

Architectural Ethnography on Refurbishment of Postindustrial Districts: A Case Study of Southern Yangpu Waterfront in Shanghai

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Abstract. This study highlights the need of revitalizing postindustrial districts in contemporary urban regeneration plans, with a specific emphasis on the commonly neglected element, the "user" experience after renovation. By using ethnographic approaches in architectural analysis, which is originally a human-centric methodology in sociology, this study reveals the intricate socio-cultural dynamics present in these refurbished places, emphasizing their ability to foster community involvement and cultural rejuvenation. Through deep examination of the case site, the southern Yangpu Waterfront in Shanghai, this research emphasizes the importance of observing and analyzing user experience in renovated environments, particularly in the refurbished postindustrial districts. Case studies suggest that from various architectural attributes of the refurbished postindustrial districts, such as architecture design, landscape design, installation design or applied technology, it is feasible to explore the connections between architectural features and the "user factor". This approach that uses empirical evidences could not only enriches the comprehension of the multifaceted nature of postindustrial refurbishment at the site but also underscores the importance of user-centric design principles in constructing inclusive and vibrant urban spaces. Ultimately, these findings contribute to the ongoing discourse on how postindustrial landscapes might be transformed and provide valuable information for designing ways to improve user experiences in urban planning. It also promotes the continuous exploration and enhancement of ethnographic methods in architectural research.

Keywords: Urban Renewal; Adaptive Reuse; Postindustrial District; Public Art Space; Architectural Ethnography.

1. Introduction

A great number of cities have been transitioning from their phase of urban expansion into the phase of urban renewal from the end of 20th century to the beginning of 21st century. Contemporary urban renewal plans are increasingly acknowledging the significance of redeveloping and "refunctioning" postindustrial districts, thereby converting wasted lands and unused property into revitalized public spaces. These urban development projects require a highly comprehensive approach that encompasses the conservation of historical sites, the reestablishment of ecological balance, and development of creative innovation, ultimately leading to a complete transformation of urban landscapes. Abandoned industrial lands and the sites, commonly termed "brownfields", are now commonly convert into vibrant public spaces according to postindustrial refurbishment plans. The design of postindustrial landscape also appears to form its own language, such as the use of industrial remains, which forms a unique style.

Since the 1980s, the use of ethnographic approaches has been an important avenue of inquiry in the field of architectural studies. Ethnography, a discipline grounded in sociology, involves engaging in intensive participant observation in order to obtain profound understanding of the behaviors, interactions, and cultures of individuals or groups within particular circumstances. Architectural ethnography explores the complex connections between humans and their environment by studying the details of everyday life. It provides insightful viewpoints on construction, space, and urban planning. While current research extensively explores public perception and human issues in landscape design, there is limited focus on the actual experiences of visitors in renovated surroundings.

This article uses the ethnographic technique to explore the complexities of user interactions with structures and public places, within the given context.

This study embarks on an ethnographic exploration of the southern Yangpu Waterfront, a century-old industrial sector situated along the Huangpu River in Shanghai's Yangpu District. Three distinct features of the site were firstly identified: a waterfront, an art space, and a creative industry zone, which contribute to the specific description of the site. Focusing on the completed architectural designs as case studies, this research aims to intend to uncover the underlying meanings hidden within architectural and urban design interventions. The research adopts a qualitative approach, employing participant observation to delve into the intricacies of user experiences. It is hope that the study could contribute to existing literature by offering empirical insights into the user experience within postindustrial landscapes, by bridging the gap between design intentions and lived experiences and enrich understanding of the transformative potential of postindustrial refurbishment in contemporary urban renewal.

2. Literature Review

2.1. Definition of Postindustrial Refurbishment

Since the previous century, there has been a global occurrence of resurrection, reclamation, or redevelopment of postindustrial heritage. Certain individuals have effectively transformed abandoned industrial land, commonly referred to as "brownfield", located within a heavily exploited downtown area, into a rejuvenated public space. At present, the process of postindustrial refurbishment has generated a consensus upon social needs and requirements: the refurbishment movement could turn field regeneration and renovation into a commercial campaign, which in turn facilitates a procedure that progressively promotes the city's functional transition, social integration, and cultural preservation and innovation [1]. Notable examples of successfully revitalized postindustrial sites include refurbished parks such as Gas Work Park in Seattle, Parc de La Villette in Paris, Landschaftspark Duisburg-Nord in Germany, or art and cultural spaces such as Ruhr Industrial Base in Germany, Tate Modern in London.

The practice of postindustrial refurbishment could be referred to as postindustrial landscape design. The term "landscape" encompasses both constructed structures and natural or manufactured greenspace, as well as the dynamic relationship between them. The design system embodies the forming of its own distinct language that is derived from the organizational logicity inherent in industrial production. For example, its elements include the arrangement of the factory reflected by the production process, the excavation or changing of natural terrain, and the overwhelming sensation from massive-scale facilities [1]. Postindustrial greenspaces possess unique aesthetic qualities as a result of the exceptional attributes of industrial remains as elements [2]. Postindustrial artifacts establish a connection between humans and nature, as well as serving as a material reminder, a means of social identification, and a way to express cultural locality [3].

2.2. Ethnography in Architectural Study

Ethnographic method has been one of the research methods within the field of sociology that has been utilized in architectural studies since 1980s'. Ethnography is essentially a data-collecting methodology based on in-depth participant observation of certain individuals, groups or cultures.

Donald Schön's work, *Educating the Reflective Practitioner*, and Dana Cuff's *Architecture: The Story of Practice* were the first to apply it to the field of architecture. Performing an ethnographic observation in the analysis of one architecture or one architectural typology can provide deeper insights into the daily lives within the place and its socially constructed nature. These insights cannot be reached from a distant, superficial overlook of the subject. By presenting architecture as a composition of heterogeneous elements, such as interactions between humans and nonhumans, architectural ethnography has the potential to significantly influence people's perspective of building, space and urban design [4].

2.3. Ethnographic Research in Postindustrial Refurbishment Study

At the moment, scholars have seldom examined or observed the visitors' "user experience" following the completion of refurbishment. The "public perception on design intention" is subject of one article, while another analyzes on "human factor" to enhance greenspace [5]. Both publications, at most, prioritize appearance and attractiveness over ordinary substances that influence people more through everyday activities, a phenomenon that might be further supported by conducting ethnographic research.

This article employs an ethnographic methodology to thoroughly examine how users routinely interact with buildings and public spaces. The primary emphasis is on exploring the implicit meanings associated with architecture and urban planning. The objective is to monitor user experiences, behaviors and expectations within a particular case site, the southern Yangpu Waterfront. This will provide further insight into how the unconscious habits and reactions of urban residents are a manifestation of the aftereffects of postindustrial reformation.

3. Southern Yangpu Waterfront

3.1. History of Southern Yangpu Waterfront Refurbishment

Yangpu Waterfront is a century-old industrial sector that stretches along the 15.5-kilometer-long Huangpu River waterfront line in Yangpu District, north-east of Shanghai. The southern part of Yangpu Waterfront contains 12.93 square kilometer space in total, making it the largest industrial base in modern China and leaving behind rich industrial heritage that sets it apart from other sections of the Huangpu River (Huangpu and Xuhui Waterfront and North Bund). The UNESCO (United National Educational, Scientific, and Cultural Organization) refers to it as the "world's largest remaining riverside industrial belt" [6].

During the middle-later period of the industrialization in China (from mid 1980s' to late 1990s'), Shanghai shut down or relocated many of the production factories due to pollution concerns and urban growth. Due to factories' long-term abandonment and lack of maintenance, the building shells, infrastructures, landscaping, and the entire site grew dilapidated, even facing demolition. Until 2010, local government took up the procedure for registration and preservation, saving the majority of the district's industrial heritage [7]. The government file, *Construction Plan for the Huangpu River Riverside Area 2018-2035*, states that Shanghai intended to permanently change the land's use from industrial to commercial, and to reposition Yangpu Waterfront so that it is dominated by ecological landscape, technological innovation, and cultural creativity, leisure, and recreation [8].

3.2. Features after the Refurbishment of Southern Yangpu Waterfront

In addition to the design language of postindustrial landscape mentioned above, Yangpu Waterfront is characterized by the following features combining with postindustrial reformation. When Yangpu Waterfront hosted the SUSAS (Shanghai Urban Space Art Season biennial) in 2019, these features appeared for the first time. From then on, visitors expectation and perception of the site are mainly to experience the industrial elements with waterfront, art space, or creative industry zone.

Waterfronts are composed of the water bodies, embankments and riverside land spaces, all of which can provide valuable spatial resources for public activities. Many port cities around the world have faced the problem of industrial revolution and changing in shipping industry which led to renovation, and they have used urban waterfronts as neoliberal urban experiments [9]. Contemporary waterfront public space usually functions as a linear urban system rather of being a monofunctional engineering construction [10].

Art space, especially the public kind, has gained great achievements in leading the improvement of cityscape and the upgrading of urban industries. Public art works encompasses various fields such as sculptures, landscape, and installations. Art form is also proved to be a suitable carrier for conveying the spiritual significance and value of space like the postindustrial remains [11].

Creative industry zone (Chuang Yi Yuan Qu) refers to a commercial area that supports firms that derive momentum from individual creativity and talents that create potential wealth and employment opportunities, making this an extremely fashionable concept in current Chinese commercial designs. Creative industry often focuses on the design and technology support of creative products, such as advertising, architectural design, public relations and media.

These three features and postindustrial districts have formed a symbiotic relationship: on one hand, factory-level scale provides creative workers with huge and flexible spaces to engage in scenery display and artistic creation, and postindustrial districts are typically compatible with convenient downtown transportation and affordable rent; on the other hand, the industrial pollution to the local environment could be mitigated by the functional replacement, thus enhancing the urban appearance, and human access assures that the building will be constantly under attention, preventing it from falling into disrepair once again [12].

These three features will also be useful when describing particular site functions in the case studies that will be discussed later in relation to Southern Yangpu Waterfront.

4. Case Study and Ethnographic Observation

According to official statistics, up to now, there are 67 official historical buildings in 24 locations within the area of southern Yangpu Waterfront, of which 38 buildings are certified industrial-related. This article roughly classifies the architectures in southern Yangpu Waterfront into four functional categories: adaptive reuse, landscaping, situational design, and technology, although some functions may overlap on the same architecture. The subsequent phase involves examining the ways in which the various expressions in functions impact the factor that is people, or users.

4.1. Adaptive Reuse and Social Activities

Adaptive reuse is an approach widely used in designing postindustrial landscapes, due to the benefits like retaining identity of the locality, saving cost and energy, or extracting distinctive design elements. Large amount of the renovated factories in southern Yangpu Waterfront fit in the definition of adaptive reuse -- mostly being old factories or warehouses converted into museums or art galleries and open space turn to squares or gardens. Occasionally, part of the building would be turn into giftshop or coffee shop. One particularly interesting instance is a road gateway connected through an old electronic factory.

Open spaces in southern Yangpu Waterfront that have undergone adaptive reformation are aimed at producing a social value for residents' outdoor activities. According to Danish scholar Jan Gehl's definition of "spontaneous activities," and "social activities", spontaneous activities refer to activities that people are willing to engage in under the conditions of time and location, including walking, breathing fresh air, sunbathing, staying to pass time, etc. High-quality public participation must rely on various social interactive behaviors, such as children's games, conversations, and performances [13]. During the adaptive reformation of Yangpu Waterfront, thoughtfully design elements -- ramps converted from deactivated dock, flood control wall jointed by steel-board walkways, anchor piles turned into node of seating area -- are catered for forming a pleasant, aesthetic open space for kids to play sports, for adults to linger, socialize, or produce content online. Additionally, the adaptive reformation of the Yangpu Waterfront incorporates meticulous design elements to promote social engagement and create spaces conducive to various activities, contributing to a lively community ambiance.

4.2. Landscaping for Photographers

Being referred to as "brownfield", the image of industrial land is often associated with waste and pollution. Since the initiation of postindustrial refurbishment, landscape designers had made the effort to solve remaining issues such as degradation, eutrophication, desertification, and contamination in order to alter public impression on postindustrial district. From the standpoint of public perception, it

is found that the degree of perception is directly and positively correlated with the representational landscape elements of the site, such as the presence of Rainwater Gardens, historical sculptures, interactive installations, etc. [5].

However, when the feature of user experience is involved, more detailed features need to be taken into account. When experiencing the waterfront as a tourist destination, what most visitors would notice is the buildings on the opposite bank -- which happens to be Shanghai's central business district. Due to its prime viewing location, the southern Yangpu Waterfront side of the architectures are designed with the goal of serve as a decorative foreground for photographs. For instance, Hills of Green was intended to function not only as a garden-formed landscape architecture with only photographic value, but also to perform as a large-scale step-elevating observation deck. As a result, Hills of Green is now an internet-famous check-in spot.

4.3. Situational Design and Residential Memories

Situational design is a user-centered design method, which was initially proposed by UI designers Hugh Beyer and Karen Holtzblatt. Through a "user-oriented" starting approach to perceiving surrounding environment, the postindustrial districts manage to regenerate their past memory of being the carriers of industrial development and primary platforms of the production activities. The style, layout, and structure of factories, along with the cultural heritages such as equipment, techniques, and processes, have undergone historical sedimentation and accumulated irreplicable allure overtime [14].

Preserving historical and monumental residential areas was also a major challenge during the reformation of southern Yangpu Waterfront [8]. As a result, although the destruction of certain area is inevitable, the spirit, memory and local identity of actual living people are preserved in the form of art. The involvement of aesthetic method, with thoughtful situational design, enhances people's sense of identity and belonging. For instance, one of the installations at the site, Mills Corridor, functionally solves the traffic problem due to the height difference between high pile wharf and flood control wall. In addition, the designer intended to reshape the daily life of the site, which was the Yihe Textile Mill, inspired by equipment of the factory, such as the relationship between the pillars and threads on a cotton spinning machine. From the interview with one of visitors who used to be dwellers in the factory residency, the situational installations, sculptures and other detailed designs well-connect the past to current, thus have appeal of visiting.

4.4. Reshaping Experience by Creative Technology

Influences from technology permeate nearly every aspect of modern life, as seen in the wide range of technical advancements observed in refurbished southern Yangpu Waterfront. The applicant can be classified into three primary categories: engineering technology, ecological technology and creative technology. The reformation of waterfront visibly showcases the engineering techniques, as demonstrated by the transformation of functional ramp facilities into a technical complex that harmoniously and carefully incorporates ramps, corridors, and lounging places. Example for ecological technology is the Yong'an Warehouse, the implementation of ecological technologies preserves its historic architecture while enhancing sustainability, utilizing features such as natural ventilation, renewable energy generation, rainwater harvesting, and ground-source ventilation [15].

The impact of creative technology is substantial, especially for Yangpu district, which has actively promoted itself as an innovation center since 2010 and has played a key role in nurturing the development of creative industrial zones -- southern Yangpu Waterfront being one of the experiments. A key feature of the postindustrial era is the development of science and technology as the primary driving force for social and economic activities, with the main mode of social resource transmission shifting from the transfer of material elements in the industrial era to the innovation of knowledge and information. The design of postindustrial open place, as a result, express efficiency, productivity and multifunction. The transformation of the original "water extraction production line" facilities into a pump pit art space can accommodate various activities such as art exhibitions and rock climbing. The coal production line as an example, designers have transformed the space originally used for coal

transportation into a space for transporting people through functional transformation and structural sorting and have reserved a multifunctional space in the tower crane that can be used for a water-supply restaurant [16]. These designs are appropriately retained as memory clues and then regenerated into situational experiences that can be experienced in daily life.

5. Suggestion

5.1. Ethnography in Architectural Study

A large number of Chinese cities that have experienced a period of extensive industrialization now have remnants from their industrial past scattered throughout historical downtown areas. Because of the high value of the land they are located on, most of the heritage sites would be dealt with in two opposite and extreme ways: either industrial architectures would fall into monotonic and uninteresting reformation, which may even result in a complete loss of their original identity; or the protective principle of registered relics would indifferently strictly prohibit any action other than retaining the object in a "stagnant state" [6].

The newest proposal is to take into account the planning, land usage and functions when dealing with the issues involving the placement of these central-area industrial heritages. This is necessary in case the previously completed reformation is unsuccessful in assimilating the district back into the active local economic and cultural activities. Similar sites -- meaning public space redeveloped from postindustrial districts -- in China, include Shougang Park in Beijing, O·POWER Art Center in Shenzhen, Shidai Park in Shenyang, Water Culture Ecological Garden in Changchun, Ersha Cultural and Innovation Zone in Zhengzhou, etc. The majority of similar sites in China are either still undergoing micro updates or have only recently started allowing public access. Conducting ethnographic research in Shanghai can transform valuable lessons to these sites, particularly when Shanghai has always been acting as a frontier for policies, plans, and strategies.

5.2. Promoting Ethnography in Architectural Studies

One of the fundamental publications in the area, *walking in the European City: Quotidian Mobility and Urban Ethnography* by Timothy Shortell, indicates that seemingly mundane activities alone, like walking, may serve as the source of social observation and invaluable research material [17]. In a way, ethnographic observation can be considered as an efficient approach with a bountiful yield and hence should be more encouraged.

Through direct physical presence on the site, hands-on interaction with tangible objects, and reflections from the use of a slow, careful, and thoughtful epistemic method, researchers may establish a stronger connection between the "user factor" with the broader spatial and temporal parameters. They recognize that architecture is not merely a physical construct but a lived experience shaped by social interactions, cultural meanings, and historical contexts. By immersing themselves in the everyday lives of individuals, researchers gain insights that transcend conventional architectural analysis, offering a more holistic understanding of the built environment. The further integration of ethnographic methodology into architectural research practices holds immense potential for unraveling the complexities of architectural production outcomes and is anticipated to substantiate its intrinsic value and epistemological relevance.

6. Conclusion

The findings of this study indicate that ethnographic observations conducted in the Southern Yangpu Waterfront area revealed detailed experiences and expectations regarding architecture and public space designs. Through in-depth participant observation, the study has discovered the subtle yet profound interactions between users and their redeveloped surroundings, providing insight into the effects of postindustrial refurbishment on the everyday experiences of urban residents.

Upon further investigation, it can be determined that post-industrial refurbishment encompasses more than mere architectural modifications to a space. It also involves the restructuring of social and cultural processes. By comprehensively looking at user behaviors and perceptions, future planners can gain a deeper understanding of the fundamental nature of urban design, thereby offering a more user-centric and pragmatic direction for future urban planning and development.

This study holds valuable implications for future research in this area. It not only expands the understanding of post-industrial refurbishment but also provides practical insights for urban designers and policymakers. Future research should focus more on participatory design and the social implications of urban spaces, especially for other newly-developed sites in China. This could also allow scholars to further explore the impact of post-industrial refurbishment on urban sustainability and social cohesion.

Currently, this article primitively explores the impact of postindustrial refurbishment on people, as a general collective entity. A comprehensive ethnographic investigation should conclude at this point: it is essential to consider additional aspects such as meticulous adaptations for child-friendly, elderly-friendly, and accessibility design, as they greatly influence the overall appearance of the site; furthermore, the signage, guidance, and information provided to assist visitors in navigating the site also serve as indicators of the design intention, site maintenance, and future updates. Encouraging the study of additional factors is necessary to develop more comprehensive methodologies and model references for future urban renewal plans and research in this field.

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