

# Split the River Edge in Derry

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**Abstract:** This essay first explains the importance of Foyle River to Derry City and the relevant content of Foyle River Edge and analyzes how to split the independence of the hard edge of Foyle River. In addition, it also studies how to split the convention of urban edge space with obvious boundaries while discussing how to split this hard edge, laying a theoretical foundation for the construction of architectural space functions and its spatial order and place image. On this basis, combined with practical cases, it seeks ways to split the constraints of rivers in urban edge space, explores ways to enhance the sense of identity, experience and place, and realizes the communication and integration of people, buildings and nature, providing a theoretical basis and thinking strategy for activating urban edge space, while promoting the vigorous development of the community and creating a vibrant riverside edge.

**Keywords:** Foyle River; River Edge; Split Edge; Blur Edge; Urban edge space; University Lane.

## 1. Introduction

The Foyle River divides Derry into two distinct parts, the waterside and the cityside. Two sides have a strong sense of separation from one another because of the contrasts in social, economic, and cultural factors that exist between them. In light of this, it is necessary to point out that the Foyle River is a significant boundary of the city of Derry. In addition, it was an important factor during the industrial age in Derry. Not only does it serve as a significant water source and transit channel for the city, but it also encourages the growth of a wide range of industries, including the maritime industry, shipbuilding, textiles, tobacco, and food processing, among others. The historic industries of Derry rapidly decreased in the latter part of the 20th century, despite the fact that they had created a firm foundation for the city's whole economy. Today, Derry is continuing to make use of the resources provided by the Foyle River in order to diversify and modernise its economy through the development of areas such as tourism, technology, and services. With the passage of time, Derry will no longer require such a distinct dividing line. It is important to think about ways to make the rough urban edge less noticeable.

Current research on the edge of urban waterfronts has mainly focused on the land perspective and has failed to include the waterside. However, as Bruttomesso said: Water is not only a resource for ports and industrial uses, but also the edge of waterfront cities; it is also a feature of waterfronts and the complex relationship between water and cities. [1] On the other hand, the existence of the Foyle River harbour not only helps to stimulate the economy of the surrounding area, but it also enhances the commercial appeal of the city core of Derry as a whole. As a result, the purpose of this article is to redraw the boundary between the water and land of the Foyle River, taking into consideration its form, its function, and the changes that have occurred over the course of time.

Phytology College is located at the intersection of University Lane and Foyle River, which is also considered as the urban fringe of Derry. As a result, while we are contemplating the possibility of blurring the boundary of the Foyle River, we need to think about how to develop the land on the urban fringe. The urban fringe space is the boundary

between the architectural space that is contained within the city and the environment that is located outside of the city. It is not only subjected to the gravitational pull of the inside enclosure, but it is also subjected to the tension that is caused by the link to the outside. It is the third sector that connects the inside to the outside of the city, and it serves as the intermediary between the inside and the outside of the city. As a result, a good marginal space has the ability to effectively realise the integration of the building environment and the city by balancing the contradiction that exists between the building and the urban environment. At the same time, it establishes a new order, which makes it the essential component of architectural design and the visual order at the same time.

## 2. Background

Looking at this satellite photo, this is everything about Derry, its ancient city walls, the Foyle River, the streets, the historic buildings, the oak forests, the tree-lined avenues that run through the city. We can see everything important about Derry on the satellite map (Fig.1), except for some details. Walking along Foyle Road is like the Foyle River flowing along the riverbed. This movement from south to north has been formed unknowingly for thousands of years.



Figure 1. Satellite Map

Foyle River is the habitat of many animal and plant species, which helps to maintain the biodiversity in the region; Foyle River provides important freshwater resources for agricultural irrigation, industrial water, and domestic water for residents; Derry Port relies on Foyle River for maritime trade and transportation, which is vital to the local economy; Foyle River is the dividing line between the waterside and cityside areas of Derry; Foyle River sustains the local fishing industry and agric. As a result, the Foyle River has a significant and multi-faceted influence on the city of Derry. Because of its significance as a river, it has played a vital part in the development of history, the economy, ecology, and social culture.

The Derry Wall is one of the city walls from the 17th century that has been kept the finest in Europe. Bishop Street is a thoroughfare that takes in the entirety of Derry and extends along the Derry Wall. Additionally, there are a great number of significant historical buildings and relics on Bishop Street, which are of significant historical and cultural significance; the commercial district of Derry is concentrated on Bishop Street, which contributes to the growth of the local economy; there are a great number of educational institutions and libraries on Bishop Street, which provide educational resources for the people who live in the surrounding area. As a result, Bishop Street is not only the conduit via which Derry's history and culture are transmitted, but it also plays an important part in the city's economy and educational system. Because of its practicality and its location in the heart of Derry, Bishop Street is an essential component of the city.

The location is at the end of Bishop Street as well as the end of the lane that leads to our university. Additionally, it is the point where Bishop Street, University Lane, and Foyle River merge into one another. However, because it is located a considerable distance from the city centre, the spaces that surround it do not have any active places that have social, ecological, and environmental repercussions, as well as contact with the river edge, which are characteristics of urban areas, particularly with regard to University Lane.

The image on the right depicts the immediate surroundings of the site.



Figure 2. River edge Environment

### 3. Content

The reasons for splitting the river edge will be discussed from two aspects of waterways.

#### 3.1. Foyle River

Water has been present within public spaces since ancient times. However, aquatic space became the subject of spatial planning only at the end of the 20th century[2]. During the

latter half of the 20th century, there was a significant amount of focus placed on the influence that water had on the development of urban spaces, particularly in waterfront locations. On the other hand, aquatic space is rather infrequently regarded to be a spatial resource that ought to be developed in conjunction with nearby land. In the long run, taking into consideration the life cycle of the space and planning at The University of Derry, it is essential to incorporate the element of water, which is Foyle River, into the process of planning the university's physical space.

When a site space has both land and water, it may be limited by a single edge of buildings, infrastructure or greenery, while on the other side, open water or the other side of the river can be seen. This space can be limited from both edges and contain water in the middle to form a "water street". Finally, some spaces may be surrounded by multiple walls to form a "water square", or multiple water surfaces to form a water central island, forming a complex spatial system.[3]

However, as a river flowing into the sea, the Foyle River also experiences tidal changes. The tidal type of the Foyle River is a semidiurnal tide, which means there are two high tides and two low tides every day. [4] This is due to its connection with the Atlantic Ocean. This tidal phenomenon has an important impact on the river's ecosystem, economic activities and community life. Therefore, local ports and shipping companies also rely on tide tables and prediction tools to plan activities to ensure safety and efficiency.

Although the annual tidal variation of the Foyle River is not significant, as Erin mentioned in the article "Redefining the Edge Life Without Levees": Storms will eventually come, and their risks are a known fact.[5]

Many cities have been troubled by river tides, and they have made different choices for different problems. For example, Rome is located at the bend of a large river and has experienced many floods throughout its history. The Romans possessed the skill to construct long-lasting structures, yet they were unable to safeguard themselves from the Tiber River. The occupants' false sense of security was a result of relying on the superficial protection offered by flood barriers. In Rome, the inhabitants recognised the authority of the river and choose to accept the repercussions of floods instead of attempting to manipulate or dominate it, thus embracing a coexistence with the natural phenomenon. Three In New Orleans, Morphosis suggested a comparable concept, which involved reconstructing the city rather than constructing flood barriers. In order to shape its future, the city must relinquish a certain degree of authority over the river. An optimal resolution in this situation would be to construct buoyant dwellings. Morphosis holds the belief that architecture is the genuine remedy for the multitude of intricate challenges confronting our city. Architects must commence the design process prior to the occurrence of a calamity. Mayne also contends that design and infrastructure can be utilised to mitigate the extent of harm. [5] Both the macro and micro perspectives are rooted in this view. In particular, challenging the tradition of trying new floating house infrastructure on dense urban development sites to control the tidal changes of the river, that is, floating houses, is a good choice.

The Foyle river possesses not just a natural function as a waterway, but also holds significant cultural, economic, and historical importance for Derry and its neighbouring regions. Londonderry experienced a surge in maritime activity during the 19th and early 20th centuries, mostly attributed to the favourable geographical characteristics of the River Foyle.

The region has high levels of cargo transportation and port trade, which in turn facilitate the growth of diverse enterprises associated with these activities. A multitude of manufacturers were strategically situated alongside the River Foyle, enabling them to exploit the river's hydroelectric power and transportation infrastructure for the efficient distribution of their goods to broader markets. Nevertheless, in the past several years, there has been substantial revitalization of the River Foyle's banks. The Derry Municipal Corporation is dedicated to converting the riverfront region into a cultural and recreational centre with the aim of enticing tourists and stimulating economic growth.

Furthermore, the Foyle river holds significant importance in both geographical and political contexts for Derry. Due to the division of Derry by the Foyle river into the waterside and the cityside, and the complex historical background of Derry, particularly during the Northern Ireland conflict (The Troubles), there were significant divisions and conflicts between the Catholic and Protestant communities within the city. The river serves as a tangible and mental obstacle, restricting the exchange between neighbouring villages on either bank. Over time, the river underwent transformations not just in its physical characteristics, hydrological patterns, and ecological makeup, but also in its societal significance. The urban and industrial transformation also altered the dynamic between the two banks of the river. These alterations deviate from the path of the Foyle river. Urbanisation frequently exerts a more significant influence than industrialization. Regardless of the extent and nature of the changes, the river has transitioned into a new era. The construction of the Peace Bridge has resulted in the growth of business and residential areas on both riverbanks, drawing in investments and tourists, thus fostering the local economy's progress. The Peace Bridge enhances both the city's transit and infrastructure, while also fostering connections between populations previously separated by violence, both psychologically and socially.

Maps from 1689, 1799, 1870, 1904, 2024 show that although the city area continues to expand and the width of the river channel changes due to the accumulation of sediment, the shoreline of the Foyle River has always remained similarly hard. (Fig.3) Combined with what was mentioned above, now driven by the University of Derry, the hard riverbank line of Foyle river is no longer in line with the mainstream of current social development and should be appropriately blurred.



**Figure 3.** Maps from 1689 to 2024

Mohammed Qasim Abdul Ghafoor mentioned in his article "Place identity in defining urban space of border rivers in historical city centre": In cities, architectural space can be transformed into place because architecture does not only include traditional values such as housing, human protection, stability, etc., but can carry other dimensions beyond housing or building occupation, or develop urban design. The visual movement of the river is a way to show its slow-moving dynamic process, which is only measured by time and the lives of citizens. The river paths in traditional cities can be seen as alleys connecting urban spaces.[6] Therefore, when the foyle river is not regarded as a river, but as a vital road, it needs to be naturally integrated into other streets. An entrance that can actively accept it is crucial here. Of course, it is worth mentioning that the architectural design of this entrance, which is the site here, should be designed in an open form.

### 3.2. Urban Edge Space

In contemporary culture, a multitude of unconventional and peculiar concrete structures have become the prevailing feature of urban areas. The prevalence of glass walls and standardised high-rise structures has led to a diminished appreciation and comprehension of the natural world among individuals. While there is a global enthusiasm for discovering innovative architectural designs and experimenting with novel construction materials, only a minority of individuals are ready to pause and reflect on the fundamental principles of architecture and the requirements of urban environments.

The University of Derry is situated along a significant historical centre axis, which spans from Bishop Street to Shipquay Street, across the Peace Bridge and reaching St Columba Road on the waterside. The university employs schist as a design language for the purpose of urban and architectural development. A pedestrian corridor has been created as an intermediate area that runs alongside the centre axis, linking seven colleges - Microbiology College, Phytology College, Mineralogy College, Ecolonomy College, Ecosophy College, Hydrology College, and Pedology College. The path can function as an urban corridor that fosters community events, allowing residents and students to fully engage with the culture of Derry and investigate the enigmas of Schist University.

The Phytology College, which serves as the culmination of the university, is situated on the outskirts of the city, which is simultaneously the intersection of the city and the suburbs. Because it is located in close proximity to the Foyle River, which is home to a plethora of plant species and sufficient water supplies, this area is home to a large number of animals. The most important thing is to figure out how to include the Foyle River into the university pathway while making the most of the characteristics of the location. It is a carrier that architecture is. For the city to continue to grow in a sustainable manner, it is essential to construct a building that is vibrant and to create an urban edge that is vibrant.

#### 3.2.1. The edge space of the building has a fuzzy range

The logic of urban development always leads to the emergence of urban space boundaries. These boundaries can be objective, such as geography, administration, etc., or subjective, such as based on tradition and social norms. From the satellite map, it can be clearly seen that the city boundary line of Derry is very obvious. For the edge space of the city, these spaces are both extensions of the central area of the city and components of the external environment of the city, with

both enclosure and open space characteristics. Therefore, the space on the edge of the city should have fuzzy boundaries to reduce the feeling that the city ends abruptly on the map, which has creative significance for the future development of the city. The fuzziness of the definition of the edge space of the city means that the edge space of the building also has uncertainty. This functional fuzziness enriches the possibility of urban space form and behavior, increases the interest and sensibility of the space, and makes the edge space a dynamic place and visual center with multiple functions. Edward believes that the vague and ambiguous spatial definition makes the urban edge serve both the internal buildings of the city and the external environment of the city, making it both an extension of the central area of the city and an important component of the external environment of the city.[7] Therefore, the architectural space on the edge of the city is not restricted by specific functions, and its behavior is flexible

and diverse with strong uncertainty. For example, it can have both transportation functions and be used as a leisure space.

The picture on the right is Guy Debord's 1957 *Psychogeographie de Paris*. Speech on the Passions of Love. This work cuts the city map of Paris into different pieces and connects them with red dotted lines, just like recreating new roads. This work reflects the author's idea of trying to establish a new relationship with the city. Kevin Lynch believes that the characteristics of a city are composed of important elements, that is, the overall perception and cognitive pattern of the city in people's minds. The image of a city is not only an objective spatial structure, but also the result of people's subjective perception and emotional experience. He emphasized that understanding and shaping the image of a city is of great significance to urban planning and design, and can help improve the functionality, aesthetics and living quality of the city.[8]

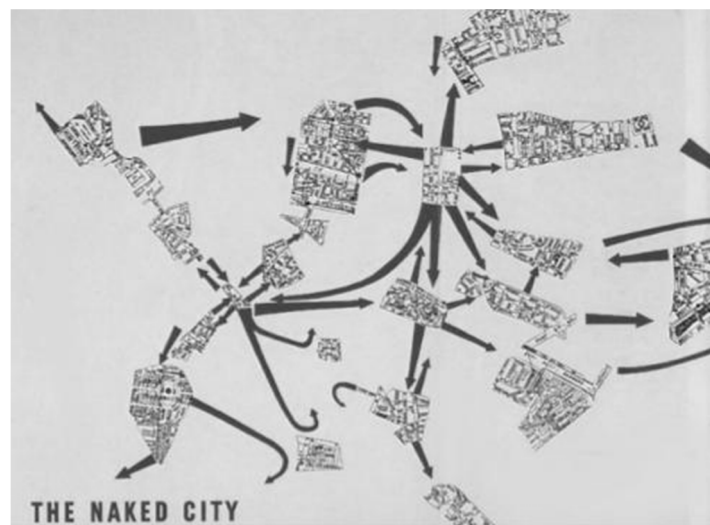


Figure 4. Psychogeographie de Paris

### 3.2.2. Improvisation of spatial experience

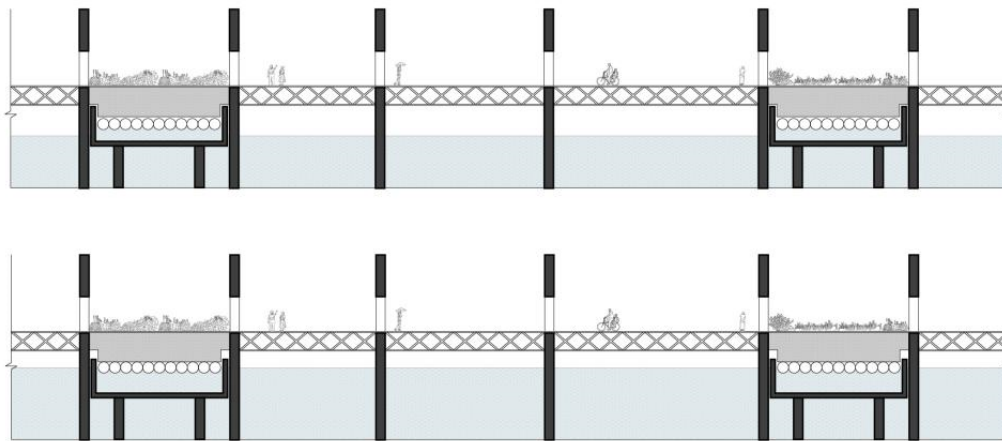
Public Places Urban Spaces: The Dimensions of Urban Design emphasizes that the design of excellent public spaces should not only consider the physical characteristics of the space itself, but also focus on how to promote social interaction and activities among residents.[9] The interactions that occur when urban marginal zones control the functions that take place both inside and outside of the city can lead to the emergence of tensions and contradictions. The sequence of marginal spaces should not be constrained by particular functions; rather, it should be more akin to an improvised theatre scenario that is stitched together by behavioural activities. The venue allows for unrestricted interaction between individuals, and anyone is free to take on any position inside the area at any time. Through the transformation of the scene setting, they are even able to make the decision at any time to fulfil the role of either the audience or the performer. It is characterised by the improvisation of situational space behaviour, which is one of its hallmarks. In Phytology College, for instance, individuals have the opportunity to assume the roles of either students or teachers. However, when people approach the observation platform and take a moment to silently absorb the ebb and flow of the Foyle River, their identities are transformed into that of observers of the environment. At this point in time, they are no longer responsible for the transmission of information or

education; rather, they are in a state of silence and reflection, during which they communicate with nature and enjoy the splendour and strength of the Foyle River. During this peaceful moment, everyone transforms into a fan of natural landscape, moving beyond the daily role positioning and into a more expansive and profound way of thinking and feeling. More opportunities are made available to the space as a result of the river and the city's perimeter being superimposed on each other.

When the water level rises, the architectural space experience that is provided here will give the person who is experiencing it the impression that they are floating. The rising water level not only alters the scenery and surroundings surrounding the building, but it also has a significant impact on people's perceptions and the emotional experiences they have. It is possible that the boundary between the building that was initially fixed and the ground will become less clear as the water level continues to rise. Additionally, the experience of the interior area of the structure will be impacted as a result of this. For instance, the original pedestrian walkway might be transformed into a floating platform, and individuals will have the opportunity to experience something completely different in these altered locations. It is for this reason that taking into account the floating sense of the architectural space experience in architectural design is not just a visual effect, but also a strong emotional experience that causes people to reevaluate the

connection between Derry and the Foyle River. The fluctuations in water levels, both upward and downward, are

also a random behaviour in time.(Fig.5)



**Figure 5.** The location of the floating platform at different water levels

### 3.2.3. Interactivity of the edge space of the building

The architectural space of natural interest is created by allowing sunlight, scenery and fresh air in the urban environment to freely enter the functional space of the building. At the same time, the flow, penetration and integration of space make the marginal space have a certain degree of publicness and openness. The large open interface forms a vibrant place with affinity, which promotes the occurrence of various social activities. The fluidity of urban marginal space comes from a certain area of open space. The friendly and attractive open space stimulates people's social activities, and people can freely set their behavior paths and patterns in such a space, maximizing the public participation and autonomy of the space. Space is the carrier of human behavior and activities. In addition to the use function that needs to be paid attention to, it also encourages people to generate unique spatial memories through interaction with space, thus giving space a vivid and complete connotation. Maurice Merleau-Ponty proposed in "Phénoménologie de la perception" that physical space is closely related to our body or belongings. Their tangible connection can be described by relational terms such as up and down, left and right, far and near, and has irreducible diversity, that is, material space can be transformed into a diverse situational space, and this diversity comes from the situational experience generated by the interaction between people and space. [10] Boyer provides detailed case studies of different cities, emphasizing that different urban designs affect people's memory and perception in different ways. [11] After integrating many elements such as Derry's historical customs and social culture, the University of Derry organized the elements of the river and the city wall with special significance to awaken people's emotions and memories of Foyle River and Derry Wall. People give the University of Derry a new definition and dimension through the interaction between themselves and the space.

## 4. Conclusion

In the essay, the author explores the reasons why the boundary of the Foyle River need to be softened, exploring the topic from two perspectives: Foyle River and Urban Edge Space.

First of all, the piece highlights the significance of the

Foyle River to the University of Derry and its influence on the geographical growth of Derry City. The Foyle River, situated in Derry and its surrounding areas, served as a crucial cultural, economic, and historical asset, functioning as the central hub of a bustling port city. Nevertheless, as the city undergoes alteration and rejuvenation, the role and significance of the river are also undergoing a shift. The essay highlights the ever-changing characteristics of the Foyle River, with a particular focus on the influence of tidal changes on the ecosystem, economic endeavours, and community dynamics. Apart from that, it explores the potential utilisation of floating structures for the development of university facilities.

Furthermore, the study delves into the significance and attributes of urban edge space. In contemporary urban planning, the urban edge has evolved beyond a mere delineation and now encompasses a zone characterised by ambiguity and multifunctionality. The University of Derry employs architectural design and strategically utilises urban space to seamlessly incorporate the Foyle River into both the local community and the academic fabric of the city. This integration not only improves the utility of the space, but also generates a lively and interactive urban environment.

In the end, the goal of separating the edge of the Foyle River is not only to fit the ever-changing characteristics of water resources and the requirements of urban growth, but it is also to maximise the use of urban edge space, as well as to improve its diversity and publicness. For this reason, the Foyle River edge is being divided. By using this approach, not only is the sustainable development of the city promoted, but it also enhances the spatial experience and emotional connection of both residents and visitors, and it even increases the general quality of the urban environment and the experience that people have for themselves on a daily basis. By undertaking an in-depth research of the connection between water resources and building edge space, it accomplishes its goal of offering major theoretical and practical references for urban planning and development. In addition, it does this by giving these references.

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