SHAPING THE FUTURE OF RESEARCH IN ART, ARCHITECTURE, AND SPATIAL DESIGN FIELDS

صياغة مستقبل المعرفة البحثية في الفنون والعمارة ومجالات التصميم المكاني

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ABSTRACT

The purpose of this invited editorial article is to contribute an inclusive insight into some of key aspects of arts-based research and methodological approaches in architectural and spatial design research. Following ontological and epistemological interpretations, the article is conceptual and involves critical analysis which is based on reviewing and categorizing classical literature while highlighting substantial number of contributions in relevant research developed over the past five decades. Premised on three philosophical positions—positivism, anti-positivism, and emancipationist— a discussion on arts-based research as a form of qualitative inquiry and the associated trilogy of art, craft, and knowledge making was instigated. Six frames of reference were identified: systematic, computational, managerial, psychological, person-environment type-a and person-environment type-b. Technically oriented research (TOR) and conceptually driven research (CDR) were categorized as perspectives of inquiry and were scrutinized together with their developmental aspects. Whilst the article is a brief reflection on some of the key contributions in this edition of JAARS, it captures an understanding of arts-based research, architectural and spatial design research, and their essential qualities. and can be viewed as an enabling mechanism by which researchers can identify the unique particularities of their research and the way in which it is pursued.

KEYWORDS

Arts-based Research; Architecture; Technically Oriented Research; Conceptually Driven Research

الملخص

تهدف هذه المقالة التحريرية إلى المساهمة في صياغة نظرة شاملة لبعض الجوانب الرئيسة للبحوث القائمة على الفنون والأساليب المنهجية في بحوث العمارة. وتعتمد المناقشة على التفسيرات الأنطولوجية والمعرفية، ومن ثم تعتبر المقالة نظرية تركز على صياغة مفاهيم أساسية وتتضمن التحليل النقدي بناء على مراجعة الأدبيات الكلاسيكية وتصنيفها مع تسليط الضوء على عدد كبير من المساهمات في الأبحاث ذات الصلة التي تم صياغتها ونشرها على مدى العقود الخمسة الماضية. وتحدد المناقشة ثلاثة مواقف فلسفية - الوضعية، والا وضعية، والتحررية -وتقدم مناقشة تحليلية نقدية حول البحوث القائمة على الفنون كشكل من أشكال البحوث النوعية وثلاثية الفن والحرف وصناعة المعرفة المرتبطة بها. كما تحدد ستة أطر مرجعية تم تصنيف من خلال نوعين من البحوث: البحوث الموجهة تقنيًا (TOR) والبحوث المعتمدة على صياغة الأفكار والمفاهيم (CDR). في حين أن المقالة تتضمن تفسيرا موجزا لبعض المساهمات الرئيسية في هذا الإصدار من مجلة الفنون والعمارة للدراسات البحثية JAARS، فإنها تحاكي فهمًا متعمقا للبحوث القائمة على الفنون وبحوث التصميم المعماري والمكاني، خصائصهم الأساسية. كما تمثل آلية يمكن للباحثين من خلالها تحديد الخصائص المميزة لبحوثهم والأساليب المنهجية التي يمكن اتباعها.

الكلمات المفتاحية

البحوث القائمة على الفنون؛ البحوث الموجهة تقنيا؛ البحوث المعتمدة على صياغة الأفكار والمفاهيم

1. INTRODUCTION

In today's rapidly transforming academia, knowledge construction, production and re-production are increasingly valued and are now regarded as salient qualities of research processes that examine challenges facing societies and that seek opportunities those challenges create. The effort of Journal of Art & Architecture Research Studies (JAARS) clearly demonstrates that arts, architecture, and spatial design fields are fundamental to society and should be viewed collectively as an important platform and a network of valuable, enjoyable, challenging and potentially transforming practices with great potentials for knowledge production.

Understanding the nature of knowledge and how it is produced within any realm of inquiry requires a grasp of the disciplines involved within that realm and the associated practices. Within the realm or general area of fine arts, views and perceptions of what constitutes the disciplines included in it vary from an ontological perspective. However, one could relate to the generic understanding of fine arts as arguably places emphasis on the aesthetics of art works including objects, products, and artefacts as a human and cultural value. At its heart creativity and visual pleasure are key distinguishing characteristics of the disciplines included which are diverse in nature and include Drawing, Sculpture, Painting, Pottery, Ceramics, Metal Work. These disciplines can be practiced generating a specific artistic product, but they are also studied and researched in terms of materials, processes, technicalities of production, impact on users or spectators, and the underpinning theories and histories that govern their development and evolution. Yet, within the Faculty of Fine Arts at Helwan University in Cairo, there is a clear inclusivity where the traditional boundaries of fine arts have been expanded for many decades to include relevant overarching disciplines such as architecture, interior architecture and history of art. Likewise, JAARS engages with multiple disciplines that include Architecture; Décor which encompasses Interior Architecture and Scenography; Visual Arts including Painting, Murals, Graphics, Animation and Book Art, Sculpture; and History of Art. This is a commendable quality which appears to be unprecedented in the context of Egypt and the wider Middle East.

In a generic sense, research constitutes any original investigation undertaken in order to generate new knowledge and solve conceptual or practical problems which may represent hypothetical or real-world challenges. Research in the arts is primarily ingenuous, innovative, and does not necessarily follow strict formulae or the standard conventions for methodology, analysis or fact finding adopted in sciences or engineering. In essence, it has its own unique approaches and methods.

Thousands in fine-arts related academics and practitioners worldwide are involved in research activities, either for the purpose of generating knowledge while practicing, or for the purpose of advancing and theorizing academic knowledge. They have chosen their careers to construct and cultivate diverse forms of knowledge on contemporary thematic issues of interest to the academic and professional communities. Nonetheless, there has been a glaring lack of cognizance of the philosophical positions and key characteristics that pertain to research in fine arts, architecture, and associated disciplines together with a scarcity of the scholastic endeavours involved in curing this. Consequently, recent discussions about the recognition of what constitutes methodological research in fine arts and architecture within higher education present new opportunities for academics and professionals to strengthen their understanding of research, its relationship with pedagogy and practice, and its overall role in advancing knowledge that genuinely benefits culture and society.

Therefore, while this article is a brief reflection on some of the key contributions in this issue, it captures an understanding of arts-based research, architectural and spatial design research, and their essential qualities.

2. PHILOSOPHICAL POSITIONS AND SYSTEMS OF INQUIRY

While discussing the very few efforts on methodological research in architecture and the arts goes beyond the scope of this critical reflection, it is important to refer to the classical work of Groat and Wang which calls for the need to understand research methodologies hierarchically with respect to systems of inquiry or paradigms, strategies, and tactics (Groat and Wang, 2002). This is a very insightful proposition and can be regarded as a response to the inherited tendency of researchers in architecture and allied disciplines to blur or confuse methodologies and systems of inquiry at a strategic level with methods, tactics and tools at an operational and information gathering levels. Groat and Wang propose a 'cluster of systems of inquiry' or paradigms as an integrative framework for research, drawing on contributions from methodological studies in architecture, design, and the social sciences. In this context, the systems of inquiry can be articulated based on three philosophical positions.

Following ontological and epistemological interpretations, two important philosophical positions can be examined to better understand the diverse nature of research in architecture and allied fields: positivism and anti-positivism. Ontology is the branch of metaphysics that deals with the nature of reality, while epistemology is the branch of philosophy that examines the nature of knowledge (OED, 2012), its foundation, extent, and validity; it examines the way in which knowledge about a phenomenon can be acquired, conveyed, and reproduced. Positivism and anti-positivism can be interpreted ontologically and epistemologically as they relate to architecture and allied disciplines (Salama, 2015, 2019). For architecture and allied disciplines, how these two positions are translated into a practical understanding of arts-based research remains a conceptual challenge.

Positivism, as it relates to ontology, adopts the premise that objects of sense perception exist independent of the researcher's mind: this means that reality is understood to be objective. Epistemologically, positivism views knowledge as being independent of the observer, as objectively verifiable. Positivists believe that the best way to learn about a phenomenon is by the discovery of universal laws and principles. Thus, in positivist thought, the built environment is examined by the researcher as an objective reality with components and parts that everyone can observe, perceive and agree upon (Salama, 2019). Consequently, adopting positivism is exclusionary as it leads to the suppression of multiple viewpoints, thoughts, and voices.

In a stark contrast, anti-positivism, as it relates to ontology, predicates the notion that universal laws and principles do not exist outside of the researcher's mind. In other words, people as individuals and as groups perceive reality differently and that these perceptions are both equal and legitimate. Epistemologically, anti-positivism adopts the understanding that although individuals and groups acquire different types of knowledge about the same phenomenon, the variances are regarded as valid and important mechanisms for mutual acknowledgement (Salama, 2015).

Drawing from critical writings in the social sciences (Denzin and Lincoln, 2000; Lincoln et al., 2011) Groat and Wang introduce a third position; emancipationist as the most recent position (Groat and

Wang, 2002), which, similar to the anti-positivist, covers several emerging research methodologies. Ontologically, emancipationists adopt the view that there are multiple realities that are shaped by the full spectrum of contextual values including social, political, cultural, economic, ethnic, gender and disability aspects. Epistemologically, knowledge is historically and contextually situated where researchers are active participants, not only discovering and analysing realities, but also engaging with and intervening in these realities. The understanding of the preceding three philosophical positions within ontological and epistemological interpretations should be an imperative for starting any research activity (Figure 1).

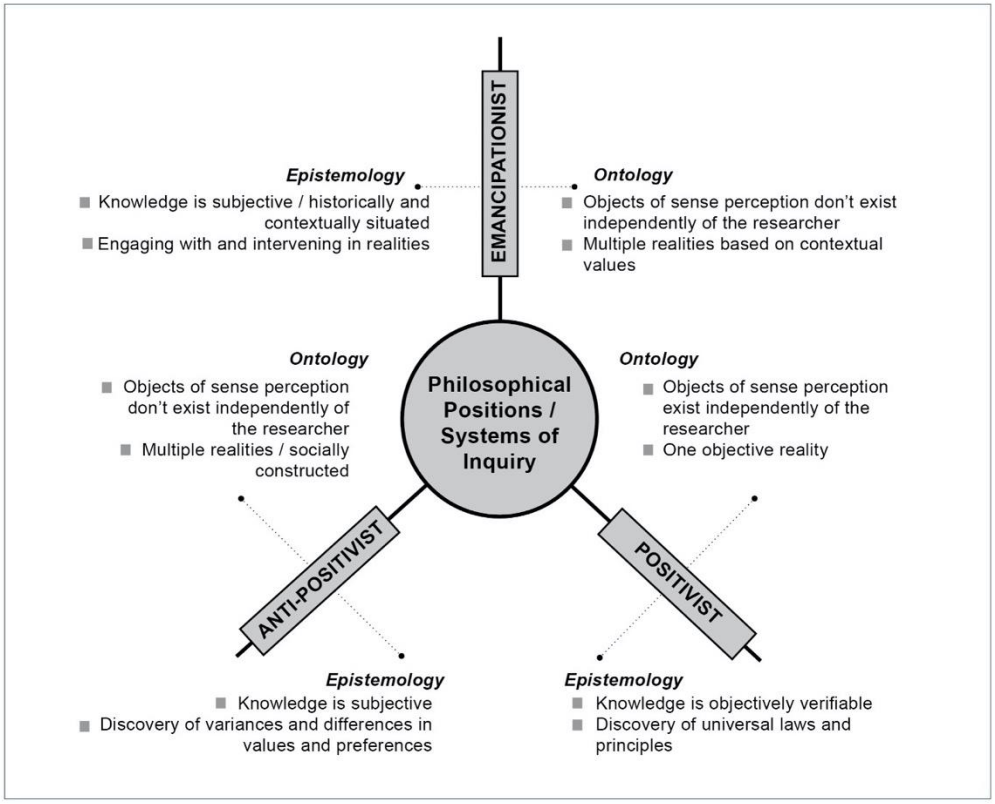

Figure 1, Systems of inquiry relevant to art, architecture and spatial design fields (Source: Salama, 2019)

3. ARTS-BASED RESEARCH AS A FORM OF QUALITATIVE INQUIRY

Arts-based research and arts-informed research are two terms which have been used interchangeably. Broadly, both denote a mode of qualitative research influenced by the arts. In essence, following Franz (2010), 'arts' in this sense, engages with a range of performative and literary as well as visual modes of artistry. In this respect, researchers postulate that qualitative research is a situated activity consisting of interpretive and material practices that aim to make the world visible (Denzin & Lincoln, 2008). Arts-based research enables the development of a unique view of the world. Yet, its integration with qualitative approaches that stem from social sciences, such as ethnography, phenomenology, grounded theory, or personal construct theory enables the generation of a comprehensive understanding of the phenomenon being examined (Franz, 2010).

In particular, grounded theory and personal construct theory are very relevant to arts-based research. On the one hand, grounded theory is a systematic methodology that has been applied to qualitative research conducted within the social sciences (Strauss & Corbin, 1994). Involving the application of inductive reasoning, it includes the construction of hypotheses and theories through various information gathering techniques. On the other hand, personal construct theory is based on observation of a phenomenon or a practice that reacts to a phenomenon (Kelly, 1991). It suggests that people develop personal constructs about how the world works and then use these constructs to make sense of their observations and experiences. In essence, it adopts the view of 'multiple realities', where phenomena are observed and experienced differently.

An arts-based research approach enables rich engagement with the aesthetics of the phenomenon giving greater meaning to the notion of the qualitative researcher as bricoleur which involves construction and creation of objects or artefacts from a diverse range of available literary, or conceptual or physical material. Arts-based research approach also engages with interpretive practices while dealing with aesthetic issues; "*...an aesthetics of representation that goes beyond the pragmatic or the practical*" (Denzin & Lincoln, 2011, p. 6).

Within academia, arts-based researchers are often portrayed as resisting to systematic qualitative inquiry. Franz (2010) argues, and rightly so, that there is an unpleasing and seriously flawed tendency to view arts-based research as 'softer' and more 'subjective' than other qualitative research approaches because it explicitly involves and celebrates artistic practice, retrospectively looks at the performance of an artist, and because of the emphasis on the experience and subjective knowledge of the critic. Arts-based researchers need to develop the relevant skills to debate their work and be prepared for criticism and associated discrimination within the higher education system and various publishing channels. They also need to be equipped with the ontological and epistemological understanding of the nature of research topics and aims they are pursuing, the associated paradigms underpinning qualitative research, as well as the adoption and adaption of one's own philosophical position in the world as it relates to research.

4. THE TRILOGY OF ART, CRAFT, AND KNOWLEDGE MAKING

Within arts-based research the notion of craft is important since it represents the act of making as it relates to solving a problem or to an exploratory endeavour. It also establishes possibilities and further qualities which help integrate conceptualisation, implementation, and the knowledge generated across the process into one coherent whole. This leads to an expanded understanding of arts-based research in a manner that links intuition, creativity, and reasoning, thereby, it represents a genuine departure from traditional main-stream or traditional academic research.

Engaging with the idea of craft, as a materialisation of a work of art, leads to a focused understanding of the concept of skill and its place in one's practice whether that be an arts related activity like dance or painting or whether it be in undertaking research (Franz, 2010). Exploring the relationship between poetry and qualitative research, Cahnmann-Taylor (2008), highlights several devices that poets and researchers use and develop as part of their practice repertoire. These include rhythm and form, and image and metaphor. In this respect, It is argued that both visual and mental images are essential to human sense-making". Franz (2010) goes along this line of thought and maintains that "*for many arts-based researchers, images play a significant role in their research creating another associated*

area of arts-based research labelled 'image-based research'". This is where images can be utilised in different ways and act as a form of data such as examining, analysing, and interpreting meanings in visual representations of specific phenomena or conducting photo-interviews or image-based attitude surveys to investigate perceptions and preferences of specific group of people.

Within the iterative cycle which is essential to the understanding of craft or the act of making, one should relate to the classical work of John Zeisel (1981) who introduced the idea that this cycle involves imaging, representing and testing to portray a process of making and critical reflection, which, in itself, generates knowledge. This view has been emphasised as a 'design-research' literature, in a number of writings on design research/design thinking including Schon's reflection-in-action (Schon, 1983), Cross' designerly ways of knowing (Cross, 1984, 2016). In this regard, a clear link between craft or design and research can be established.

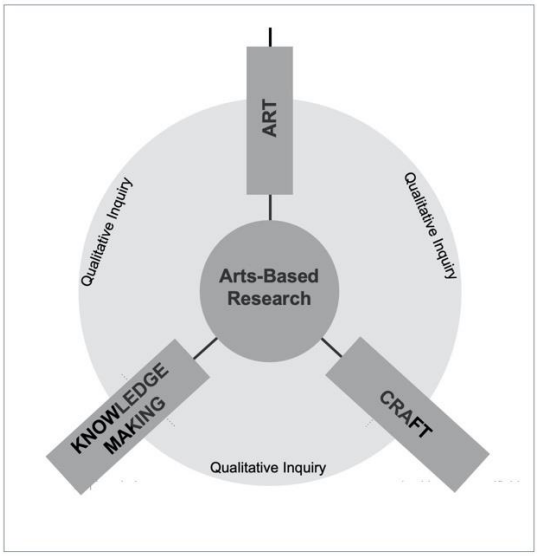

Figure 2, The trilogy of art, craft, and knowledge making (Source: Salama, 2020)

More recently, an edited book which is very relevant to this discussion, entitled '*Perspectives on Research Assessment in Architecture, Music, and the Arts – Discussing Doctorateness*,' edited by Fredrik Nilsson, Halina Dunin-Woyseth, and Nel Janssens, is a new important undertaking that re-establishes the essence, values, and needs of research in architecture, music, and the arts. Divided in three sections that accommodate twelve contributions, the book encompasses arguments, frameworks, experiments and experiences written by a group of eminent scholars, academics, as well as doctoral researchers, from various fields that include architecture, urban design, global culture, music, art and design, and management and social sciences (Nilsson et al, 2017). The book is trans-disciplinary in nature and breaks the boundaries between the overarching disciplines of these fields. What this book offers are an invaluable resource for educators, researchers, practitioners in the relevant disciplines, and higher education institutions needing to reconsider their assessment methods of doctoral research to meet emerging demands within the creative and cultural industries. A series of conceptual and practical inspirations that stem from a wide spectrum of concepts, arguments, and case studies demonstrate experimental and innovative assessment approaches of 'Doctorateness.' This is not all, while the book paves the road to openly discuss innovative assessment approaches of

doctoral research, it also provides the basis for thinking about tenure and promotion criteria for academics in architecture, music, and the arts as unique academic disciplines and professions.

From the preceding perspectives, the postulation in arts-based research craft and the act of making appears to be fundamental means of inquiry by which ideas are given shape and are realised. In this sense craft should be viewed as a practical form of inquiry, concerned with making and of usefulness, quite apart from its more esoteric benefits. On the other hand, if knowledge making (research) and the act of making (design) are seen as two separate mental activities they are still complementary. In this sense, research and design, each uses the other to do more than either one can do alone as argued by Zeisel (1981) where design uses research to improve and expand the level of knowledge utilized, and research uses design to close the gap between theories/conceptualizations and real life situations/realizations.

5. FRAMES OF REFERENCE IN ARCHITECTURAL AND SPATIAL DESIGN METHODOLOGICAL RESEARCH

Methodological research in architecture and spatial design has been examined in an article published in the mid-1990s by Jill Franz (Franz, 1994). Although the context and content of Franz's categorisation have evolved significantly since it had been developed twenty-five years ago, certain aspects of the classification skeleton seem to be still valid and soundly inclusive (Salama, 2019). Underscored by explicit frames of reference, technically oriented research (TOR) and conceptually driven research (CDR) are two perspectives of inquiry in architecture and allied disciplines and are pertinent to the scope of this analysis.

5.1 Technically Oriented Research (TOR)

Three 'frames-of-reference' appear to characterise the technically oriented research (TOR). These are: the systematic, the computational, and the managerial. In essence, TOR places emphasis on the process and procedures as the primary basis of effective design (Franz, 1994). Within the systematic frame-of-reference the supremacy of consumerism and industrialisation during the 1950s resulted in perceiving design knowledge as essential for improving production, developing processes to suit intended qualities in the end product, and implementing designs to accommodate users' needs. Architecture and allied design and built environment disciplines considered 'performance' as a goal, leading to a sustained quest by design researchers to make the design process more efficient and effective (Hensel, 2010). Consequently, during the following decades and up to the late 1980s, a 'rational' approach to knowledge acquisition, assimilation, and accommodation in a systematic design process has dominated design discourse. The work of Markus (1972); Sanoff (1977); Cross (1984) represents principal thinking and examples of the systematic application of technique which instigated a design research culture that advocated a more explicit and transparent design process though underpinned by a linear conception of designing.

While they have evolved relatively in parallel, the systematic frame-of-reference seems to have paved the road for the computational frame-of-reference. Researchers viewed designing as a process amenable to depiction into decomposable components, represented numerically, and interpreted and administered by a computing machine and software. The computational frame-of-reference stemmed from research and theoretical foundations which include cognitive science, expert systems, and artificial intelligence (Whitehead and Eldars, 1965; Maver, 1971; Newell and Simon, 1972; Mitchell,

1979). The work of Mitchell (1979 & 1990) and Gero (1983 & 1993) demonstrates well-recognised achievements on the utilisation of systems thinking and machine learning in design that drifted into two directions. The first is computer aided design (CAD) which aimed at improving efficiency of processes and products, and the second is knowledge-based design which entailed the understanding of design as a heuristic research process that fostered designers' knowledge of the relationship between potential solutions and performance requirements. These efforts led to the recently developed Building Information Modelling / Management (BIM) approach to design (Sacks et al., 2018), which is now used as part of research on the application of the Information and Communication Technologies (ICT) in design and construction and is adopted as a necessary tool for practice within built environment professions (Kumar, 2018).

Notably, the systematic and computational frames-of-reference have gained significant interest within the design research community for several decades as evident in the surge of published research. However, in comparison, the managerial frame-of-reference does not seem to have attracted the same level of attention given the available body of knowledge in this area. In it, research is centred on the examination of the nature of architectural services, design teams, office management within an architectural practice, and project delivery processes. It also involves investigating various aspects of the profession, its position within other design and built environment professions, and the way in which it is perceived by society. The work of Burgess (1983); Akin (1987); Gutman (1975 & 1988); Cuff (1991); Sanoff (1992), and more recently Fisher (2006 & 2010); Awan et al. (2011); Till (2013); Brown et al. (2016), represents important examples that scrutinise ways in which contemporary practices can be more responsive to the demands placed on the profession by society. Likewise, recent research raises questions about the role and types of research utilised within professional practice (Dye, 2014).

The systematic frame-of-reference does not seem to have developed as a distinct research area beyond the1990s. The recent body of knowledge, however, suggests that the computational frame-of-reference has advanced dramatically into a clear sphere of inquiry that demonstrates the renewed interest in virtual reality to visualise, understand, and articulate data to enhance planning, design and construction decisions (Whyte and Nikolic, 2019). This involves a spectrum of sub-areas ranging from CAD / BIM modelling to virtual and augmented reality and from immersive visualisation to the development of virtual platforms for heritage preservation (Goulding and Rahimian, 2015).

The systematic and computational frames-of-reference appear to have merged into two growing areas of research. The first pertains to environmental sustainability in buildings and environments, as evident in the annual conferences of PLEA organisation—Passive and Low Energy Architecture, and ANZASCA—Architectural Science Association. Both are evidently focusing on making the discipline more scientific. This sphere of inquiry includes empirical, experimental, and simulation-based investigations, utilising advances in information technologies in developing new insights into passive and climate design, thermal comfort, energy efficiency, low carbon design, daylighting, and indoor environmental quality within design processes and for the development of new knowledge within academic research (Zuo, 2016; Roaf et al., 2017; de Dear et al., 2018). The second is concerned with Space Syntax approach to forecasting planning and design implications. It incorporates mathematical and configurational techniques utilising computers for the analysis of spatial configurations while enabling architects and urban designers and planners to simulate socio-physical

impacts of their designs and plans with a focus on spatial integration, centrality, connectivity, and accessibility (Hillier and Hanson, 1984; Hillier, 2015).

The critical nature of research and writing within the managerial frame-of-reference appears to continue to lessen interest in this area where scholars seem to avoid assessing and criticising the profession and its organisations. This is despite the significant influence of its advocates in attempting to revolutionise the profession and to develop new modes of architectural practice in various ways but with a clear focus on social and political contexts within which the profession operates. The managerial frame-of-reference, however, has expanded beyond the profession of architecture to clearly advance new spheres of inquiry in integrated design and construction practices, design management, facility management, project lifecycle management, and sustainable construction (Anumba, 2005; Emmitt et. al., 2009). Yet, within conventional academic and professional circles in architecture and design fields, these areas are valued as completely different spheres of inquiry that are related more to engineering but not germane to architecture and urbanism.

5.2 Conceptually Driven Research (CDR)

Vital to the CDR perspective two primary frames-of-reference are explored. The first is a psychological frame-of-reference, and the second is a person-environment frame-of-reference. Embracing the psychological frame-of-reference design researchers incline to espouse the belief that designing is a process that involves three key qualities. As a 'rational' process it encompasses information processing across various developmental phases, as a 'constructive' process it builds on knowledge generated from past experiences, and as a 'creative' process it utilises conjectural reasoning (Lawson, 1980; Heath, 1984; Rowe, 1987). In this respect, research is driven by the goal of matching knowledge with the nature of the design problem, its components, context, and social and environmental requirements. According to Franz (1994), research focusing on the nature of design problems (Rittel and Webber, 1973), problem definition and solution generation (Simon, 1973 & Wade, 1977), and design knowledge (Thomas and Carroll, 1979; Goldschmidt, 1989) reflects endeavours that accept the linear approach of problem solving (Akin, 1986), which perceives people and objects as isolated entities within the design/research process. However, the recent of work of Goldschmidt (2014), introduces linkography as a new method for the notation and analysis of the creative process in design, which adopts a 'good-fit' approach, drawing on insights from design practice and cognitive psychology.

Within person-environment frame-of-reference, design researchers place emphasis on the socio-cultural and socio-behavioural factors as they relate to the design process itself and to settings, buildings, and urban environments. The increasing awareness of social' reality and the growth of community- driven programmes during the 1970s generated interest in collaborative and democratic design processes. Sanoff's simulation games (Sanoff, 1978 & 1984), Lawrence's environmental models (Lawrence, 1987), and Hamdi's enabling mechanisms (Hamdi, 1990) are pioneering examples of how social, cultural, and behavioural issues are investigated within the design process. Aligning with the notion of collaboration in design, researchers focused on the development of arguments, models, methods, and tools (Hester, 1990) that could support client/user engagement in the design process. While Sanoff continues to pursue his quest for collaborative design research practices following his previously established approach (Sanoff, 2000 & 2010), other scholars, in other contexts, attempt to unfold social and political aspects of the built environment and the way that

the future users may shape it (Blundell-Jones et al., 2005) interrogating issues that pertain to how architects can best enhance their partnership with users and the wider society to deliver responsive environments (Jenkins and Forsyth, 2009). In essence, underpinned by the belief that reality for an individual is socially and politically constructed and is primarily determined by social and cultural norms—what is unique in the collaborative approach is the sharing of values and acting collectively on knowledge about how requirements can be achieved and how needs can be met.

Another primary form of research within the person-environment frame-of-reference places emphasis on the meaning of place and the nature of the user in relation to physical, social, and cultural environments. It acknowledges the crucial need for broader inter-disciplinary and trans-disciplinary approaches to inquiry. The work of environment-behaviour studies/research community (EBS/EBR) represents this form of research that has expanded significantly as part of two important organisations: Environmental Design Research Association (EDRA) which operates mainly within the North American context, and the International Association for People-Environment Studies (IAPS) which operates in Europe. Established in 1969 and 1981 respectively, both organisations continue to generate interdisciplinary research that places emphasis on the investigation of user requirements and is conducted by sociologists, environmental psychologists, social psychologists, and design professionals (Shin et al., 2017 and IAPS, 2018).

Integral to the person-environment frame-of-reference research aims at understanding the complexity of human behaviour within the built environment from an experiential standpoint. Examples include examining the psychological factors of place (Canter, 1974 & 1977); the reciprocal relationship between culture and environment (Altman & Chemers, 1980); place identity and how it is influenced by feelings and behaviours within certain physical settings (Proshansky, 1990), and the meaning and influence of culture on the built form (Rapoport, 1969, 1977, and 1990); an area of research that has gain continuous interest (Rapoport 2005 & 2008). Other areas of research involve examination of social life in urban space (Whyte, 1980), environmental perception, experiential aesthetics, visual research methods (Nasar 1988 and Sanoff, 1991), and wayfinding in complex environments (Passini, 1992; Cooper, 2010), to name a few.

The associated practical repercussions of the person-environment research were materialised in two areas of design research that focus exclusively on users and are viewed as fundamental to the design process while offering the opportunity for a better-informed decision making on future built environments; programming (Preiser, 1985; Hershberger, 1999) and post-occupancy evaluation (POE) (Preiser et al., 1988). Research within the person-environment frame-of-reference applies various tools which stem from social and psychological sciences including archival documentation, attitude surveys, focused and semi-focused interviews, participant and nonparticipant systematic observation, and cognitive and behavioural mapping techniques.

Similar to the systematic frame-of-reference, the psychological frame-of-reference has not progressed into a contemporary research trend given the scarcity of writings in this field. Yet, recent contributions suggest that while not a mainstream sphere, it remains essential given the quality of the leading journal in this area; *Design Studies*, and the birth of the new journal, *Design Science*, though not exclusive to architecture and built environment studies. As a sphere of inquiry, it maintains interest in cognition, visual and creative thinking in design, and the way in which designers reason and

generate concepts and ideas (Casakin and Kreitler, 2011; Goldschmidt, 2014; Cross, 2016; Oxman, 2017; Darbellay et al., 2018).

The person-environment frame-of-reference, focusing on collaboration and engagement with users and communities as part of an action design/research process seems to have developed into a distinct sphere of inquiry directly linked to professional practice. This is evident in the recent writings of its pioneers, coupled with interests of governments and local authorities in engaging with communities in regenerating old city centres or shaping new residential communities. It is also manifested in the rising interest of a considerable number of architectural firms to work closely with client groups, as well as in the annual conferences of the Association for Community Design (ACD); an organisation committed to increasing the capacity of planning and design professions to better serve communities. The surge of interests in action and collaborative research is palpable in recent writings that articulate cases of and offer guidance on how architects, urban designers and planners can genuinely engage with communities (Malone, 2018; Norton and Hughes, 2018).

With a focus on users and communities in relation to the physical, social, and cultural worlds, the person-environment frame-of-reference maintains its solid foundation on the initial set of themes in the psychology of place, place identity and attachment and the reciprocal relationship between cultural and behavioural factors and built form as evident in the research work of the EBS/EBR community. New themes have emerged over the past two decades to include resilience, social equity, healing environments, therapeutic landscapes, and dynamic interactions of environment-behaviour and Neuroscience. Older and new themes were applied to various environments ranging from small settings and interior spaces to different types of learning of environments, workplaces, and nursing homes, and from small urban spaces to neighbourhoods and cities. The accompanying practical ramifications of the person-environment frame-of-reference have also developed into new areas. In particular, evidence–based design (Hamilton and Watkins, 2009), and POE which has developed into a recognised sphere of inquiry, namely building performance evaluation (BPE) that extended beyond the exclusive focus on the user to address other relevant aspects including assessing energy use, usability, productivity, and functional, environmental, perceptual and social impacts (Bordass, 2001 & 2014; Duffy, 2014; Mallory-Hill et al., 2012; Preiser et al., 2008 & 2012).

It can be argued that the person-environment frame-of reference has supported the growth of social and cultural sustainability sphere of inquiry. On the one hand, cultural sustainability involves efforts to preserve the tangible and intangible cultural elements of society (Wessles, 2013). On the other hand, social sustainability involves various elements already adopted by EBS/EBR academics and professionals including democracy and governance, equity, socio-economic diversity, social cohesion, and quality of urban life which is treated as a growing sphere of inquiry on its own.

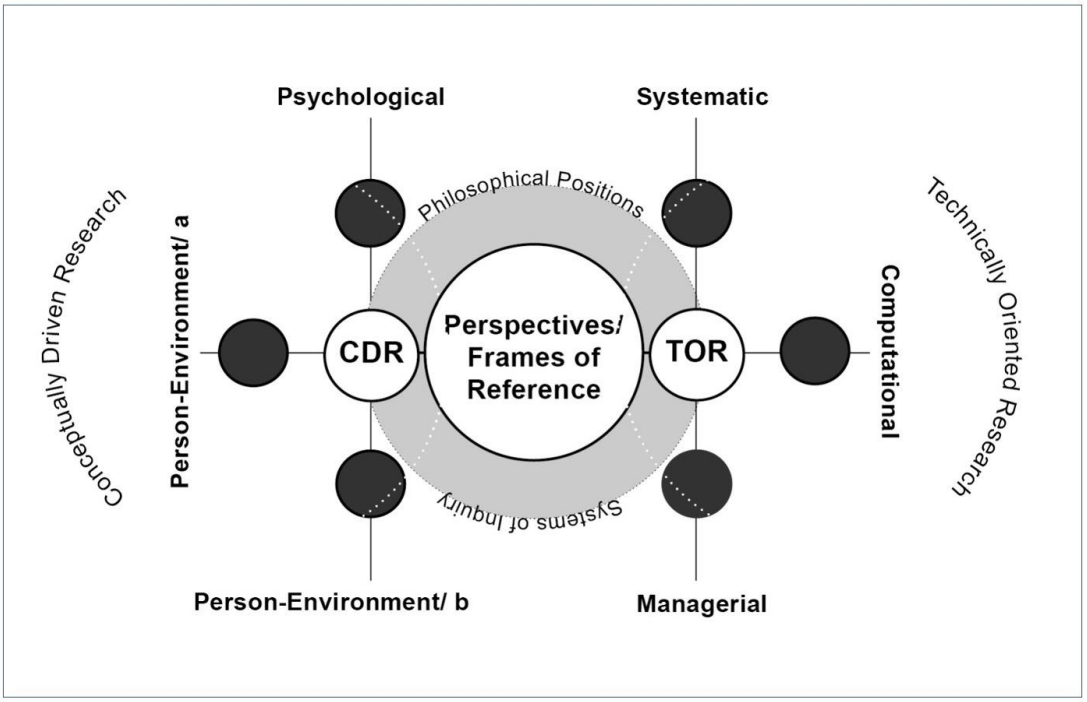

Figure 3, Frames of references in architectural and spatial design methodological research (Source: Salama, 2019)

6. CAPTURING THE QUINTESSENCE OF THIS EDITION OF JAARS

The inclusive scope of JAARS is evident in the collection of refereed articles published in this edition (Volume 1, Issue 2) where the contributions correspond in various ways to the discussions made with respect to the systems of inquiry, the qualitative nature of arts-based research, and the frames of reference in architectural and spatial design research. In architecture section three contributions manifest important topics, under the general area of sustainability, which are relevant to the context of Egypt. The first contribution explores the need for building design integration with geothermal system technologies. It engages with the body of knowledge on heat pump technologies and cooling and heating applications to achieve human thermal comfort. It then develops the factors that enable the development of an optimal design for thermal comfort. The second contribution aims to establish links between sustainable development and educational faculties with a key objective for the development of planning and design guidelines for the development of sustainable learning environments. In the context of Heliopolis, Cairo, the third contribution explores the implementation of adaptive reuse as a part of a sustainable heritage conservation paradigm. Evidently, the three contribution are developed from the perspective of academic and professional knowledge expertise and this are positivistic in nature and essentially fall broadly within the technically oriented frame of reference.

Under the section of Décor which encompasses interior architecture and scenography, five articles are included. The first engages with andragogy in interior design education through a comparative analysis of the outcomes of a one-day five hours workshop in order to assess learning outcomes in two different educational settings, with a view to optimise learning processes. The second contribution places emphasis on biomimicry and the its utilization as a concept in interior architecture

towards generation of ideas while promoting creativity. The third contribution builds a case for developing design solutions that speak to the post Covid-19 condition with a focus on human psychological impact. By attempting to test emerging forms of learning, another contribution employs a discussion on hybrid learning methods, their value and application. Remarkably the four contributions are broadly situated within the conceptually driven frame of reference, with the first contribution indirectly adopting an anti-positivistic position while the other three are premised on positivistic assumptions. Likewise, the contribution focusing on scenography adopts a positivistic view within a conceptually driven frame of reference. It explores the utilisation of historical architecture in interactive performances utilising 3D projection mapping which can enable an effective visual ambiance while promoting tourism or commercial activities.

Contributions included under visual arts section appear to be within the conceptually driven frame of reference, involving interpretational investigations and critical analysis of one or more cases. The first contribution explores the reciprocal relationship between identity and visual culture through an examination of selected cases that demonstrate manifestation of the Egyptian identity in the illustrations of the literary works of the Nobel Prize winner, Naguib Mahfouz. Dealing with the 'retro' concept the second contribution identifies associated problematics in contemporary image and illustration. Notions of originality and contemporaneity are explored with respect to the way in which designers could return to the past but project it in a new contemporary manner. In the third contribution an examination of flat illustrations is undertaken by studying their impact on universal interface protocols within contemporary digital technologies including smartphones and the web.

The last two contributions of the visual arts section are more contextual, and, in a way, historical. One examines the symbolic dimension in the drawings of the Egyptian artist El Sayed El Ammash whose unique work demonstrates mastery of the utilisation of symbolism to simulate Egyptian character and identity. Another contribution is theoretical and analytical in nature and involves key chronological dimensions of the Harlem Group and its influential role in the American Plastic movements. It considers various themes including impressionism, modernism, and abstract expressionism while explicitly recognising the roots of the groups and the way in which the fusion of the African origins with aspects of modernism were palpable in their work.

Along the historical line but under the category of history of art two contributions are included. In a chronological interpretational manner, the first explores key artistic attributes and selected associated historical incidents surrounding the evolution of The Asam Church of St. Nepomuk in Munich, Germany. From a comparative perspective, the second article establishes an understanding of how artistic and historical references were reflected in the European style sculptures of the Baron Empain Palace in Heliopolis, Cairo while underscoring the heritage value of the Palace for cultural tourism. Under the section of interdisciplinary studies one contribution is included, presenting a framework that enables the identification and selection of relevant methods and tools for human-centred design as rising area of interest. The invited article which concludes this edition engages with the work of Kamal Ameen whose pioneering experimental work has made significant impact on the art community in Egypt and on various fields including graphic art, printing, and the associated educational content.

7. CONCLUSION: KEY QUALITIES OF ARTS-BASED, ARCHITECTURAL, AND SPATIAL DESIGN RESEARCH

An understanding of the three relatively contradictory philosophical positions is critical. Likewise, an identification of which position will be adopted is crucial when developing a research framework or starting a research activity. While it is imperative that positivistic approaches are valuable and may be used to discover and convey factual knowledge about various aspects of architecture, it is essential to acknowledge other aspects that affirm the validity of anti-positivist and emancipationist thinking. Consequently, adopting the more inclusive positions places emphasis upon the social, historical and contextual construction of reality: the values, abilities, preferences, and lifestyles of the people who use, perceive, and comprehend the environment. This validates the co-existence of multiple realities and the associated perceptions, and viewpoints.

The conceptualisation of arts-based research as a form of qualitative inquiry coupled with the postulation of the triadic relationship between art, craft, and knowledge making offers avenues for future arts-based research approaches. The analysis of the frames of reference and sphere of inquiry suggests two distinct yet related types of knowledge in architecture and allied disciplines. The first type is knowledge resulting from research that seeks to understand the future through a better understanding of the past; research that tests accepted ideas. The second is knowledge resulting from research that probes new ideas, and principles that will shape the future; research that develops new visions and verifies new hypotheses. Within the framework of these knowledge types, it is maintained that the primary objective of methodological research in architecture and allied disciplines is to investigate designs, buildings, and built environments made by human beings—designers or non-designers. Implications can be inferred and articulated with respect to key qualities or concerns.

Arts-based or arts-informed research is increasingly accepted as an important form of inquiry. By and large, it is turning into a unique area of knowledge production which has important qualities that include:

- Embodying lived experiences through the researcher's (artist-designer) critical reflection and the ensuing narrative.
- Offering open-ended channels of consciousness and spontaneity which require systematic documentation.
- Engaging with layers of analogical, metaphorical, and symbolic thinking and interpretation.
- Adopting iterative cycles of imaging, representing, and testing while critically reflecting on the outcomes of each cycle.

Yet, methodological research in architecture, urbanism, and spatial design has another set of characteristics which involve:

- The systematic search and acquisition, assimilation, and accommodation of knowledge related to design and design activity, how designers think, approach problems, develop solutions.
- The development of expressions, patterns, structures, and their organisation into functional wholes.
- The physical representation of buildings and environments, how they perform in relation to who sees them and who uses them.

- What is achieved at the end of a focused planning or design process, how that which is achieved appears, and what it means to its users and the public at large.
- Design and construction processes as human activities, how designers work, how they collaborate with other experts, how they engage with users, how their work speaks to the public, and how they carry out these activities.
- The systematic learning about the experiences of the past and how these experiences enable the construction of new knowledge.

Collectively, the articles included in this edition of JAARS reflect various approaches, theoretical and historical positions, as well as analytical reflections. They also establish the potential for cultivating a culture of scholarship in fields which are characterised essentially by practice including craft and the act of making. While the findings developed within this article enable a more focused appreciation of methodological research in art, architecture and allied design fields, which pertains to the relationship between an adopted philosophical position, a frame of reference, and various characteristics of research approaches, the study is viewed as a call for researchers to identify the unique particularities of their research and the way in which it is pursued, articulated, and positioned within the academic community of artists, architects, and designers .

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