Bridgescape
as an Assessment Tool in the Socio-spatial and Visual Connections of the Central Urban Areas of Newcastle and Gateshead

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Abstract | Growing roads and mobility have led to the formation of new landscape types: known bridgescape or bridge landscape. The social, cultural, and visual impacts of bridges on their surroundings as drivers and symbols of the development have gained increasing significance in roadscape studies. This article aims to assess the role and design of bridges in the socio-spatial and visual connections of the central urban areas of Newcastle and Gateshead, located in North East England, by the criterion of the bridgescape. The findings of this article show that bridges are not only transitional passages; rather, they can be socio-spatial destinations for people to meet, do collective activities and improve their environmental perceptions. In urban milieu, landmarks have dissimilar impacts on visual connections and bridgescape. Characteristic and contrasting landmarks improve bridgescapes; however, corrupting landmarks have a destructive role in bridgescape.

Keywords | Bridgescape (bridge landscape), Socio-Spatial Connections, Visual Connections.

Introduction

Bridges are a vital element in ground transportation networks, which connect cities, communities and even nations. Within urban areas, bridges not only have a key role in the spatial connection of places but also can facilitate or interrupt social activities. Bridges and their landscape are about people as much as structures. The expansion of cities in the future and new generations also require new bridges and landscape. The bridges are sustained that link the communities and across generations. The planning and design of bridges and their landscape must bridge the past, today's requirements and future developments. Such a comprehensive vision requires a wide range of professionals working in the built environment from landscape architects to structural engineers.

In North east England, the city of Newcastle-upon-Tyne, commonly known as Newcastle, is well-known for its bridgescape. Seven different bridges across a mile long stretch of the river Tyne link the central urban areas of Newcastle and Gateshead. This visuospatial formation has created one of the most dramatic urban landscapes in the country. From east to west in order they are (Pic.1): 1. Millennium Bridge (pedestrian and cycle), 2. Tyne Bridge (road and pedestrian), 3. Swing Bridge (road and pedestrian), 4. High Level Bridge (road, pedestrian and rail), 5. Queen Elizabeth II Bridge (rail - metro line), 6. King Edward Bridge (rail), 7. Redheugh Bridge (road and pedestrian).

Pic1. From east to west in order they are (image no.1 :(1. Millennium Bridge (pedestrian and cycle), 2. Tyne Bridge (road and pedestrian), 3. Swing Bridge (road and pedestrian), 4. High Level Bridge (road, pedestrian and rail), 5. Queen Elizabeth II Bridge (rail - metro line), 6. King Edward Bridge (rail), 7. Redheugh Bridge (road and pedestrian), source: (Google Earth, 2016).

This article aims to assess the role, potential, and design of these bridges in the socio-spatial connections of the central urban areas of Newcastle and Gateshead by the criterion of the bridgescape. It raises this question that how the bridgescape has been able to improve and/or damage the socio-spatial and visual connections between the two city centres. The methodology is based on landscape reading (bridgescape reading) using field observation and of the language and structure that is between landscape components. By categorising the landscape components in three domains of place, human and time, landscape reading is defined as visual, spatial, social and temporary connections.

Bridgescape

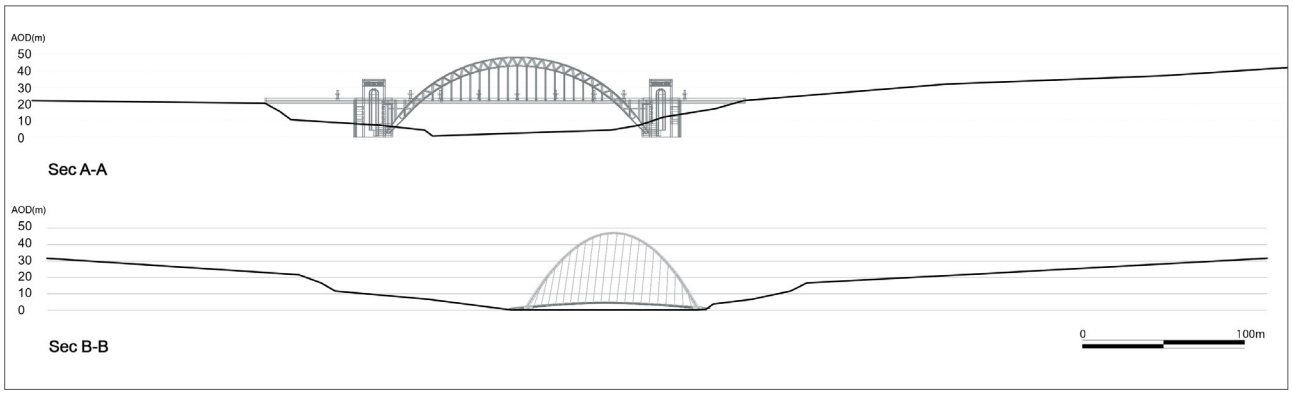
Growing roads and mobility led to the formation of new landscape types: known bridgescape or bridge landscape. The social, cultural, spatial and visual impacts of bridges on their surroundings as drivers and symbols of the development have gained increasing significance in roadscape studies. Reviewing the literature (Gottemoeller, 2004; Matijosaitiene & Samuchovienė, 2013) reveals that bridgescape is seen as a view to/from a bridge (or a group of bridges) with all the surroundings including trees, lakes, rivers, mountains, buildings, and other natural and anthropogenic elements. The perception of such landscape is not limited to the physical aspects and in time and space is constantly changing. For instance, the bridgescape of Tyne Bridge for the citizens in Newcastle is much more than a green steel link. For them, Tyne Bridge is a place of thier everyday social practices and

the symbol of the city that they are proud of (Pics. 4 & 8). These are the fact that the assessment of bridgescape is not only a visual and/or spatial issue. It is also about the socio-cultural connections that bridges facilities between communities and their environment.

Socio-spatial connections

As mentioned in the introduction, functionally, all bridges over Tyne river are different: pedestrian and cycle, road and pedestrian, rail - metro line. In terms of form, each bridge is also different from the others although there is a sense of coherency among them. Each bridge has its own specific design while it does endorse the previous bridges. The latest bridge is Millennium Bridge. This bridge was lifted into place in November 2000 for pedestrian and cycle purposes. The bridge is a big, white, dynamic arch over the river. It is known as "winking eye bridge" because of its tilting feature and eye shape . Hydraulic rams can swing the bridge around to allow ships to pass under it. A tilt bridge is a type of moveable bridge which rotates about fixed endpoints rather than lifting or bending, as with a drawbridge. This feature has created a temporary bridgescape, which is distinguishable from other bridges.

The visual comparison of Millennium and Tyne Bridge reveals that the new bridge endorses the height and shape of the earlier bridge in a cutting-edge language (Pic.2).



Pic2. The visual comparison of Millennium and Tyne Bridge reveals that the new bridge endorses the height and shape of the earlier bridge in a cutting-edge language.
source: Land Use Consultants, 2003 :43

On one side, the use of new technologies has enabled the designers to create a bridge with the lower deck. This produces a closer connection between observer and the river, improving the riverscape. More importantly, the hollow-eye arch (fewer arms) on a wide deck of the bridge has created an urban viewpoint to watch the river, urban edge and other bridges (Pic.3).

Pic3: Pedestrian access and hollow-eye arch of Millennium Bridge have created an urban viewpoint to watch the river, urban edge (right side), Sage building (left side) and other bridges. September 2016,
Photo: Goran Erfani.

This feature has transformed the bridge from a transit space to a destination place, where the pedestrians and cyclists from both cities of Newcastle and Gateshead meet each other, socialise and watch the urban landscape.

The Millennium Bridge has been designed in a way that its landscape fits with the built and non-built environment while answering the todays' functional requirements. The bridge design by considering the view(s) to/from the Tyne Bridge[1] that has cultural heritage significance to the communities of both cities respects to the cultural heritage landscape (Whelan, 2016) of the older bridge. This shows the implication of "the landscape-based approach to urban heritage management" (Veldpaus et al., 2013: 3). These natural and cultural attractions (bridgescape) and facilitating the physical connections have upgraded the bridge from an "abstract and distanced" space into an "embodied and close" experienced place (Hung and Stables, 2011: 199). The spatial practices lead to the construction of a place (Lefebvre, 1991, c 1974; Harvey, 1993; Cresswell, 2004) that not only expands social ties but also improves the emotional bond between the citizens and bridge and place detachment.

Another key bridge in socio-spatial linking the communities of both cities is the High level Bridge. The lower deck of this bridge has been pedestrianised to facilitate walking from Newcastle's Big Market to Gateshead Interchange or reverse.

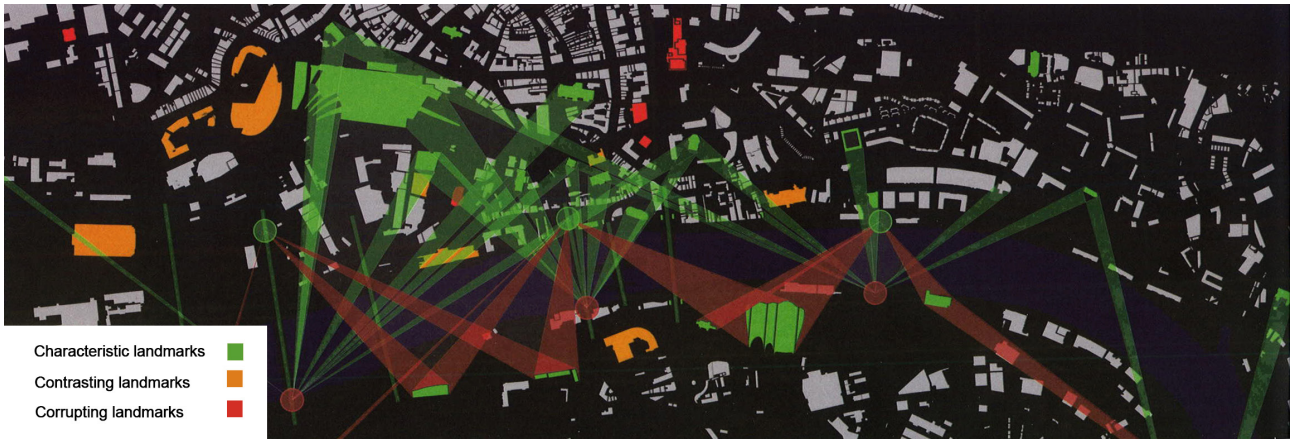
Once pedestrians reach this level of the bridge, they find a platform with no traffic that offers the panoramic views up and down of the river, the views down onto Quaysides and the steel attraction of the High Level Bridge itself. At this moment, the bridge is changed from a passage to an urban viewpoint and also a destination for city adventure. Here is the place to capture the shared riverscape, bridgescape, and urban landscape. Individually, they may have walked through, stopped and taken a Picture here. Collectively, they have watched, run and celebrated shared activities such as The Great North Run[2] (Pic.4).

Pic4: The collective experience of Tyne Bridge during The Great North Run (temporary landscape), Gateshead side, September 2016, Photo: Goran Erfani.

This collective experience during the years for a large group of the citizens is the fact to highlight the role of bridgescape in defining the meaning of place as "social practices in time and space" (Knox and Pinch, 2010: 198). The recognition and promotion of bridgescape by the outsiders, e.g. tourists, is the acknowledgement of the place identity as the socio-cultural meaning of the place (Carmona et al., 2010: 116). This supports the idea of place as "a construct of experience" (Tuan, 1975: 165) and the link between the bridgescape and the construction of the meaning of place.

Visual connections

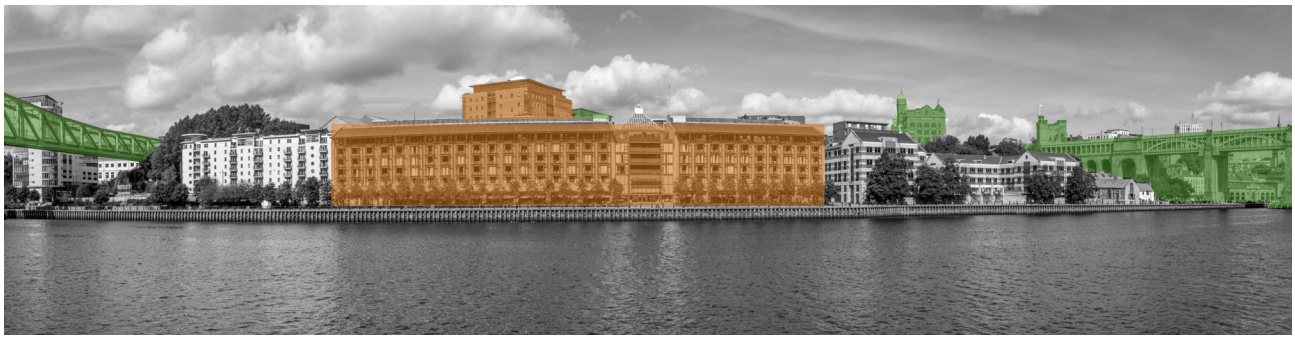
Of the five human senses, the sense of sight is the most vital and frequently used sense to find our ways and orientations. TyPically, the senses of touch, taste, smell, and hearing are useless for objects and activities out of the nearest point for which our hand, tongue, noise, and ears can be accommodated. This is where the sense of sight becomes more important. In urban environments, we perceive a group of colours, forms, and shapes in which some stand out some not. These identifiable elements are landmarks that contribute to urban landscape "in terms of visual quality" (Memlük, 2012: 282). Landmarks guide us to remember the places and find our ways such as a unique structure of a historic steel bridge within a modern urban context. Winskell (2008) in his book, Bridgescape, bridges for people, characterises landmarks into three categories: Characteristic landmarks, Corrupting landmarks, and Contrasting landmarks. This section assesses the role and design of landmarks in redefining the bridgescapes between Newcastle and Gateshead (Pics. 5, 6, and 7).



Pic5: The role of landmarks in visual connections.
source: (Winskell, 2008, p.20).

Characteristic landmarks

These landmarks are those iconic structures which make a city identifiable. They can be a structure with an engineering importance or a building of historic-cultural and/or architectural value. The Tyne Gorge and city of Newcastle are nationally and even internationally recognised for their iconic bridges. The magnificence of the bridges and their grabbing landscape give the observer to perceive a sense of dominance and defining the visual corridors from both the upper and lower Tyne Gorge (Pics. 6 and 7).



Pic6: Visual landmarks at lower eye level, between High Level Bridge (right side) and Metro Bridge (left side). September 2016.
Photo: Goran Erfani.

Walking between the bridges enables the observer to perceive other characteristic landmarks such as Saint Nicolas' Cathedral. The preservation and protection of these urban landmarks is a key strategy in the urban landscape planning regime of the city. To apply this, the urban (re)developments should be planned in a way to consider the location and views of these characteristic landmarks, and they do not seek to capture, conflict, or overwhelm the integrity of existing views.

Pic7: Visual landmarks at upper eye level on Quaysides, between Millennium Bridge (right side) and Tyne Bridge (left side). September 2016.
Photo: Goran Erfani.

Contrasting landmarks

These landmarks are those landmarks that because of their scale, form, shape, and/or colour dominate their surroundings. To an observer, they are identifiable landmarks in the urban landscape context which show the orientation and path. For instance, the scale and mass of Copthorne Hotel reveal its dominant role (Pic. 8), and/or the iconic shape and different materials of the Sage presents this structure as a contrasting landmark on the south side of river Tyne (Pic.3). New urban development schemes must consider the location and the future of contrasting landmarks in their planning. A new structure can redefine a new corner, intersection, and/or midpoint along the routes in a way to guide and motivate the citizens through the city to walk and cycle the river. Newcastle City Council (2010) has introduced a ten-year strategy (2011-2022) to improve delivering cycling in Newcastle. The scheme has 12 separate cycling routes from different parts of the city which reach to a path parallel to the river.

Pic8: The scale and mass of Copthorne Hotel (left side) reveal its dominant role. September 2016.
Photo: Goran Erfani.

Corrupting landmarks

Although corrupting landmarks share several attributes with contrasting landmarks, they can be identified through ttheir destructive role in the urban landscape. TyPically, their form, shape, and/or colour are extremely in contrast with, disturb, and/or dominate their surroundings. A tyPical example of these landmarks is the structures that disrupt the city skyline for kilometres arounds. For instance, the vertical scale of Cale Cross house is echoing a sense of dominant and disturbing the bridgescape of Tyne Bridge (Pic.9).

Pic9: View to Newcastle from Gateshead. Often, the green gigantic structure is used as a symbol of Newcastle to promote public events such as Rugby Games. The vertical scale of Cale Cross house (right side) disturbs the bridgescape of Tyne Bridge. September 2016.
Photo: Goran Erfani.

This issue is repeated by Tyne Bridge Tower that corrupts the bridgescape of Tyne Bridge on the Gateshead side. The planning regime of the city should not approve the structures that corrupt the strategic views of iconic bridges and buildings within both cities. Removing structures like Cale Cross House can improve the physical-spatial character of the place and bridgescape.

Conclusion | Bridges can bring social ties as much as visual and physical linkage. From this angle, bridges are not only transitional passages; rather, they can be socio-spatial destinations for people to meet, do collective actives, and observe the past, present, and future of their environment. The role and design of bridges should facilitate these social activities and sense of place as well as physical connections. They can connect communities and improve their bond with their place. They can also upgrade the perception of riverscape and other natural elements within an urban environment. As the findings show, from a visual perspective, urban landmarks have dissimilar impacts on visual connections and bridgescape. The characteristic and contrasting landmarks improve the views to/from the bridges while the corrupting landmarks have a destructive role in the bridgescape. An important question rises that how bridges and their landscape can link communities and across generations and fills the socio-visual gaps as much as physical gaps. The assessment of role and design of bridgescapes between Newcastle and Gateshead shows that the City Councils seek to respond to this issue. However, as mentioned earlier, necessarily all practical actions have not been able to improve the bridgescapes.

Endnotes

1- This bridge was opened in 1928.

2- The Great North Run is the largest half marathon in the world, taking place annually in North East England each September. Participants run between Newcastle-upon-Tyne and South Shields.

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