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## INTEGRATING BUILT ENVIRONMENT THEORY IN DEVELOPING A UNIFIED APPROACH FOR UNDERSTANDING HUMAN ENVIRONMENT INTERACTION

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Built environment studies have long been explored in separate spheres of the social sciences with several attempts being made to establish a unified theory on human interaction with the environment. Current discourse on the built environment has remained fragmented between archaeologists and other social anthropologists. Investigating an integrated approach of theoretical frameworks on built environment theory may prove to be beneficial for archaeologists and social anthropologists in understanding human interactions with the environment. The approaches taken by both archaeologists and social anthropologists hold unique benefits that adapted together could provide a stronger conceptualization and development of more through investigations into the relationship human possess with the built environment in past and contemporary societies.

**Keywords:** archaeological theory, site reconstruction, built environment, built forms, embedded-identity, symbolic meaning.

## ИНТЕГРАЦИЯ ТЕОРИИ ИСКУССТВЕННОЙ СРЕДЫ В РАЗРАБОТКУ ЕДИНОГО ПОДХОДА К ПОНИМАНИЮ ВЗАИМОДЕЙСТВИЯ ЧЕЛОВЕКА С ОКРУЖАЮЩЕЙ СРЕДОЙ

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Исследования искусственной среды уже давно изучаются в отдельных областях социальных наук, и предпринимается несколько попыток создания единой теории взаимодействия человека с окружающей средой. Текущий дискурс об искусственной среде оставался фрагментированным между археологами и социальными антропологами. Исследование комплексного подхода теоретических основ теории искусственной среды может оказаться полезным для археологов и социальных антропологов в понимании взаимодействия человека с окружающей средой. Подходы, применяемые как археологами, так и социальными антропологами, обладают уникальными преимуществами, которые, адаптированные вместе, могут обеспечить более сильную концептуализацию и развитие большего за счет исследований взаимоотношений человека с искусственной средой в прошлых и современных обществах.

**Ключевые слова:** археологическая теория, реконструкция места, искусственная среда, построенные формы, встроенная идентичность, символическое значение.

### *Introduction*

Contemporary theoretical approaches to observing the built landscape around humans has found modern discourses taken place within the context of contemporary periods of history. In the context Western-based anthropological archaeological discourse, the reconstruction of the environment or landscape has found new experimentation in the sub-disciplines of experimental and virtual archaeology with the purpose of illustrating the theoretical underpinnings communities (Lercari, 2017, p. 10–17; Micoli et al, 2013, p. 241–248; Planel, Stone, 2003, p. 1–5). With the 21st century, the aim of historic settlement reconstruction along with the implementation of 3D modeling technologies (ArcGIS and IR imaging) has been used to promote the reflectivity and heritage awareness of local communal histories and to provide a method of dissemination of archaeological data into the public (Lercari, 2017, p. 10–13; Micoli et al, 2013,

p. 241–248). As part of archaeological settlement reconstruction in 2D and 3D environments, the incorporation of historical analyses is central to the development of middle-range theory for the integration of contemporary archaeological theory and empirical research (Lercari, 2017, p. 10–13; Micoli et al, 2013, p. 241–248). Other sub-disciplines of anthropology (linguistics and socio-cultural anthropology) have developed forms of analyses of historical environment reconstructions in modern spaces that take into account the spatial and temporal characteristics of human-altered environments and its impact on cultural variation. This poses the question on the role of integration with contemporary spatial and built environment theory in anthropology. Using historical and spatial analyses in contemporary built environments, we are able to ask questions about what are the differences in built form along with how the nature of their construction and occupation may influence variation in different

kinds of social and cultural (Lawrence, Low, 1990, p. 435–505). Engaging in discussions on the integration of social anthropological built environment theory with archaeological environmental reconstruction theory with middle-range archaeological analyses and modern modeling technologies, archaeologists can begin to ask questions on cultural variation and human interaction with the environment.

Archaeological site reconstructions and considerations for built environment anthropological research have concentrated on the interpretation of the sensual interactions of humans with their modified environment (Blockley, 2003, p. 16–18; Lawrence, Low, 1990, p. 456–457). In terms of philosophical approaches, archaeological reconstructions allow researchers to place sites into context providing a partially non-abstract representation of sites (Blockley, 2003, p. 16). Putting the research of an archaeological site into a 2D or 3D modeled environmental space allows archaeologist to gain an understanding of scale and space in a visual context often demonstrated using cartograms or 3D modeling in ArcGIS (Blockley, 2003, p. 16–17). This type of modeling and sense of visual spatial environment has also become important in cooperation between research in heritage studies and archaeology as well as ethnoarchaeological studies (Blockley, 2003, p. 17; Hodder, 1979, p. 446–454). Amongst ethnoarchaeological research into the built environment, archaeologists largely pay heavy focus on the physical forms of construction (Lawrence, Low, 1990, p. 462). Archaeologists address accuracy in their attempts to obtain inferences about societal and social organization from previous dwellings (Lawrence, Low, 1990, p. 462). Comparative and activity area research are often used in archaeology to determine conclusions about social behaviors relation to spatial organization and associations amongst dwelling form (Kent, 1984, p. 187–189; Lawrence, Low, 1990, p. 462; Rapoport, 1977, p. 304–307). Whereas archaeologists focus on the physical form, social anthropologists have conducted household studies to understand the abstract cultural imagining of dwelling form in order to understand if regulatory behaviors of domestic spaces align with the physical boundaries of the dwelling (Goody, 1971, p. 140, 347–381; Lawrence, Low, 1990, p. 461; Morgan, 1965, p. 265). Both archaeologists and social anthropologists have focused on identifying universal characteristics in dwelling form considering the materiality, spatiality, and

temporality (Lawrence, Low, 1990, p. 460). However, they have separately used fit models to guide their investigations into the “domestic space” and built environment (Lawrence, Low, 1990, p. 460). Much of ethnoarchaeological work on the built environment is fragmented theoretically and continued work to integrate of the theoretical work of social anthropologists could strengthen archaeological work into developing systematic approaches for describing cultural processes of societal organization within the built environment (Lawrence, Low, 1990, p. 460–461; Schiffer, 1978, p. 340).

An integration of symbolic approaches to examining the built environment from social anthropologists and comparative and activity area approaches in ethnoarchaeology may allow for a more inclusive investigation into the communicative properties of status and ritual through observing more tangible spatial reconstructions of the dwelling (Lawrence, Low, 1990, p. 461–462, 466). By observing trace-patterns of material culture, environmental regularities, and consistencies with written and pictorial imaginings of built space (e.g. travel descriptions, stories, songs, illustrations, and legal documentation) can provide a useful approach to understanding how inhabitants of the built environment felt about a place and what they consciously and unconsciously embedded cultural and/or personal value in (Rapoport, 1990, p. 9–11). Late 70s studies by Burgess and Rapoport on environmental quality and the role of material cultural used these approaches to find particular traces of affective responses based on meaning in the environment (Rapoport, 1990, p. 9–15). Their conclusions found that the incorporation of these integrated approaches found that individual actors interacted and altered particular aspects of space by the meaning or lack thereof that they embedded into the material culture around them (Rapoport, 1990, p. 14–15). These multidisciplinary studies of space in the built environment provide useful approaches to how ritual is activated by embedding cultural meaning into domestic and nondomestic spheres of life to alter the environment permanently in both latent and immediate expressive actions (Lawrence, Low, 1990, p. 466). Integrating ethnoarchaeological and social anthropological theoretical approaches to cultural variation in the built environment using past interdisciplinary studies, archaeologists and social anthropologists can organize studies around four sets of questions

(Lawrence, Low, 1990, p. 455–462; Rapoport, 1990, p. 15):

How do built forms accommodate human needs to support occupation? How does the social group actively embed itself into the built form through physical occupation and temporally?

How do built forms capture, express, and represent embedded meaning? In which specific ways, do built forms actively support variations in embedded meaning?

How is the built form an extension of the self? What mental processes and conceptions of the self are reflected or acted upon in the built form?

How does a society actively produce and retrofit built forms? What roles do built forms play in generating cultural variation and social institutions? How do historic social interactions with the environment generate the built environment?

This set of questions overall allows us to engage in discourse on the more general theoretical topic of the relationship between space and power (Lawrence, Low, 1990, p. 455). The development of these questions and approaches to understanding the theoretical underpinnings of the built environment have been supported with studies focused on model building (Lawrence, Low, 1990, p. 455; Rapoport, 1990, p. 9–15). There currently stands a large set of theoretical developments into integration of theory on the built environment with a lack of concrete data (Lawrence, Low, 1990, p. 455). More studies focusing on concrete data using integrated approaches from both social anthropology and ethnoarchaeology would allow the development of a stronger middle-range theory. This may allow archaeologists to find answers to questions on cultural variation development in the built environment. By using integrated approaches incorporating physical analyses of trace material patterns along with abstract imaginings of physical space (historical and symbolic meaning analyses), archaeologists can begin to account for the relationships between abstract, temporal, and spatial characteristics of human behavior in the built environment.

#### *Proposed Methodology*

For this preliminary first-look into the application of a theoretically integrated symbolic meaning approach into the built environment, a combined use of proposed methodology from previous studies on an integrated approach to the built environment was used along with archaeological site reconstructions, regional historical texts, and archaeological studies into

urban development (Lawrence, Low, 1990, p. 435–505; Rapoport, 1990, p. 11–81). This investigation used the results and discussions from environmental and socio-historical analyses of 12th and 13th century settlement of Bolgar in continuation with integrated anthropological historical and spatial analyses to understand the theoretical underpinnings of human cultural variation (linguistics and socio-cultural anthropology) (Lawrence, Low, 1990, p. 435–505; Мухаметшин, 2016, с. 121–123; Sitdikov, Badeev, 2017, p. 208–214). The 2017 study on the urban planning of Bolgar by Sitdikov and Badeev and 2014 literature review by Sharifyullin were integrated with historical analyses of descriptions of 12th and 13th century Bolgar to demonstrate the usefulness of an integrated theoretical approach to observe cultural processes of the built environment (Шарифуллин, 2014, с. 56–69; Sitdikov, Badeev, 2017, p. 208–214). Historical descriptions of Bolgar were used in the historical and symbolic meaning approach in demonstrated the use of an integrated methodology (Баранов, 2013, с. 234–237; Коваль, 2016, с. 121; Мухаметшин, 2016, с. 121–123; Нигаматов, 2017, с. 239–242; Валеев, 2013, с. 92–97). This investigation used Rapoport's, Lawrence's, and Law's proposed approaches as a model for an integrated analyses of the previous concrete physical analyses of space in Bolgar and historical descriptions of space (Lawrence, Low, 1990, p. 435–505; Rapoport, 1990, p. 11–81; Шарифуллин, 2014, с. 56–69; Sitdikov, Badeev, 2017, p. 208–214).

#### *Investigatory Results*

The arrangement of various sites of production in the Bolgar, particularly the handicraft district, corresponds with the integration of new populations into the settlement of Bolgar (Sitdikov, Badeev, 2017, p. 211–212). The working relationship between housing, domestic industry, and group identity suggests a potential reimagining of the relationship between space and social reimagining. The transfer of the handicraft district with the integration of new populations may suggest the bonds being represented in the events of the Mongol conquests of the region. Previous monumental structures and urban estates remained preserved in 13th century Bolgar in spite of the Mongol conquest (Нигаматов, 2017, с. 239–242; Sitdikov, Badeev, 2017, p. 211–212; Валеев, 2013, с. 92–97). The reorganization of class space in tandem with the historical descriptions of the political and social climate of the area could suggest that

the built forms representing urban elites and newly integrated craft workers represent shifting mnemonic devices to symbolically reestablish and affirm associations between the classes of Bolgar (Lawrence, Low, 1990, p. 465–467). The strategies for landscape occupation demonstrated in the urban development of Bolgar into the 13<sup>th</sup> century may represent new cultural imaginings of people within a lower class of society with the integration of new populations with an adjustment of a previous urban class identity to mediate the shifting political and social dynamics of the period. The separation of domestic industrial sites from the concentrated urban cultural sites of Bolgar had seemingly occurred between the period before and after the Mongol conquest (Мухаметшин, 2016, с. 121–123; Шарифуллин, 2014, с. 56–69; Sitdikov, Badeev, 2017, p. 208–214).

These manipulations in residential and industrial portions of the settlement may present information on how the group imaginings among the people of Bolgar were dynamically restructured by retrofitting previous built forms with the integration of new populations to accommodate shifting political institutions and social organization (Lawrence, Low, 1990, p. 465–467). Being located in a frontier region of the greater Golden Horde, the reorganization and instability found in times of shifting political organization and stress from outside threats may account for the increase in mobility amongst the development of the built environment (Измайлов, 2013, с. 55–63). This increased mobility may articulate the temporal relations and group imaginings of lower class inhabitants of Bolgar observed in the handicraft district as opposed to the urban elites found in their preserved domestic and related domestic centers of Bolgar (Lawrence, Low, 1990, p. 465–467; Rapoport, 1990, p. 9–15). Integrating social relations and varying levels of class and potential ethnic segregations among populations could be embedded meanings in the shifting and standing districts of the Bolgar inhabitants (Lawrence, Low, 1990, p. 465–467; Rapoport, 1990, p. 9–15).

#### *Discussion*

This exploratory investigation is very limited in its ability to conclude and definitive results, as it was not designed with the purpose to develop meaningful conclusions about Bolgar but rather to highlight the potential future research that may be possible through the integration of built environment theory from various disciplines of anthropology and archaeology. By integrating

theory and using the 12<sup>th</sup> and 13<sup>th</sup> century settlement of Bolgar, archaeologist can expand previous theory in human environmental interaction and expand questioning on the embeddedness of the self in the physical environments. With the integration of theory, social anthropologists can begin to use sites like Bolgar to investigate previously strongly inclined topics of archaeology. In addition, archaeologists can begin exploring expanded theoretical topics of human environmental interaction that when paired with trace material and spatial analyses may produce expanded middle-range theory. The inclusion of 2D and 3D site reconstructions (cartograms and ArcGIS) also provides the potential for expounded analyses on human interacted with the built environment (Blockley, 2003, p. 16–18; Lawrence, Low, 1990, p. 456–457). Overall, the focus on accuracy, archaeological site construction, and physical studies of the environment with the inclusion of social anthropological theory on the built environment may allow archaeologists to develop a stronger middle-range theory (Lawrence, Low, 1990, p. 435–505; Lercari, 2017, p. 10–13; Micoli et al, 2013, p. 241–248). An expounded middle-range theory for archaeologist and the inclusion of archaeological studies in social anthropological research could provide increased interaction between disciplines allowing for the development on a unified theoretical base on the built environment that future multidisciplinary studies could greatly benefit from (Lawrence, Low, 1990, p. 466).

This investigation proposes the Bolgar as a place to demonstrate middle-range studies with integrated high-range theory incorporating trace material analyses assisted with the use of GIS technology in site visualization and reconstruction with the inclusion of symbolic meaning approaches, which are found frequently in social anthropologist studies (Lawrence, Low, 1990, p. 435–505; Rapoport, 1990, p. 11–81). The various points of social and political stress within Bolgar given the invasion of the Mongols and reorganization of the physical and social landscape offer a period where such symbolic meaning approaches may provide useful insights (Измайлов, 2013, с. 55–63; Lawrence, Low, 1990, p. 456–457; Нигаматов, 2017, с. 239–242; Sitdikov, Badeev, 2017, p. 211–212; Валеев, 2013, с. 92–97). Where previous ethnoarchaeological approaches towards analyzing the built environment of Bolgar may be lacking in interpreting the trace-patterns of

material culture and their potential ritual and social embedded meaning, the incorporation of social anthropological symbolic meaning approach could benefit the interpretation of results (Lawrence, Low, 1990, p. 455–462; Rapoport, 1990, p. 15). A theoretically integrated multidisciplinary study of Bolgar may also benefit social anthropologists in the development of built environment theory by having an expanded base of concrete, physical data of built forms typically found in archaeological studies (Lawrence, Low, 1990, p. 462; Мухаметшин, 2016, с. 121–123; Шарифуллин, 2014, с. 56–69).

Proposed studies of Bolgar would need to begin at the smallest unit of sites using an integrated approach for interpreting data to build a base of low-range theory that together would support a middle-range of which the theoretical underpinnings of inhabitation within Bolgar may be revealed (Lercari, 2017, p. 10–17; Micoli et al, 2013, p. 241–248; Planel, Stone, 2003, p. 1–5). This would be exploratory studies into trace-pattern analyses into individual built forms of Bolgar using an integrated symbolic meaning approach (Lawrence, Low, 1990, p. 435–505; Rapoport, 1990, p. 14–16). Allowing for the demonstration and interpretation of results within Bolgar using an integrated approach would allow literature reviews on low-range theory studies on the settlement to examine the usefulness of an integrated approach in the development of a middle-range theory (Lercari, 2017, p. 10–13; Micoli et al, 2013, p. 241–248). The heightened engagement between social anthropologists and archaeologists using Bolgar alone would allow a reinvestigation into current theory to allow for the current scholarship to reassess current ideas on human interaction and self-embeddedness into the built environment. Overall, the benefit of using such an integrated approach with archaeological site reconstructions and methods would allow for increased discourse between disciplines and allow for the development of a more unified theory on the built environment. Past archaeological studies and literature reviews of Bolgar using historical analyses, site reconstruction, and trace-pattern material analyses suggest that the archaeological site may be an ideal candidate for an integrated multidisciplinary study (Измайлов, 2013, с. 55–63; Нигаматов, 2017, с. 239–242; Шарифуллин, 2014, с. 56–69; Sitdikov, Badeev, 2017, p. 211–212; Валеев, 2013, с. 92–97). Given the historical social and material stresses on the settlement given its political situation in the 12<sup>th</sup> and 13<sup>th</sup> centuries, integrated multidisciplinary

studies on Bolgar may allow for the demonstration of the usefulness and application of an integrated symbolic meaning approach on the built environment (Измайлов, 2013, с. 55–63; Lawrence, Low, 1990, p. 435–505; Rapoport, 1990, p. 11–81; Валеев, 2013, с. 92–97).

#### *Conclusion*

The goal of archaeologists is to provide an accurate understanding of cultural entities (social organization, cultural meaning embeddedness, and built forms) that are perceived to have existed. Through developing archeological theory using the various ranges of theory, archaeological studies can achieve the goal of supporting a collective world understanding using practical and theoretically knowledge. Focusing on incorporating disciplines' lineages of built environment theory would benefit both social anthropologists and archaeologists in interpreting the archaeological record and identify the changing social meanings in built forms constituting the built environment of a sites. A separation in approaches by both archaeologists and social anthropologists leaves previous assumptions of urban and rural development and their effect on social identification and social meaning embeddedness in a divided development of contemporary built environment theory. Social anthropologists and archaeologists do not occupy separate spaces allowing for the development of independent theories of human environment interaction as this rejects the notion of a unified social scientific theory of the built environment.

Overall, this article addresses the need to integrate separate lineages of built environment theory to encourage archaeologists and social anthropologists to readdress the theoretical frameworks used to approach investigations into built forms and human interactions with the environment. Archaeologists and social anthropologists need to initiate collaborative studies into investigations on the built environment in order to provide a unified lineage of theory to provide a common understanding of human interactions and embedding practices with meaning and ritual into the environment and the impact it has on the built forms. Using a combined approach of trace-pattern analyses, archaeological site reconstructions using modern GIS technology, joint-approach historical analyses, and a symbolic meaning framework builds towards a future on identifiable conceptualization of embedding practices of humans in their interactions with the built environment. Together as social scientists, identifying the usefulness of an integrated

approach would encourage multidisciplinary abstract aspects of our human relationship with discourse allowing joint-studies to develop a the physical world surrounding us. unified approach for conceptualizing the more

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