as a craft object. The process of glass bangle making, as illustrated in the previous section, is not a stand-alone task where a single unit is doing the entire job from the basic raw material to the finished bangle. There is a chain of events that take place at different locations within the city and in a given sequence of space and time. A specific skill is re- quired at every stage.

The skill has been bestowed to generations in the family. Being a household craft with most family members engaged in it, the knowledge of the craft is continued through generations. Younger members of the family engage and learn the craft during their in-be- tween times of study and play. A sense of pride of this knowledge capital, even in the younger generations as they have learnt it during their initial years, is critical for the survival of the craft.

> Embodied knowledge cannot be placed properly in the Cartesian worldview of "I think." When the body knows how to act, the "I can" type of knowledge is at work.
>
> As MerleauPonty pointed out, "I can" means that there is a pre-reflective correspondence between body and world. Merleau-Ponty introduced the notion of body schema to clarify this correspondence.[20]

The craft of bangle making requires skill at all stages. It is this 'I can' type of knowledge which is at work without any thinking as to the resultant craft object. The material offers a distinct character with a wide range of application from technological, domestic and ornamental purposes. The intricate use of colors, patterns and geometries entail a certain degree of dexterity and craftsmanship towards the final product. At a community scale, the craft begins to interlace the various social actors within the residential, commercial and industrial sectors of the settlement, through the process of 'embodied knowledge.'[21]

5. NETWORK ACCUMULATIN OF SOCIAL CAPITAL: ROLES AND RESPONSIBILITIES

Social capital is intrinsic to the craft. It is identified as "a sociological concept about the value of social relations and the role of cooperation and confidence to achieve positive outcomes."[22] Such interconnectedness of social relations creates social ties, thereby forming a dynamic web of social networks.

There are three main social roles identified in the process of craft, the merchant who is the owner of the factory and raw material, the craftsman or the skilled laborer who works on the material and the retailer. These three functions are not in any rigid socio-economic containers as seen in Firozabad. They may overlap, intersect or combine themselves forming socio-economic networks across the city. This results in the craft to be spread across the city rather than be confined to the factory spaces on the outskirts of the city. Different people engage themselves at different stages of the craft process linked through a socio-spatial web. As a result, different roles can be taken up by people of different social profiles and the community as a whole thrives upon the system of craft making.

The fieldwork carried out in 2018 revealed the engagement of as much as 80 hands in the production of one single bangle. With gradual technological advancements in the pro- duction process this has already reduced from 100 to 80 hands. In this entire process, every Firozabad resident finds himself in a unique position as a social actor, whether actively or inactively, contributing to the act of glass bangle making.

Such a social capital, in the city of Firozabad, is a living testimony where a glass-based craft is centric to the way of life of an entire community engaged in the business of glass making. Further, 'a positive relationship exists between social capital and the intensity of social net- work use' wherein, 'social capital is a form of economic and cultural capital' and social net- works are its focus.' Each step in the craft of glass making leads itself deeply penetrated into the domestic life of the people. Glass bangle making becomes a function of the society as a whole. As Sørensen and Rebay-Salisbury points out:

> The more people that are involved in the craft, the more complex and wide- ranging the network of such negotiations become. Irrespective of whether the craft is made in domestic settings or in workshops, the network of social relations involved in their creation impacts on household, kin, or wider social contacts since each participant in it is ultimately part of a network involving people of different ages, gender, abilities and skills.[23]

The craft in Firozabad engages people of all age groups, religion, social background, economic status and gender. The *Karigars* or the skilled craftsperson involved in decoration primarily belong to the Muslim community whereas the factory owners and retailers are primarily Hindus. Predominantly being a patriarchal society, the male member is engaged in earning for the family, while the female runs the household. As explained earlier, due to the nature of the craft, the female members work on the bangles in-between their household chores, without neglecting them. The craft thus provides for a gender balance and creates an equilibrium within the family.

The transactions in a social network are marked by "reciprocity, trust, and cooperation, and market agents produce goods and services not mainly for themselves, but for a common good."[24] Higher the social capital, more activity is generated, thereby feeding into the networks systems a more dynamic framework.

6. CRAFT AS AN EXPRESSION OF COLLECTIVE ACTION

Costin articulates the craft product as a social object that intersects with all cultural domains; economic, social, political, and ritual. He further points out that these objects signify and legitimize group membership and social roles and are reserves of wealth, storing intrinsically valuable materials and the labor invested in their manufacture.

Craft and its formulation are a result of the basic nature of human expression which in turn is reflective of the social, cultural, and economic values in a given place and time, and after. This becomes visible through the products or material that is created in the process of craft or craft making. Self-expression is a fundamental nature of human society and any craft product that gets established over a period of time is a result of this collective expression that gets intertwined and is generated out of its socio-cultural fabric. The bangle making process in Firozabad testifies this process-based chain of production where a breakage of any of the links in the chain has the capacity to collapse the system. There exists a systematic equilibrium of the process through a collective action in the craft making.

This process entails a phenomenon that is a sum total of its perception, recognition and practice in a given period of time and an accumulation of the socio-cultural capital derived from the humanness of craft making. Craft is therefore an expression of complex manifestation of the community of human living, of collective human behavior developed in a place over time.

It is this articulation of 'craft' that forms the premise for reading of the craft of "Glass Bangles" in Firozabad within the "Intangible Cultural Heritage" domain. The 'Glass Bangle' in the case of Firozabad is that social object which defines the complex relationships between the place and the people and provides them with their unique cultural identity. It becomes a social object that informs not only the formulation of cultural domains but also the spatial domain illustrated further in the following sections.

7. CRAFT AS PRODUCTION AND SOCIAL IDENTITY

As Costin highlights:

> Deeply embedded within the craft process is the idea of the roles, identities and relationships in the social world. Specialized craft producers are actors involved in the creation of social networks, wealth and social legitimacy. Moreover, the organization of production is linked with the social relationship between the consumers and the producers.[25]

An analysis of the social structure and the craft process leads to understanding the identities of those who craft producers. The *thele vala, judai wala, jhalai wala, tudai wala, Karigars,* etc. are different nomenclatures imparted to the people involved in the craft making process that provides them their social identity. Craft production therefore is creating per- sonhood, defining social categories and social relationships.

"It is our fundamental premise that in many societies, crafting is a metaphor for social identities and a symbol of social category. "[26] The production line in Firozabad creates a structure that embeds into the social fabric. Division of labor and organization of production provides a role in creating social relationships and transforming social organization as a whole. "Craft Production is a salient metaphor for social identity and a potent symbol of social category because artisan identity may be idiosyncratic, culturally specific and historically contingent."[27] Specialized production is labor used to produce goods for extra-household exchange, it is social and often public. It is the primary way to create social networks beyond immediate family. The social identity so created has its own prerogatives such as autonomy, control, power, privilege and prestige whereas gender, age, marital status, rank and class, ethnicity, legal status and ritual status form different components of the social identity. Crafting also creates meaning for the social relations through which material goods are transferred from one person to another.

8. THE RESULTANT SOCIO-SPATIAL NETWORK

Kaanch Nagri, or the glass city, as Firozabad is also termed, personifies the phenomenon of bangle making.[28] Known for the craft, the city has a spatial organization that augments and stimulates the craft making process. A closer look into the spatial structure of the city reveals a thorough simplicity, efficiency and logic in its relation to the process of craft itself (Fig. 4). In the simplest of terms, the arrangement of the process is based on the convenience required to transport the material from the first stage to the final product, thereby generating a social capital and movement networks along the path of bangle making.

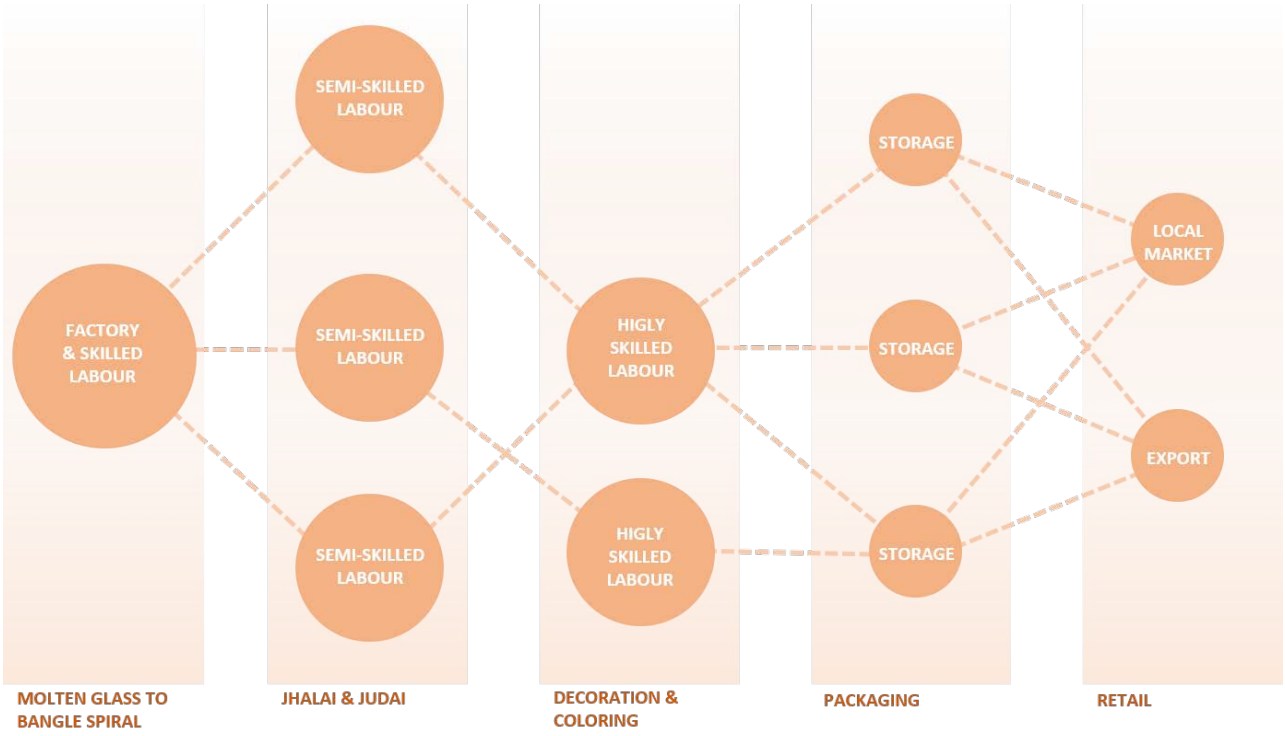


Fig. 4: Socio-spatial network of glass bangle making (Source: Authors).

This phenomenon provides a unique approach in understanding "craft praxis" and its interventions into an already existing traditional way of life.[29] The emerging socio-spatial networks in a settlement that get established over a period of time through this self-generated process, chance encounters and trials and errors create a socio - spatial capital or its "intangible heritage."[30]

An analysis of the various levels of movement networks indicates two primary domains related to the craft i.e., production and trade. A closer look reveals that the spatial structure accommodates both production and trade movement at the same time making the craft movement structure highly efficient.

The order of the set of events is acute. When the bangles are made in the factory during the early hours of the day, the rest of the city engages itself in other ventures like household duties. While at about the peak hours of sunlight, during mid noon the women work on the bangles delivered from the factories to their households the previous day. Most of these dwelling units have an internal open courtyard, with various rooms surrounding the courtyard. The courtyard, being a centrally located space, continues to be the primary interactive space for the family all throughout the day. The family interacts amongst themselves during the morning chores and during mealtimes in the courtyard. During the day and in between mealtimes, the family members engage in the craft of bangle making. The craft very seamlessly integrates and overlaps with the household activities in this space.

During late evenings, when some members are involved in the household chores, the children after their studies, get engaged in the craft such as adding embellishments on the bangles. This way they learn the craft as well as add overall income to the household. There exists a systematic division of labor, with a continuous sequence of events in craft making. This makes the organization of the craft related activities in the city well-coordinated with respect to the distribution of work.

The network arrangement is largely radial with peripheral spaces accommodating initial production, radiating inwards for post-processing and trading works (Fig. 5). This three-tier demarcation of the craft functions in the spatial arrangement manifests in manufacturing, post processing and trading. The periphery consists of the glass making factories. This facilitates the ease of procuring raw materials, considering the location of Firozabad in relation to other cities. Materials such as sand and silica are transported to the factories from the near- by cities of Rajasthan. The factories are followed by the interior of the city consisting of residential spaces, where the bangles are worked on by men and women at the domestic level. This is followed by ornamentation and embellishing units either in residential or commercial areas and finally the markets at the core of the city for retail. The famous Gali Bohran is the main street where only bangles are sold and is located in the central part of the city.[31]

Fig. 5: Map of the transportation routes and production process of glass bangles within Firozabad city (Source: Base map from Google Maps, overlay information collected by students as part of the academic design studio guided by the Authors).

As a result, the glass bangles are an inherent part of the material culture of Firozabad. This artifact is representative of a knowledge system accumulated over centuries of exploration of the material itself, the technique, the skill and the social systems associated around the act of bangle making. Its form, texture, color and pattern is a byproduct of these interactions between the material and craftsman; social and economic inter-relationships and the transforming nature of the craft itself. The various stages in the production of a sin- gle bangle - glass preparation, manufacturing, cutting, polishing, joinery and decoration in- volve exploiting the material specific to the use or application of the final product. This makes glass a primary factor informing not just the built domain but also is centric to the way of life of an entire community of people engaged in the business of glass bangle making in Firozabad.

The process of bangle making exemplifies the craft as a sum total of not just a product but the value, "habitus," cultural capital acquired through skill-learning and pride along with identity, aesthetics and the personal value forged through the material object.[32]

The craft is therefore seen as a predominant factor in informing the socio-spatial network of the city. The daily lifecycle of people engaged in craft at a community level follows a sequential rhythm that reflects the various stages of crafting of glass bangles. The activities are not in isolation but is a sum total of all the works done by a majority of the population involved in craft making. These activities when looked at a city scale decipher networks, movements and interactions of craft related functions which defines the process of craft making as it stands today. What, then, are the ways of promoting the craft community and sustaining these systems? Let us now consider the policy frameworks and their understanding of such spatial networks.

9. CURRENT MODEL OF DEVELOPMENT FOR SUSTAINING CRAFT COMMUNITIES

The prime minister in his Independence Day speech in 2019 said that "time has come to think about how we can boost exports: each district has so much to offer."[33] With the intention of promoting traditional industries in India that are synonymous with the respective districts of the state, One district One product Scheme was launched.[34] It aims at creating product-specific traditional industrial hubs across 75 districts of Uttar Pradesh that will promote traditional industries that are synonymous with the respective districts of the state.[35]

Further, SSI (Small Scale Industries) clusters in India are estimated to have a significantly high share in employment generation (UNIDO) which also have the potential for participation in the global economy. The developments in the MSME sectors are emerging as the foundation of India's national financial sectors as per a report by CII. According to DCMSME, they already contribute to 60% of India's manufactured exports and there are 351 SSI clusters including 2000 rural and artisanal clusters.[36] Both the local and central government agencies associated with skill development are positively inclined on embarking on this journey towards increased global competitiveness of these small towns and urban centers. The "One District One Product" adopted by the Uttar Pradesh State Government on 24th Jan 2018 was envisioned as follows:

> Taking its mission, a step forward, the Government of Uttar Pradesh announced One District One Product to give a boost to the traditional industries, enable the people to gain expertise in one product, value addition of the product and improvement in the growth of states' GSDP… The ODOP scheme will play a major role in bolstering the MSMEs in the state by ushering a new pace of progress through employment generation at district level.[37]

Furthermore, Ministry of MSME has defined various points as basis and presumption for a unit of Glass Bangle as a product item and one point is worth noting,[38]"...The process of joining liquid gold, silver and other types of

decoration have not been incorporated in the profile as these can be got done from number of cottage units on piece rate basis."[39]

It is critical to note that while the stages of glass bangle making are executed by the "cottage units," i.e., the residential households, the socio-spatial networks that link these residential units with the factory units of the settlements remain unrecognized. As mentioned above the approach to these craft clusters seems predominantly product oriented, geared towards imparting skills to labor and employment generation.

10. CONCLUSION

The objective of various government policies is to support and promote the heritage and craft of our nation so that they can be accessed and enjoyed by the current and future generations. However, most of these policies, specially related to craft are primarily focused on enhancement in production of the "craft-product" itself. Although this is critical in the overall economic development of the craft, the underlying issue is whether these craft-based economies are sustainable long term through the key-hole perspective of only product-centric policies? Whereas a new approach towards understanding and recognition of the networks through which the crafts sustain themselves is imperative.

Further as Bortolotto points out, "In the modern world, where the sense of a living continuity with the past has been radically eroded, communities establish a relationship with their past by turning it into an authentic historical object."[40] He further points out that it is this obsession with "authenticity" that has led to the perception of heritage as objects, something i.e., rather fixed and static.[41] Interestingly, it is further stated, "in contrast to this static dimension of products, to be conserved as authoritative relics of the past because of our modern obsession with deterioration, UNESCO's new idea of heritage proposes a dynamic approach focusing on processes to be safeguarded as devices for identity and cultural production." This attitude introduces a shift from an archival documentation paradigm based on philologically determined authenticity, to one that stresses the importance of reproduction and transmission of practices for elaboration and adaptation by future generations.[42]

The craft product-the glass bangle as seen in Firozabad is a result of a well-developed production system based on socio-cultural as well as spatial processes, deeply rooted in the place/ society giving both the product and the community its own cultural identity. As observed, the nature of the product is actually inherent in the process itself. Then why is it that the tangible product takes precedence over intangible processes in qualifying as 'Heritage'. To the extent that promotional strategies for the Craft are primarily centered around the development

and sustenance of the product and falls short of recognizing dynamic living systems of production. Such an approach may also lead to the perception of communities involved in the craft process as mere laborers.

As Antink highlights 'The drivers of economic growth are interconnected with deeper narratives about place, history and heritage that are often overlooked by politicians and policymakers alike.'[43] It is therefore vital, 'to focus on communities that are formed on the basis of shared interests and identities, with place playing a far less important role.'[44]

It is observed that wherever the policies are centered around the product, the existing spatial networks that are the result of a long run process of evolution, community interaction and embodied knowledge systems, often face a certain friction in re-organizing themselves. Although they do allow for increased production of the craft product leading to hasty economic activity, a non-recognition of these 'networks' may lead to disturbance in the network hierarchy which in turn create a ripple effect to the existing socio-cultural spatial fabric. Merely capitalizing on human resources and removing associated social and cultural spatial capital may place a threat to these intangible heritage structures of these craft-based economies. Recognition of these dynamic networks as "intangible heritage" is critical as it allows for and stimulates innovation, work-live relationship, leisure, gender balance and long-term communal sustenance. These embodied knowledge networks are crucial for envisaging a future that is rooted in sustainable livelihood and inclusive growth. It also enhances the unique & authentic "cultural identity" of the community engaged in the craft.

If frozen in space and time, this "intangible heritage" may gradually be lost forever.

ACKNOWLEDGEMENT

This paper is based on the fieldwork conducted on craft settlements: "In search for redefining vernacular studies of traditional settlements" as part of the Second year, Bachelor's in Architecture Program, at the School of Planning and Architecture, New Delhi, India. These settlements identified as Artisanal clusters are a combination of both industrial as well as cottage-based production systems in the Northern part of India. The initial exploratory fieldwork on the 'Craft of glass bangle making' was carried out in the latter half of 2018. The studio was led by Assistant Professor of Architecture Anjali Mittal at the Department of Architecture. The other co-authors were part of this design studio team. The team is thankful to the school for their continuous support and guidance.

Since then, the work has then been further developed by the team of Faculty members which includes their own observation and analysis in their individual capacity. And this paper is an outcome of deliberations and discussions among them. Students' work has been duly acknowledged wherever relevant.

NOTES AND REFERENCES

[1] Bortolotto, C. (2006-07). From objects to processes: UNESCO'S 'Intangible Cultural Heritage', *Journal of Museum Ethnography*, No. 19, 'Feeling the Vibes: Dealing with Intangible Heritage': Papers from the Annual Conference of the Museum Ethnographers Group Held at Birmingham Museum & Art Gallery, Museum Ethnographers Group, pp. 18–19, pp. 21- 33.

[2] Ibid.

[3] Ibid.

[4] Antink, B. (2019). Unlocking Heritage, RSA Journal, Vol. 165, No. 2 (5578), Royal Society for the Encouragement of Arts, Manufactures and Commerce, pp. 36-38.

[5] Ibid.

[6] Article 2, Definitions, "The 'Intangible Cultural Heritage' means the practices, representations, expressions, knowledge, skills – as well as the instruments, objects, artefacts and cultural spaces associated therewith – that communities, groups and, in some cases, individuals recognize as part of their cultural heritage." Basic Texts of the 2003 Convention for the Safeguarding of the Intangible Cultural Heritage, Basic Texts of the 2003 Convention for the Safeguarding of the Intangible Cultural Heritage 2018 Edition, Pg 5.

[7] https://firozabad.nic.in

[8] Chaudhari, M. (1983). The Technique of Glass making in India (1400-1800 A.D.) The Asiatic Society. Indian Journal of History of Science, 18(2).

[9] Firozabad is the major glass manufacturing center in India which produces a wide range of glass products- bangles, toys, utensils, beads and chandeliers. All these products are majorly manufactured in an industrial setup. However, glass bangle is the only product where is the production processes involves both the domestic as well as industrial setup.

[10] Married women wear red color bangles and they form an important part of many rituals and practices related to marriage.

[11] Sankalia, H. D. (1947). The Antiquity of Glass Bangles in India. Bulletin of the Deccan College Post-Graduate and Research institute, Vol. 8, DIKSHIT MEMORIAL VOLUME 1947, pp. 252-259. Vice Chancellor, Deccan College Post-Graduate and Research Institute (Deemed University), Pune.

[12] Kanungo, A. K., and R. H. Brill (2009). Kopia, India's First Glassmaking Site: Dating and Chemical Analysis. Vol. 51, pp. 11-25 Journal of Glass Studies, Corning Museum of Glass.

[13] Latour, B. (2005). Reassembling the social: An introduction to actor-network-theory. Oxford: Oxford University Press.

[14] Firozabad is one of the key centers in glass production. In addition to the glass bangles, it also produces glass beads, chandeliers, toys and utensils. However, it's only the glass bangles which involves the production to take place both in the factory as well as household industry.

[15] Singh, A. (2018). Glass apart: the story of 200-year-old Firozabad's glass industry, 31 Oct, 2018, SME Futures, smefutures.com/breaking-glass-ceiling-story-firozabad/page/725/. Web 01 July, 202X

[16] Ibid.

[17] Reh is an essential element for glass which contains 'Sand and Seeng" in large quantities.

[18] Dixon, E. (1937). "Industrial Outlook: the Indian glass industry," in Current Science 6(3) Sep pp. 127-130 published by Current Science Association.

[19] Tanaka, S. (2011). "The notion of embodied knowledge," in P. Stenner, J. Cromby, J. Motzkau, J. Yen, & Y. Haosheng (Eds.), Theoretical psychology: Global transformations and challenges. Concord, Canada: Captus Press, pp. 149-157.

[20] Ibid.

[21] Ibid.

[22] Wikipedia contributors. "Social capital." Wikipedia, The Free Encyclopedia, 17 Jun. 2020. Web. 1 Jul. 2020.

[23] Sofaer, J. and S. Budden (2012). Many hands make light work: potting and embodied knowledge at the Bronze Age tell at Sz zhalombatta, Hungary. Embodied Knowledge perspectives on belief and technology, Oxford.

[24] Wikipedia contributors. "Social capital." Wikipedia, The Free Encyclopedia, 17 Jun. 2020. Web. 1 Jul. 2020.

[25] Costin, C. L. (2005). "Craft Production," in Handbook of Methods in Archaeology, edited by H. Maschner. AltaMira Press.

[26] Ibid.

[27] Ibid.

[28] 'Kaanch' is a hindi word, literal meaning 'glass' and 'nagri' is a hindi word, literal meaning 'settlement', together it means 'settlement of glass.'

[29] Morgan, J. (2018). Craft-Praxis: The Cartography of the Craft Experience, Institute for Doctoral Studies in the Visual Arts, pp 1-3.

[30] Article 2, UNESCO Convention 2003, Op. cit.

[31] 'Gali' means 'street' and 'bohran' is the name of the street.

[32] Pressley, A. M. (2015) "Cultural Capital, Social Capital and Communities of Practice in Social Marketing," PHD Thesis, Cardiff Business School, Cardiff University, pg 44.

[33] Speech given by the Prime Minister of India on the occasion of Independence Day.

[34] "Introduction." Official Website of One District One Product Uttar Pradesh / About ODOP / Introduction, odopup.in/en/page/introduction, Web 01 July, 2020.

[35] Ibid.

[36] http://dcmsme.gov.in/dips/2016-17/3_DIPP_Firozabad.pdf

[37] One District One Product Uttar Pradesh, Op.cit.

[38] Wikipedia contributors. "Ministry of Micro, Small and Medium Enterprises." Wikipedia, The Free Encyclopedia, 9 Jun. 2020. Web. 1 Jul. 2020.

[39] http://www.dcmsme.gov.in/reports/ProjectProfileonGlassBangles.html

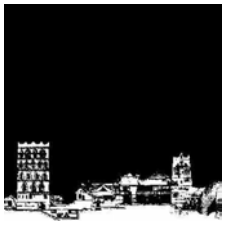
[40] Bortolotto, C. (2006-07). From objects to processes: UNESCO'S 'Intangible Cultural Heritage', Journal of Museum Ethnography, No. 19, 'Feeling the Vibes: Dealing with Intangible Heritage': Papers from the Annual Conference of the Museum Ethnographers Group Held at Birmingham Museum & Art Gallery, Museum Ethnographers Group, pp.18–19, pp. 21- 33.

[41] Ibid.

[42] Ibid.

[43] B. Antink, 2019. Unlocking Heritage, RSA Journal, Vol. 165, No. 2 (5578), Royal Society for the Encouragement of Arts, Manufactures and Commerce, pp. 36-38.

[44] Ibid.



TRADITIONAL DWELLINGS AND SETTLEMENTS WORKING PAPER SERIES

Volume 314
Contributors

ART, CRAFT, AND ARCHITECTURE

Noha Hussein
Nottingham-Trent University
U.K.
noha.hussein2019@my.ntu.ac.uk

Angeliki Tsoukala
University of Illinois, Urbana-Champaign
U.S.A.
angetsoukala@gmail.com

Aparajita Santra
University of Illinois, Urbana-Champaign
U.S.A.
asantra2@illinois.edu

Mark Jarzombek
Masssachusetts Institute of Technology
U.S.A.
mmj4@mit.edu

Eliyahu Keller
Masssachusetts Institute of Technology
U.S.A.
keller.eliyahu@gmail.com

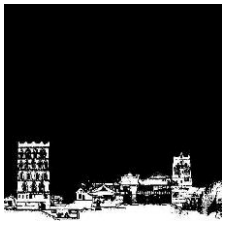
Eytan Mann
Technion – Israel Institute of Technology
Israel
eytanm@mit.edu

Anjali Mittal
School of Planning and Architecture
India
anjali.mittal@spa.ac.in

Namit Gandhi
School of Planning and Architecture
India

Nishant Gautam
School of Planning and Architecture
India

Tarun Kumar
School of Planning and Architecture
India



TRADITIONAL DWELLINGS AND SETTLEMENTS WORKING PAPER SERIES

Titles 2020-2021

The volumes listed on this form are currently available through the International Association for the Study of Traditional Environments (IASTE). Pre-payment in U.S. dollars is required when placing the order. Please allow 2 weeks for processing of orders. For credit card payment, visit our web page at http://iaste.org and click on the "Publications" tab then "Order" dropdown. For mail orders, please include this order form with a check made payable to "IASTE LTD"
Mail should be addressed to:

IASTE
207 East 5th Avenue
Eugene, OR 97401
USA

.....

O R D E R F O R M

_____ Copies of Vol 307 @$25 each

_____ Copies of Vol 308 @$25 each

_____ Copies of Vol 309 @$25 each

_____ Copies of Vol 310 @$20 each

_____ Copies of Vol 311 @$25 each

_____ Copies of Vol 312 @$25 each

_____ Copies of Vol 313 @$25 each

_____ Copies of Vol 314 @$25 each

Subtotal Price $_____

Add per volume, shipping & handling $ _____
($5.00 in U.S. or $15.00 overseas)
Total (checks made payable to IASTE ltd) $ _____

Name _____

Address _____

_____

Phone _____ **Fax** _____

E-mail _____

307. VIRTUAL RECONSTRUCTIONS AND DIGITAL TOOLS

1. Collecting the Past: Visualizing the Roman Bath in Ankara, *Gizem H. Güner*
2. The Role played by Heritage Building Information Modeling as a Virtual Tool in Egypt, *Nermine Aly Hany Hassan*
3. Visualizing the Unseen Rice Street in Colonial Taiwan: GIS and Interpretations of Everydayness, *Ping-Sheng Wu and An-Yu Cheng*
4. Exercising the Virtual Collective Strategy in the Context of 21st Century "Alor" Traditional Society, *Klara Puspa Indrawati*

308. DISPLAYING TRADITION

1. (Re)placing Home: Examining the Shift in Mosul's Urban Spaces and Demographics After Abandoning the Historic Core in the Post-War Settings, *Yousif Al-Daffaie*
2. Cyberabad's Dispossessed Communities: How the Built Environment Structures Children's Social Lives, *Lyndsey Deaton*
3. Vanishing Memory and Identity: Tomb Caretakers and Their Descendants at the Imperial Tombs of the Qing Dynasty in China, Seventeenth Century to Present Day, *Meng Li and Gehan Selim*
4. Regeneration of the Urban Village from the Cultural Production Perspective: The case of Nantou Old Town in Shenzhen, *Yifei Li and Ruitong Yang*

309. TRANSFORMATION OF TRADITIONAL BUILDINGS AND SETTLEMENTS

1. The Eco-system of Transmission in Traditional Kutch Weaving, *Nisha Subramaniam*
2. Nostalgia against Evolving Forms of Tradition and Heritage: the case of the Nubian Culture, *Nagwa Sherif*
3. The Socio-spatial Transformation of Traditional Colonial Markets in India: Case of Shimla, *Samiksha Chaudhary and Ram Sateesh Pasupuleti*
4. The Show and The Show-House: Lifestyle Traditions in the Digital Age, *Debbie Whelan*

310. VERNACULAR NTRANSFORMING AND DEVELOPMENTS OF TRADITION

1. Modern Flows: Introducing Tech-scapes of New Vernacular Architecture Practices in Egypt, *Mohamed Attia Tantawy*
2. Tradition, Space, and Architectural Practice in Democratic South Africa, *Gerald Stewardt Steyn*
3. Community Displacement: How Architectural Adaptations Show Resistance to Assimilation, *Lyndsey Deaton and James Miller*
4. Crafting Tradition: Bridging Vernacular Society, Education, and Professional Practice in Indonesia, *Yenny Gunawan*
5. Transition in Built Tradition of Kathmandu Valley, Nepal, *Asmita Dahal*

311. THE PRACTICES OF DESIGN

1. The Techno-Cultural Turn of the Tradition of Architectonics, *Serdar Erişen*

2. Integrating Traditions in the Design Process and Practice: Challenges in Historic Cairo, *Amira El Hakeh, Maye Yehia, and Mohammad El Mesallamy*

3. Revamping German Educational Facilities into Communal Centers and the Role of the Architect, *Jan Braker, and Bedour Braker*

4. The Dynamics of Designs of New Mosque in Indonesia: The Expressions of Piety as a Lifestyle, *Arief Setiawan*

5. Rethinking the Pedestrian Experience in Beirut, *Dina Mneimneh*

312. PLANNING AND PLACEMAKING

1. Breaking and Making Traditions: Disjuncture in Spatial Planning Futurities for Delhi, *Manas Murthy*

2. As A New Tradition 'Generic' Housing Typology in Silicon Valley, *Hatice Sadikogu Asan*

3. The Ubiquitous and Doubly Virtual Nature of Nostalgia: Visions for the Nicosia Buffer Zone**,** *Chistakis Chatzichristou, and Kyriakos Miltiadous*

4. Mind the gap! Why are Muslim Migrants and Homosexuals Not Sharing the Same Public Space in Hamburg? The Case of St. George*, Bedour Braker and Jan Braker*

5. Managing Utopia: Dwelling in the Late Portuguese Empire (1945-74) through Guinea-Bissau, *Rui Aristides Lebre*

313. INFORMAL URBANISM & REFUGEES RESETTLEMENT

1. Virtual Investigation: Place Identity and Perceptions of Refugee Resettlements City Utica, NY, *Pamanee Chaiwat*

2. Urban Villages as Invisible Beacons of Economic and Social Success: The Role of Migrant Communities in Shenzhen, China, *Pangyu Chen, Tim Heath, and Jiayi Jin*

3. Between Integration and Segregation of New Traditions: The Case of the Syrian Refugees' Settlements in Egypt, *Maye Yehia and Iman Hegazy*

314. ART, CRAFT, AND ARCHITECTURE

1. Architectural Quranic Inscriptions and the Dilemma of Interpretation, *Noha Hussein*

2. Garbage as generators: Alternative Ecosystems of the Global South, *Angeliki Tsoukala and Aparajita Santra*

3. Site, Archive, Medium and The Case of Lifta, *Mark Jarzombek Eliyahu Keller, and Eytan Mann*

4. Socio-spatial Networks of a Traditional Craft Settlement: An Alternative Approach to Understanding Intangible Heritage, *Anjali Mittal, Namit Gandhi, Nishant Gautam, and Tarun Kumar*