



## Research Article

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# Bibliometric Analysis of Architecture as Art and its Theoretical Implications

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## Abstract

*Bibliometric studies allow us to observe and interpret the behavior and progress of scientific production on a topic. Thus, this research carries out a bibliometric analysis of the research carried out on Architecture as an art. For this purpose, articles published in journals indexed in Scopus in the period from 1983 to 2023 are considered; the search is restricted to TITLE ("Architecture as art") OR TITLE ("Architecture as art"), which makes 66 items visible. The analysis is carried out using the Bibliometrix and VOSviewer software, which formally and thematically characterizes scientific production through bibliometrics. The indicators used are: annual scientific production and by country, productivity by type of institution, cited articles, magazines with the most publications on Architecture as art, analysis of keywords and relationship with the topics, and finally, the main currents or trends of investigation. The results reflect that there is a trend in research in the relationship between architecture and music throughout history, highlighting how music has inspired architects in creating sensory spaces. The importance of theory and communication in architectural design is highlighted and the evolution of architecture as an art is explored.*

**Keywords:** Bibliometrics, architecture, art, scientific production

## 1. Introduction

In this context, the present research aims to analyze architecture as art from a bibliometric perspective. Architecture, as an art, has been the subject of deep scrutiny and exploration in various academic disciplines. From research on the development of interests in artistic and creative activities (Shentsova et al., 2015) to the analysis of the evolution of human behavior in relation to fine arts and architecture Sütterlin (2014), we have sought to understand its essence and its impact on society. Sauchelli's (2012) perspective expands the understanding of architecture beyond its internal spatial effects, advocating a holistic view that considers aspects such as function, materials and

ornamentation. This notion is reinforced by the study by Al-Ramahi & Denerel (2023), which examines the design of educational spaces and its influence on the well-being of teachers and students.

Guy (2022) and Catenaccio & Khonsar (2018) explore new ways of approaching art and architecture in contemporary contexts, from the redefinition of theater to the construction of neighborhoods as complex sociocultural expressions, in the same way Perez (2013), offers a brief interpretation of Aristophanes's play "Peace," exploring its relationship with Greek theatrical architecture and its goal of restoring peace to a troubled society. It highlights how the experience of witnessing a live performance at Epidauros can evoke the participatory conditions of Aristophanes' works more fully than simply visiting a theater in Athens.

Dan Graham's installations, according to Crispiani (2008), challenge the conventional boundaries of architecture and encourage deeper reflection on its relationship with art. Ferrari (2011) explains that the Architecture Is Art Festival in Hong Kong seeks to connect architecture, theater and other art forms to address issues such as heritage preservation and politics. Through multimedia performances, questions are raised about the identity of the city and reflection on its history and current political context is promoted. The importance of cultural exchange is highlighted to enrich artistic dialogue in Hong Kong. Lichman & Doroschenko (2016). They highlight the rich cultural heritage of Kazakhstan, focusing on elements such as carpet designs, silver and gold ornaments, as well as portable dwellings known as yurts. These elements reflect artistic and creative traditions rooted in Kazakh culture. The activity of the Russian Geographical Society and the influence of Russian painters contributed to the preservation and promotion of these traditions. These ethnic traditions continue to be a source of inspiration for modern art in Kazakhstan, demonstrating the importance of preserving the country's cultural heritage.

The role of mathematics in architectural education is also highlighted, revealing how it influences the design process (Sorguç & Selçuk, 2009). Besides, Chernyh & Raspopova (2020) analyzes the development of Old Russian writing, focusing on the evolution of Cyrillic writing from the 11th to the 18th centuries, including the reform of Peter I. It examines how calligraphy has influenced various aspects of Russian society, such as aesthetic taste, education and cultural identity. It is concluded that calligraphy plays a significant role as an ethno cultural marker and in the transmission of knowledge and values. For his part, Romano (2017) examines the work of Vitruvius, of architecture, distinguishing between the "birth" and the "origin" of architecture. While the first refers to the theoretical foundation, the second alludes to the historical beginnings of the discipline. The importance of understanding architecture as a material practice and an intellectual discipline is highlighted. Vitruvius's work provides insight into the theoretical possibilities of architecture, and the space between birth and origin can be a place of overlap between architectural practice and theory. The technical and cognitive evolution in the construction of primitive shelters is highlighted as roots of architectural thinking, addressing complex problems and considering design holistically.

Together, these perspectives reveal the richness and complexity inherent in architectural practice, which continues to challenge conventional perceptions and stimulate innovation in the field of art and design Weiss (2023). Architecture is presented as an art with intrinsic value, reconciling its practical function with its aesthetic Winters (2023), Thomas (2015) examines the influence of English-speaking authority on Roman architecture, highlighting the prioritization of practical solutions over aesthetic considerations. A shift towards more experimental architecture is noted in the 1st century, challenging established conventions and exploring the versatility of building blocks and classical orders. It is concluded that Roman architecture experienced an evolution towards greater diversity and stylistic expression, especially in the Roman East. On the other hand, Claus (2023) offers a comprehensive vision of marine architecture and its relationship with visual and sound artists. Technoetic Arts (2019) examines how the synchronization of sound and space in architecture can create more sensitive and emotional buildings.

Likewise, Trubiano (2022) advocates an architectural theory that closely integrates construction practice. Totten (2022) analyzes the integration of architectural criticism in the evaluation of video

games at the Smithsonian American Art Museum's (SAAM) Arcade: Game Spaces event. Furthermore, Totten (2017) explores video games as an art form and its relationship with architecture, while Sánchez-Moscoco (2020) reflects on the impact of architectural design in contemporary artistic dissemination centers. Mohammad & Alabdulla (2022) examine the role of creative practice in the landscape design process. Zangwill's Theory of Aesthetic Creation and Stefano Fillipi's Form Based Design approach are used. Students designed a private garden related to an artist's home, using artistic principles as inspiration. The study shows that students were able to successfully translate artistic principles into their landscape architecture design, learning about the aesthetic creative approach and the importance of non-aesthetic properties in design quality. Goldstein (2020) concludes that the golf courses designed by Stanley Thompson in Canada are more than just sporting spaces, they are also expressions of national identity. He compares Thompson's influence with that of other contemporary artists, such as members of the Group of Seven, to demonstrate how different types of artists used the landscape to express Canadian national ideas. This highlights the importance of landscape in the construction and expression of national identity in Canada.

Schützeichel (2013) that the role of empathy in architectural conception reveals how psychological sensitivities influence the way we perceive and design our built environment. Additionally, Feuerstein and Read (2016) propose integrating performance into architectural design as a way to foster a deeper connection between people and their environment. On the other hand, architecture not only reflects human creativity, but also the social and political complexities of its time. As Delso (2018) discusses from the Israel-Palestine conflict to sensitive historical issues, scholarship on architecture as art reveals the discipline's ability to address and express a wide range of social and cultural concerns. Likewise, Franco (2018) highlights how artistic policies and cultural traditions are intertwined in the narrative of architecture as art, contributing to the expression and understanding of national and cultural identities.

Architecture as art plays a fundamental role in the construction and expression of national and cultural identities. As Lazutina et al., (2016) points out, "each building, each structure, becomes a testimony of human creativity and a reflection of the aspirations and values of a society at a given moment." In this sense, architecture transcends mere functionality to become an art form that shapes and shapes our physical and symbolic world. For his part, Patterson (2020) examines how architectural developments not only seek economic development, but also create notable representations of specific places. Through a comparative study of two museum expansion projects, she analyzes how the production process affects the meanings attributed to the buildings. Using a cultural pragmatics approach, it is shown that they are a form of social performance, where the actions of developers influence how the public perceives and attributes meanings to the final buildings. This research expands the understanding of iconic power and demonstrates how theories from cultural sociology can be applied to the study of urban development. In that line, Galeta (2020) in his study examines the role of national houses in Bohemia during the Austro-Hungarian era, highlighting their importance as cultural and social centers that promoted national identity. These houses, owned by private associations, were multifunctional spaces that not only served as meeting places, but also as commercial and cultural centers. Studying it provides a deeper understanding of the social and political dynamics in the region during that period. And finally, Holloway (2013) highlights that organizational leadership can influence the perception of identity through art and architecture. It emphasizes the relevance of these decisions in the decision-making of organizations and proposes a conceptual model for future research in this area. Therefore, this research carries out a bibliometric analysis of the research carried out on Architecture as an art.

## 2. Methodology

The study method corresponds to the bibliometric analysis of the scientific production of architecture as art, based on the Scopus database. Bibliometric studies summarize both the scientific

production, authors and journals in which the works were published, and also reflect the trends of scientific production in a field of action (Rodriguez-Ulcuango et al., 2023; Ayaviri-Nina et al., 2023). The research approach is qualitative, exploratory and descriptive.

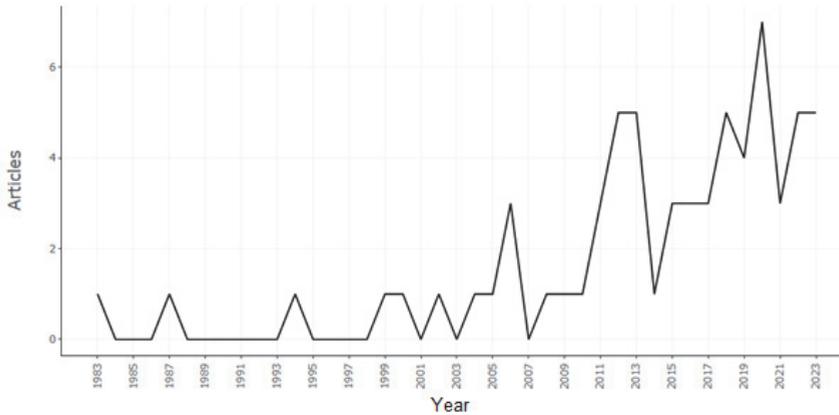
**Table 1.** Search criteria and analysis parameters

Search criteria	
Database	Scopus
Language	English and Spanish
Analysis period	1983-2023
Consultation date	March 21, 2024
Document types	Scientific articles
Magazine type	Any kind
Field and search terms	All fields
Fields and search terms	TITLE ("Architecture as art") OR TITLE ("Architecture as art")
Total result	66
Parameter analysis Annual scientific production. Scientific production by country. Productivity by type of institution Most cited articles. Magazines with the most publications on Architecture as art. Keywords and relationship with other topics. Main research trends (thematic map)	

### 3. Results

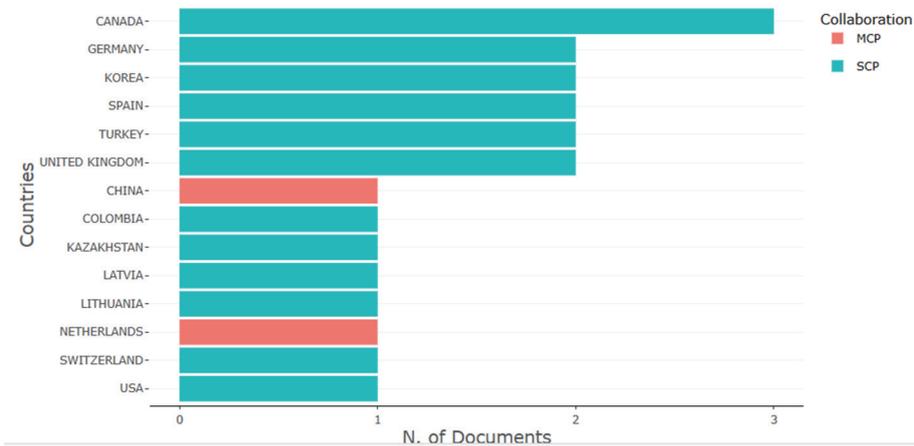
This section presents the results of the scientific production of architecture as art, specifically the total scientific production, and the production according to the authors, the ranking of magazines that publish on architecture as art; the correlations of thematic axes and the tenures to the builder in relation to other themes.

Figure 1 shows the growth of publications from 1983 to 2023. The first article was published by Bershadt, with the title Middle Byzantine art and architecture in the magazine *Semiotica*, in 1983. Later Barnett published *The Art and Architecture Thesaurus as a Faceted MARC Format* from *Visual Resources* magazine, in 1987. While Cowan published the article *Architecture as the Art of the Possible* in the magazine *Architectural Science Review*, in 1994. The publications were maintained with a single article in some years until 2005, and in 2006 the first peak occurred in which 3 articles by the McKay authors were published, with the article *Art and architecture as seven coin types* in the journal *Ancient Coins of the Graeco-Roman World: The Nickle Numismatic Papers*; Marpillero, with the article *Art as landscape as architecture /Arte come paesaggio come architettura* in the magazine *Lotus International*; Kraftl (2020), with the article *Ecological architecture as performed art: Nant-y-Cwm Steiner school, Pembrokeshire* in the magazine *Social and Cultural Geography*. Another important peak of publications occurred in 2012 with 5 articles and one of these authors Cachorro Fernández, with the article *Geometry in architecture and art of the 20th century: The cube as reference shape | Geometry in architecture and art of the 20th century: The cube as a formal reference in Goya* magazine. Likewise, in 2013 there are 5 articles and the authors of one of the publications are Feuerstein, M. Read with the article *Architecture as a performing art* in the magazine *Architecture as a Performing Art*. The maximum is 7 publications produced in the year 2020, in which one of the publications is carried out by the authors Chernyh and Raspopova with the article *Font as a category of aesthetics and a means of communication in design, art, and architecture* in the magazine *IOP Conference Series: Materials Science and Engineering*. Then by 2023 it has been reduced to 5 publications and the author of one of the publications is Claus with the book *The Ocean as a creative experience: architecture, art, and music*.



**Figure 1.** Annual scientific production (Source: Own elaboration based on Scopus data, 2024)

In the bibliometric analysis, it is important to make visible the institutions that made the most contributions and, consequently, the countries and the journals (Yagmur et al., 2020; Mukherjee et al., 2022; Alsmadi et al., 2022; Chen et al., 2022; Bahuguna et al., 2023). Thus, figure 2 shows the 14 countries that have made the best performance and contributions in the construct of architecture as community art (SCP) and collaborations with other researchers from other countries (MCP). At the top of the ranking, Canada leads with three publications. Germany, Korea, Spain, with 2 publications.



**Figure 2.** Scientific production by country (Countries of the corresponding author)

In relation to the contribution of universities in scientific production on architecture as art (figure 3), those that stand out for their contribution Max-Planck- Institute for Ornithology, Shanghai Jiao Tong university, Tyumen Industrial University, University of Twente with three affiliations. Concordia University, Near East University. Pavlodar Estate Pedagogical Institute, Tyumen State University with two affiliations. Art Academy of Latvia, Comsats University Islamabad with an affiliation.



Figure 3. Productivity by type of institution

Table 2 shows the 14 most cited authors and articles in relation to the study variable. The most cited topics undoubtedly offer relevant topics about Architecture as an art and its relationship with other variables that open a range of possibilities to create or expand other lines of research.

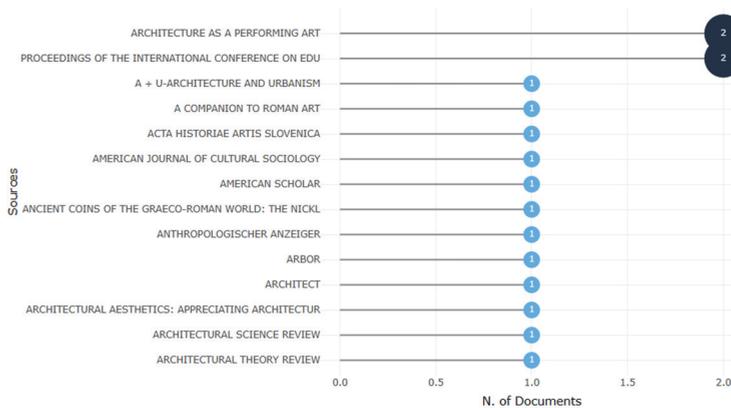
The study of architecture as an art encompasses a variety of perspectives and approaches, as evidenced in a series of outstanding works in the discipline that have been recognized by the scientific community as the most cited. From reflection on the interaction between art and nature in educational contexts to the analysis of political and cultural influence on architectural conception, the authors have explored various facets of this multifaceted discipline. As Kraftl (2006) notes with 32 quotes, "the relationship between art and nature is essential to early childhood education and the ethical practices associated with the construction and daily use of school buildings." Cucuzzella (2020) with 13 citations indicating Urban ecoart works not only point out ecological problems, but also educate and mobilize the audience, taking advantage of public space as a means to raise awareness and promote actions related to environmental issues. Ribes (2019), with 13 quotes, also emphasizes the potential of these practices to stimulate creativity and learning in students of different educational levels, and seeks to share experiences and knowledge to enrich art teaching in an interdisciplinary context. Day (2017) then with 12 quotes emphasizes that these principles and guidelines will be useful to a wide range of professionals and stakeholders in architecture, including architects, builders, planners, developers and homeowners. Whitehead (2005) with five citations analyzes architectural and art history projects at the National Gallery after the mid-19th century, focusing on the presentation of art history in exhibitions and reconstruction practices of exhibits that reflected partially contemporary attitudes toward art history due to political and practical circumstances that complicated the implementation of museological theory. He also discusses how this influences the physical restoration of historic exhibition spaces. Furthermore, as suggested by Klahr (2011), also with 5 quotes, he concludes that the evolution of emblematic cities such as Berlin reflects broader transformations in the cultural and artistic identity of nations.

The arrival of digital technology has posed new challenges and opportunities for contemporary architecture, as highlighted in the Performalism approach as proposed by Picon (2013) in the same way with 5 quotes, who points out that this approach is a tool to address the transformations. In the period of analysis, the magazines that published about Architecture as art reach according to the equation TITLE ("Architecture as art") OR TITLE ("Architecture as art") 97% of publications, Two articles with 26 citations, do not correspond to the study of Architecture as art.

**Table 2.** Most cited articles (Source: Own elaboration based on Scopus data, 2024)

Rank	Authors	Title Article	Citation number
1	Kraftl (2020)	Ecological architecture as performed art: Nant-y-Cwm Steiner school, Pembrokeshire	32
2	(García et al., 2020)	State of the art of mobility as a service (MaaS) ecosystems and architectures-an overview of, and a definition, ecosystem and system architecture for electric mobility as a service (eMaaS)	29
3	(Rasheed et al., 2020)	Conjugated supramolecular architectures as state-of-the-art materials in detection and remedial measures of nitro based compounds: A review	26
4	(Cucuzzella et al.,2020)	Eco-didacticism in art and architecture: Design as means for raising awareness	13
	(Ribes et al.,2019)	The classroom as a sounding board for sonorous creation: New architectures and technological tools to bring the art of sound to education   The classroom as a sounding board for sound creation: New architectures and technological tools to bring sound art closer to the educational field	13
6	Day (2017)	Places of the soul: Architecture and environmental design as healing art	12
7	(Whitehead et al.,2005)	Architectures of display at the National Gallery: The Barry Rooms as art historiography and the problems of reconstructing historical gallery space	8
8	Feuerstein and Leer. (2013)	Architecture as a performing art	7
9	Patterson (2020)	Architecture as performance art: evaluating "iconic power" in the development of two museums	6
10	Delso (2018)	Concrete punishment: Time, architecture and art as weapons in the Palestinian-Israeli conflict	5
eleven	Perez (2013)	Architecture as a performing art: Two analogical reflections	5
12	Picon (2013)	Architecture as performative art	5
13	Klahr (2011)	Munich as Kunststadt, 1900-1937: Art, architecture, and civic identity	5
14	Barnett (1987)	The Art and Architecture Thesaurus as a Faceted MARC Format	4

Figure 4 shows the most relevant sources. "Architecture as a Performing Art" and "Proceedings of the International Conference on Education" highlight 2 documents each. While the other sources have a single document, which is found within the equation TITLE ("Architecture as Art") OR TITLE ("Architecture as Art").



**Figure 4.** Most Relevant Sources

The relationship between research keywords associated with other topics is an important element in bibliometric analysis, since it allows identifying areas of knowledge and topics related to the construct and its analysis (Naruetharadhol and Gebsumbut, 2020; Sigala, 2021; Yildirim and Esen,

2023). Figure 5 shows that the research on Architecture as art in 2010 was directly related to the study of building, culture, artistic element tourism and indirectly to architectural criticism. Between 2012 and 2014 it was directly related to aesthetic experience, behavior, brain attention, eye movement. Between 2016 and 2018 it was directly related to complexity, aesthetics, territorial dispute, cultural conflict, communication, visual arts, priority journal, review, artistic and creative activity, design and indirectly with monument, geopolitics, time, space, ornaments and demolition. As of 2020, it is directly related to dialecticism, engagerhent and indirectly to cultural pragmatics, common architecture, auditory and visual, le modulor, complex integrations, multimodal passenger and pedagogical practice. This allows us to affirm that these variables configure the spectrum of lines of research generated by the phenomenon under study, within a changing scenario.

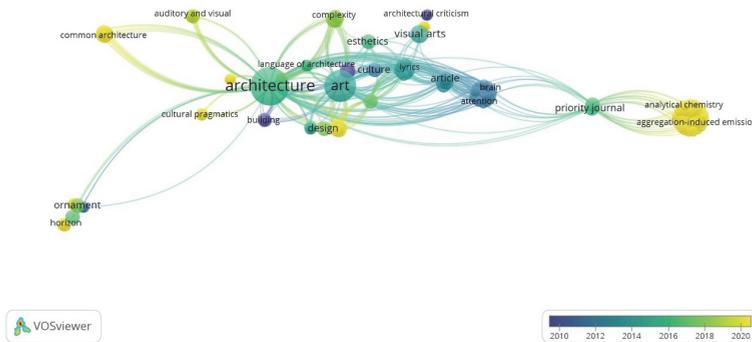


Figure 5. Key words and relationship with themes (Source: Own elaboration based on VOSviewer)

To visualize the trends in research on architecture as art, an analysis is carried out based on the themes developed. Figure 5 shows the thematic map of the areas or themes related to the construct, its importance lies in the identification of the relationship and trends that exist between architecture as art and other areas of knowledge (Ruiz-Ballesteros and Hernández-Ramírez, Stone and Nyaupane, 2018; Likewise, it is also important to reflect both the basic themes and the trends of the research addressed in relation to the topic, see figure 6.

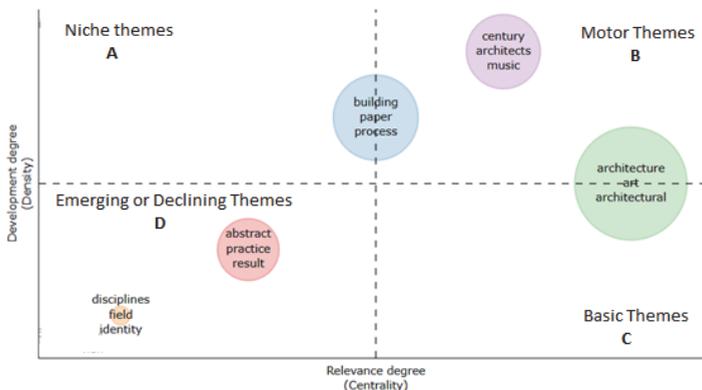


Figure 6. Main Research Streams (Source: Own elaboration based on Bibliometrix, 2024)

As shown in quadrant B, the central themes that highlight Century, Architects, music which in the context of architecture as and art form is notable. Throughout the centuries, architects have been influenced by music, seeking to express their ideas and emotions through the creation of architectural spaces. Architecture itself has often been compared to a musical composition, where elements are combined in a harmonious, rhythmic and contrasting manner, Nilsson, Dunin-Woyseth and Janssens (2017) explore the dynamic development of research in creative areas such as architecture, design, music and arts for more than two decades. It focuses on the lack of a clear definition of the concept of "PhD" in these fields and provides various perspectives on how to evaluate research in them. With contributions from international experts, conceptual frameworks, experiences from doctoral programs, and possible future directions are discussed. It highlights the importance of considering the specific context and tradition of programs, proposing different avenues for future advancement in these areas. Furthermore, music has inspired architects to design spaces that evoke sensory and emotional experiences similar to those experienced with music; Thus, Branden (2016), in his book "Experimentations" offers a detailed analysis of John Cage's aesthetic work from the 1940s to 1972, focusing on his interest in visual arts and architecture. His musical innovations, such as the introduction of noise and random techniques, are explored, along with lesser-known concepts such as transparency and virtuality.

Furthermore, the development of his avant-garde aesthetic and political project is followed, from its historical influences to its impact on later movements such as Fluxus, culminating in his retirement after facing difficulties with the composition "HPSCHD" in 1967-69. In turn, the architecture has provided stages for musical performance, with spaces specifically designed to optimize acoustics and the listening experience. That is, these words highlight the close relationship between architecture and music over time, demonstrating how both fields complement each other and enrich the human experience. However, Cleridou and Furnham (2014) analyzed how personality influences aesthetic preferences in art, architecture and music. Five artistic styles were identified and openness to experience was found to be the strongest predictor. Preferences were consistent in art and architecture, but less so in music. Factors such as gender, ethnicity and artistic experience also played a role. Implications and suggestions for future research are discussed.

In quadrant B and C there is an intersection that indicates a basic and at the same time dynamic investigation between architecture and art. In the analysis of architecture as an artistic expression, the convergence between quadrants A (Niche themes) and B (Motor Themes), where "building", "paper" and "processes" are linked, reveals a significant relationship. This crossover suggests an interplay between specialized themes and broader trends in architecture. For example, the connection between construction and processes could explore how innovations in construction affect methods, Kite (2004) highlights the connection between aesthetics and tectonics in Modernism, focusing on Adrian Stokes and Ezra Pound. Both review classic concepts in relation to the machine age. Stokes (1902-1972) highlights the importance of architecture as the mother of the arts, with psychoanalytic implications, he underlines the fundamental importance of architecture to understand art and ourselves. Furthermore, the inclusion of "paper" suggests the importance of theory and communication in the design and construction processes. In short, this intersection highlights the complexity and interdependence of various aspects in the study of architecture as an art form.

Finally in quadrant D, in the context of architecture as an art form, the relationship between emerging or declining themes is manifested through two sets of words: the first encompasses "disciplines", "field" "identity" while the second includes "abstract" practice" and "result." This connection suggests an interesting dynamic in the evolution of architecture as an artistic discipline. The first set of words reflects the development and essence of architecture as a field of study and practice. For example, emerging disciplines may indicate new areas of focus and specialization within architecture, Shrestha (2018) in relation to the international Bridges conference, founded in 1998 by Reza Sarhangi in Kansas, Southwestern College, explores mathematical connections in art, music, architecture, education and culture. It is noted for its multidisciplinary approach and has grown to

become one of the world's leading interdisciplinary conferences over the past two decades. It has attracted participants from all over the world and has traveled to North America, Europe and Asia, Sütterlin (2014), refers to the increase in the study of fine arts, architecture, music and literature from the perspective of human ethology and evolutionary psychology. In 2011, the "Ethology of the Arts" research group was formed to better understand the various facets of the arts, considering the phylogenetic adaptations that have influenced human artistic abilities.

It focuses on universal trends in human perception and behavior, and seeks to contribute to interdisciplinarity in evolutionary art research, especially in visual and verbal art, music and architecture, while declining disciplines may represent areas that have lost relevance in the current environment. Furthermore, the concept of identity highlights the importance of architecture as a cultural and social expression, which may be changing over time, Savova (2010) describes the vitality and importance of community culture in Bulgaria, epitomized by the community cultural center, the chitalishte. Despite the economic challenges, the community finds in the chitalishte a safe haven to share traditions, music and camaraderie. Through the narrative, it is highlighted how the community comes together to preserve its cultural heritage and find solace in unity and shared creativity, despite adversity.

On the other hand, the second set of words refers to more practical aspects of architecture and the results it produces. For example, emerging practices could relate to new design methods or innovative construction techniques, while declining practices could refer to traditional approaches that are being replaced by new technologies or trends. The results of these practices may also reflect changes in society's perception and valuation of architecture.

From another view it can be interpreted that: In the context of "architecture as art", the term abstract refers to the exploration of non-figurative forms and concepts, challenging traditional conventions and encouraging new interpretations of space. Architectural practice involves the dedication and skills necessary to carry out projects, including design, planning, and collaboration with various stakeholders. The results in architecture as art go beyond the mere functionality of buildings. Baskaya (2002), who takes the work of Oswald Mathias Ungers as a reference, states that it stands out above the trends of contemporary modernism, functionalism and postmodernism. Among his projects are notable works such as the German Museum of Architecture in Frankfurt and the Cube House in Cologne. Ungers introduced novel concepts such as "the city in miniature" and "formal transformation", redefining architecture as an art rather than simply a construction technique. Its approach seeks to create independent architectural forms that, although they have a function, are not exclusively determined by it, seeking to inspire emotions, promote human interaction and reflect cultural and social identity, giving rise to works that transcend their utilitarian function to become symbols of creativity and artistic excellence; That is, this relationship between emerging or declining themes and sets of words offers insight into the evolution and diversity of architecture as an art, as well as changes in the practice and perception of this discipline over time.

#### 4. Conclusions

The bibliometric analysis of architecture as art shows that during the study period scientific production shows a limited and non-continuous behavior of one article per year from 1983 to 2005; then there is a growth in 2006 to three articles, declining again to one article in the years 2008 and 2010, and then growing to a scientific production of five articles in 2011 and also in 2013, having its maximum scientific production in the year 2020 with seven articles. Although there is growth mainly from 2006 to 2020, this is not exponential, so there are many topics to be studied about Architecture as an art, which means that the field of study is important because it is an area with potential in the generation of future research and its relationship with other areas of knowledge that would allow it to be published each year in a relevant manner.

In the ranking of the first 14 countries, Canada, Germany stand out, followed by Spain Turkey, United Kingdom, China, Colombia as a Latin American country; In the same context, the scientific

contribution according to institutions, those that stand out for their contribution Max-Planck-Institute for Ornithology, Shanghai Jiao Tong university, Tyumen Industrial University, University of Twente with three affiliations are among the most important. The most prominent articles with the highest number of citations within the analysis group correspond to authors who publish topics related to planning, community development and sustainability. Between 2016 and 2018, the study was directly related to complexity, aesthetics, territorial disputes, cultural conflicts, communication, visual arts, priority journals, reviews, artistic and creative activities, design and indirectly with monuments, geopolitics, time, space, ornaments and demolition.

As of 2020, it relates directly to dialectic, engagement and indirectly to cultural pragmatics, common architecture, the auditory and the visual, complex integrations, multimodal passengers and pedagogical practices. This shows that these variables make up the spectrum of lines of research generated by the phenomenon under study, in a constantly changing context. Finally, the theoretical implications related to architecture as art constitute a significant contribution to the construction of knowledge and the scientific structure around the analyzed variable and the elements related to it; Consequently, the link between architecture as art and other areas of knowledge is diverse and rests on the theoretical approach according to the context and approach assumed by researchers. Finally, new trends or emerging themes open a range of new lines and research topics that will continue to contribute to the strengthening of research on the variable architecture as art.

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