

## Body's Movement as Drawing: Notation and Annotation in The Construction of Space at Alun-Alun Solo

(Pergerakan Badan sebagai Lukisan: Notasi dan Anotasi dalam Pembinaan Ruang di Alun-Alun Solo)

Defry Agatha Ardianta<sup>a</sup>, Yandi Andri Yatmo<sup>a\*</sup> & Paramita Atmodiwirjo<sup>a</sup>

<sup>a</sup>Department of Architecture, Faculty of Engineering, Universitas Indonesia, Indonesia

\*Corresponding Author: [yandiay@eng.ui.ac.id](mailto:yandiay@eng.ui.ac.id)

Received 13 January 2023, Received in revised form 3 May 2023

Accepted 6 July 2023, Available online 31 October 2023

### ABSTRACT

*This paper will discuss the study of space quality by reading the body's movement as drawing. The understanding of notation on drawing thinking is used to read the spatial function arrangement in alun-alun, a public open space found in many cities in Indonesia, where there are no solid spatial boundaries. Alun-alun is a public space related to socio-cultural aspects and has a complex layer of events. A certain reading method is needed to reveal the quality of the space, and not only read one layer of conditions. The understanding of notation is used because notational characters beyond visual have time variables and social contexts, opening up the possibility of shared interpretations. The study was conducted at Alun-alun Solo, Central Java, by placing the activity and movement of visitors as an essential element that is present along with the arrangement of spatial functions determined by street vendors and playgrounds. This study was conducted using mapping the notational structure of spaces and tracing the movement of visitors over the spatial arrangement. The findings in this study are the presence of multiple annotations that overlap the defined space. The annotation in the drawing thinking process shows that conditions are considered unfinished, still in progress, and there are simultaneous thought processes in action. The existence of annotations from the visitor's body movement reveals the significance of forming a different quality of space, which is constructed from everyday phenomena and does not depend on the arrangement of the notation that has been determined.*

*Keywords: Spatial quality; body's movement; notation; annotation*

### ABSTRAK

*Kertas ini akan membincangkan tentang kajian kualiti ruang melalui pembacaan pergerakan tubuh sebagai lukisan. Pemahaman atas notasi pada berpikir gambar digunakan untuk membaca penataan fungsi ruang di alun-alun, sebuah ruang terbuka publik yang terdapat di banyak kota di Indonesia, di mana tidak terdapat pembatas ruang yang solid. Alun-alun merupakan ruang publik yang berkaitan rapat dengan aspek sosiobudaya serta memiliki kompleksiti lapisan kegiatan. Dibutuhkan cara pembacaan tertentu untuk mengungkap kualiti ruangnya, dan tidak hanya membaca satu lapisan keadaan. Pemahaman notasi digunakan karena karakter-karakter notasional yang melebihi aspek visual, memiliki variabel waktu dan konteks sosial, membuka kemungkinan adanya tafsiran bersama. Kajian dilakukan di alun-alun Solo, Jawa Tengah, dengan menempatkan aktiviti dan pergerakan pengunjung sebagai elemen penting yang hadir bersama dengan penataan fungsi ruang yang ditentukan oleh pedagang dan area bermain. Kajian ini dilakukan menggunakan pemetaan struktur notasional ruang dan pelacakan pergerakan pengunjung atas susunan ruang tersebut. Temuan dalam kajian ini adalah keberadaan beragam anotasi yang bertindih pada ruang yang ditentukan. Anotasi dalam proses berpikir gambar menunjukkan bahwa terdapat kondisi yang dipandang belum tuntas, masih dalam proses, dan terdapat proses berpikir yang simultan dalam aksi. Keberadaan anotasi dari pergerakan tubuh pengunjung tersebut mengungkap adanya signifikansi pembentukan kualiti spatial yang berbeza, yang justru dibina dari fenomena harian dan tidak tergantung pada susunan notasi yang telah ditentukan.*

*Kata kunci: Pemandu; kualitas ruang; pergerakan tubuh; notasi; anotasi*

## INTRODUCTION

Public open space has complexity regarding its function and the construction of space that bring several discourses related with the characteristics of the open space. This study investigates spatial construction of alun-alun, a public open space found in many cities in Indonesia. On the island of Java, there are at least 90 alun-alun spread over 87 cities (Kohori, Hadi, and Furuya 2019). From the historical aspect, the existence of alun-alun cannot be separated as part of the kingdom from the Majapahit era to Mataram but then experienced a significant increase in number during the Dutch colonial period along with the rapid development of new cities. When viewed from the spatial composition, alun-alun can be divided into two types: alun-alun with *Ficus Benjamina* tree planted in the center of the site and alun-alun with an empty space in the middle (Damayanti and Handinoto 2005). Of the approximately 90 alun-alun on the island of Java, 22 of them are alun-alun with *Ficus Benjamina* trees planted in the center of the site. The tree's existence is a sacred symbol of the harmony between humans and the universe because the Javanese people believe that wisdom comes from the cosmos (Handinoto 1992).

The function of alun-alun has changed from the beginning it was created to its current condition. Initially, the function of alun-alun can be categorized into three, namely (1) to symbolize the establishment of a system of power over a particular territory, (2) to place all ritual celebrations or religious ceremonies, and (3) to demonstrate military power and power and is an instrument of power from the king (Santoso 2008). In current conditions, the function of alun-alun is developing not only as a place for ceremonies but also for trade or markets as well as entertainment facilities (Kohori, Hadi, and Furuya 2019). This condition enriches the complexity of the activities that can take place there and indirectly makes alun-alun more positioned as a public space belonging to the society and not only related to the kingdom's existence.

Several studies on alun-alun that have been carried out have examined the history, meaning, and symbolic aspects of the alun-alun (Handinoto 1992; Ikaputra and Narumi 1994; Damayanti and Handinoto 2005) or also about the characteristics and spatial configuration (Kohori and Furuya 2017; Kohori, Hadi, and Furuya 2019). Regarding the shift in the function of alun-alun, Rukayah and Bharoto (2012) examine how the function of the market or bazaar is present in open spaces, including alun-alun. However, the studies above have not examined the increasingly diverse human presence in alun-alun. It is due to the shift in function has also impacted the complexity of the space created. This paper will discuss the study of

the spatial quality by reading the movement of the human body. This paper argues that the movement of the human body in alun-alun is an essential factor in observing spatial construction. It is because alun-alun has no solid space boundaries and only arrangement of goods from the seller when the market function or entertainment function is in progress.

The reading of human body movement as drawing is carried out in this paper to understand that movement is a line. Humans make lines through speaking, gestures, and walking (Ingold 2007). Walking activities will bring together the human body with a surface like the process of writing or drawing (pencils/pens with paper). According to Ingold (2007), lines can generally be divided into two categories: thread and trace. A thread is a filament of some kind, which may be entangled with other threads or suspended between points in three-dimensional space. They are not drawn on the surface; however, if at a very small scale/microscopic level, they have surfaced. Trace is an enduring mark left in or on a solid surface by a continuous movement. Most traces are of one or other of two kinds: additive and reductive. An understanding of this line when it is related to architectural aspects will relate to how humans think and use the line as a heuristic device and investigative tool (Frascardi 2009), so that the line is not only present as a result but will play a significant role in a process.

Based on the discussion about body movements, lines and drawings described above; this paper aims to reveal how the spatial quality in alun-alun is related to the complexity of facilities and human movements. The understanding of drawing thinking will be used to read the arrangement of spatial functions in alun-alun, where there are no solid space boundaries, but all functions can be arranged with a particular composition. This understanding will also be used to read how visitors move and respond to the arrangement of these functions.

## METHODOLOGY

In general, studies are carried out by conducting field observations and recording through notes and sketches (Lucas 2016). This qualitative method is used to obtain direct observations and feels what is happening on the object of study (Creswell 2003; Groat and Wang 2013). Sketches were chosen as a recording method in addition to written notes. This method allows for translating the researcher's active position in his encounter with the situation in the field (Tayob 2018). The sketches here are positioned not only for illustration purposes but also as investigative tools (Carpo 2013; Cook 2013). In addition

to the observation stage, drawings are also used as a method in the analysis stage. This observation is done because drawing can be positioned like text which can then be analyzed (Troiani and Carless 2015), including a drawing that will support critical analysis of the human body (Janeiro 2019).

### OBSERVING AND NOTATING

To be precise, the study was conducted in Alun-alun Solo, Central java, on the south side. Solo has two *alun-alun* on the north and south sides of the palace, and both are rectangular. Alun-alun Solo was chosen as the object of study because it has developed a function, and currently,

there are various functions such as a night market, and a game area. There are also many food vendor facilities. Referring to the categorization by Kohori, Hadi, and Furuya (2019) then, this south *alun-alun* is the one with the Ficus Benjamina tree in the middle. This *alun-alun* has an area of 4.97 Ha, and the perimeter does not have a fence so that people can access it easily from various sides. In the middle, a circulation path divides *alun-alun* into two sides (east and west). This road stretches right in the middle of the two Ficus Benjamina trees that can be passed by two-wheeled vehicles (Figure 1). The surface of this *alun-alun* is not completely covered with grass, but in some parts, it is in the form of land, which is probably caused by human activities that have been going on so far.

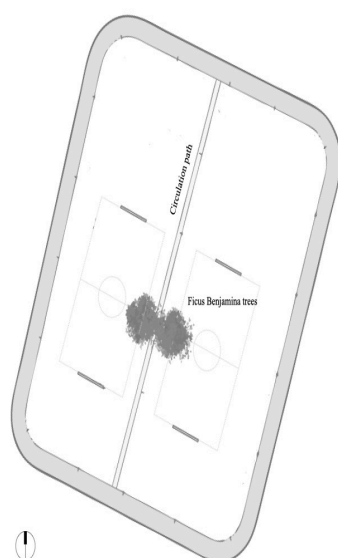


FIGURE 1. Site plan of Alun-alun Solo

The first step in the study was to map the variety and position of the existing facilities there. Furthermore, they were then completed with a sketch of observations about the territorial boundaries of each of these facilities. Almost all of these facilities do not have a marker as a physical barrier. However, each seems to have a position that forms a territory (Figure 2). The sketch of these facilities becomes a tool to investigate the territorial boundaries that exist in an imaginary way and create order (Figure 3). The conceptualization of imaginary boundaries is described as circular in different scales, because it shows that each of these objects can be reached from various directions. Sketching in this condition is done by looking at each object separately and seeing the relationship between objects and their elements (Eeckhout 2021).

The various facilities available in this *alun-alun* include: (1) tent stalls, (2) seating mats, (3) food vendors with carts, (4) goods sellers with mats, (5) static toys, (6) moving toys, (7) painting facilities, (8) playground arena, and (9) football field. These facilities are spread out in a certain amount. However, they do not take up the area of the existing football field either on the east or west side, even though there is no physical barrier between the football field area and the area outside. The description of the facility's position is done by making notations to obtain a mapping of the distribution and configuration of the facility arrangement. This mapping also show the territory formed from each facility (Figure 4). The notational depiction aims to reduce and abstract from the actual object (Allen 2009), facilitating attention to the practical aspect.



FIGURE 2. The facilities

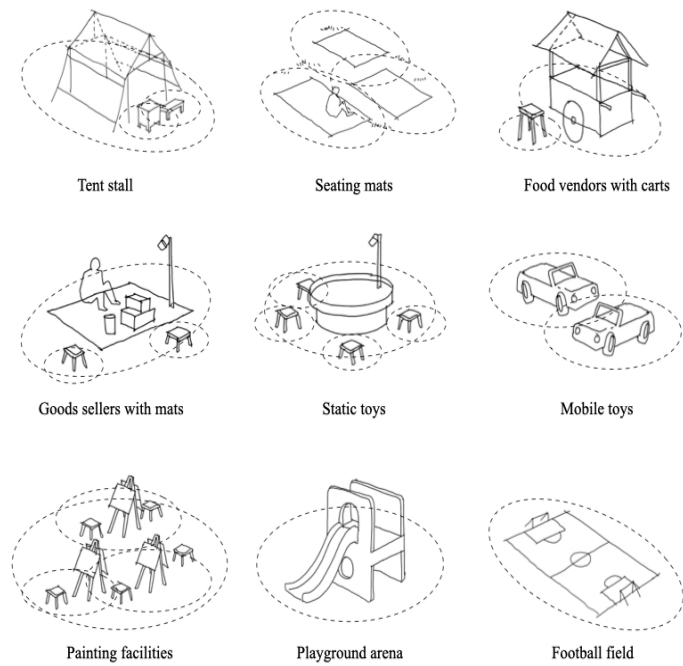


FIGURE 3. Facilities and imaginary territories

Figure 4 shows the configuration of the facility, which also shows areas that tend to be crowded with facilities and areas that tend to be empty. The figure also shows information about what facilities are close together and

which are far from each other. Tent stalls are arranged on the outermost perimeter of *alun-alun* area, both on the north, east, south, and west sides. The numbers on the north and south sides are more than on the east and west sides. The position of the mats is always around the tent stalls.

The space is intended for food buyers in these stalls. What is interesting is that with quite a lot of them, the arrangement of these mats can be pretty close to other facilities, especially the children's play area.

The position of static toy facilities is adjacent to the painting facility and the playground arena. Mobile toy facilities tend to be farther and closer to the football field

area on the east side. This state shows the tendency of the formed imaginary territory to have a larger radius than other facilities. It is hoped that children will not interfere with other facilities when using them. There are quite a few facilities, namely sellers of goods with mats and food vendors with carts occupying the east and west side areas, and some are in the central area of the *alun-alun*.

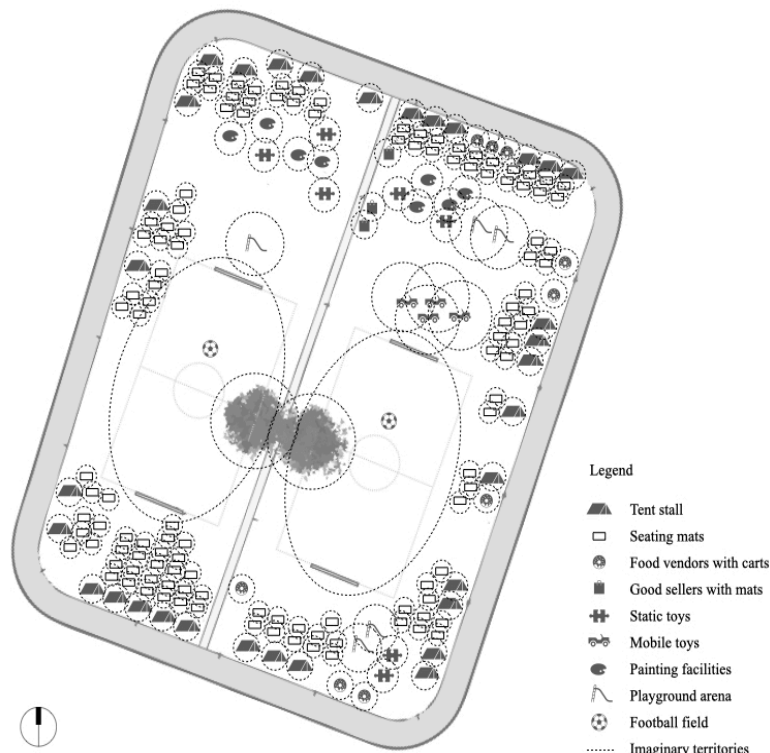


FIGURE 4. Mapping the position of facilities and its imaginary territories

The second step in observation is to record the movement of people from one facility to another. This recording is also done by drawing notation in the form of lines to indicate the direction of movement. This movement drawing activity is not just about body position but also combining the body with the design thinking process (Spurr 2009). The design thinking process here is primarily about acquiring space by body displacement. Observations of human activities and movements in alun-alun are carried out from the afternoon, when the facilities have just been set up, until the evening, when visitors crowd and use the facilities. This observation categorizes visitors into two groups: the movement of children and the movement of adults. This categorization is based on the type of facility dominated by two types of large groups: toy facilities/play areas and food and beverage facilities. This observation of

movement looks explicitly at how they move between facilities and generally circulate the area of alun-alun. The imaginary movement of these lines can be read as an annotation to a pre-arranged order (Fernández Contreras 2022).

#### ANNOTATING AND ANALYSIS

After describing the facilities and the territories formed and the annotation of human movement, the next step is to conduct an analysis that shows the categories of people moving between facilities (Figure 5). This analysis aims to see the movement trend and how it relates to certain types of facilities. Figure 5 shows that children tend to move between toy facilities and playground areas. The

intensity of the movement of children between static toy facilities tends to be higher, which may be due to the relatively close distance. The movable toy facility, which is near the football field, also has many visitors. However, the movement intensity from this facility to other facilities is not too high. Instead, the movement of children while

riding the toy and circling a particular area of alun-alun happened. Interestingly, this movement does not occur much in the circulation area that stretches in the middle of the alun-alun and creates a line from north to south, but instead crosses imaginary boundaries between facilities, including the football field area.

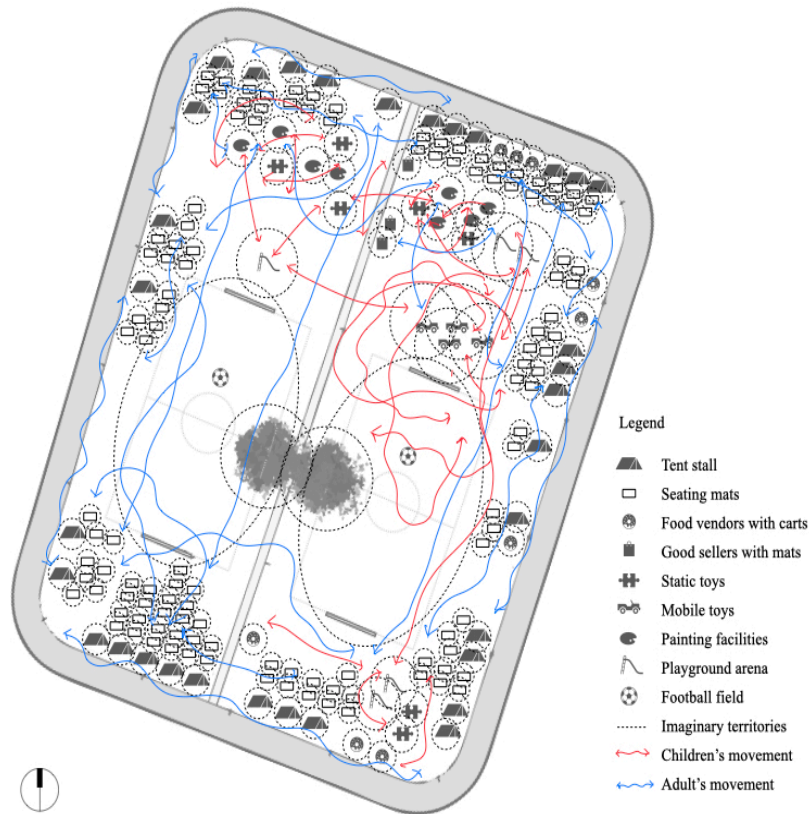


FIGURE 5. Annotation from visitor's movement

Movement of adults tends to occur between food vendors and merchandisers. The movement of adults also tends to have a long mileage, especially because many of them move from the food vendors area on the north side to the south and vice versa. In the toy area, there is also the movement of adults. It occurs because they accompany and supervise their children who are playing. This condition indicates the existence of annotations on the territory of the facilities. The existence of these facilities previously formed the territory. One example found in the observations was when the adults/parents of the little children were waiting and watching, they would acquire space even though there was no seating available, and not infrequently while enjoying food/drinks (Figure 6).

The movement of visitors tends to slightly use the central circulation axis in the middle of *alun-alun* or around the perimeter, but what happens is that they move across the facilities. The position of the food vendors probably causes this condition to be at the edge, not the center of the area. This position allows shoppers who use motorized vehicles to have easy access after parking them on *alun-alun's* edge. However, when they want to walk, they will do so across the imaginary territorial boundaries of each facility. In other words, they annotate the arrangements/notations formed previously due to the facility's configuration.



FIGURE 6. Acquisition of space by adults/parents

## RESULTS AND DISCUSSION

From the observations and analysis, this study found several things related to how the formation of space and territory occurs in *alun-alun* Solo. The activity spaces formed here are not only based on the existing facilities' position and the territory but are also formed by the movement of people across the territorial boundaries. From the accumulation of imaginary lines of human movement and imaginary lines of territory formed by the facility's position, there are at least three findings from the study. The first one is that object positions can form space markers and activity territory. Second, movement annotations can form a fluid and flexible territory. The last is that humans' movements can also form a configuration of space different from the pre-determined arrangement of the general condition.

### OBJECTS AS A SOFT MARKER OF TERRITORIES

In their study of passage territories in the village space, Paramita and Schneider (2018) stated that the formation of passage territories does not have to be defined by a hard perimeter but can also be limited by soft markers from particular objects. The position of the object can form a temporary territory with open characteristics because it is also related to the infrastructure and conditions in which it is located. The study on *Alun-alun* Solo found similar characteristics regarding the formation of territory through the presence of objects (Figure 7). This *alun-alun* has no space boundaries, either between the *alun-alun* and the surrounding environment or within *alun-alun* itself. From a historical perspective, the object in *alun-alun* that marks

the territory is the *Ficus Benjamina* tree in the middle. However, in the current development of the *alun-alun* function, various objects and facilities have a role in the formation of territory. The objects in *Alun-alun* Solo come in various forms, from tent stalls to sitting mats. The complexity of these objects is not only due to their different sizes. It is also from their static or moving positions in relation with programs or functions. The argument that these objects are not a hard perimeter is because they are not intended to limit the area but are present according to their function (a place to eat, play, or sit/rest). Boundaries are formed imaginary and have flexibility because some functions are activities that can be easily moved (toy cars, sliding mats and benches, and others).

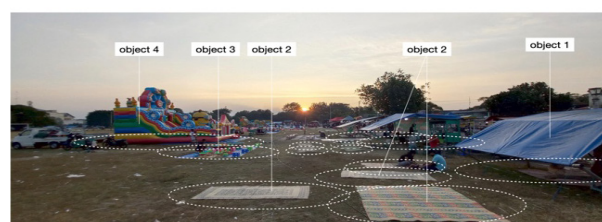


FIGURE 7. Objects as a soft marker

### FLUID AND FLEXIBLE TERRITORIES

The second findings of this study is about layers of territorial temporality. The first temporality is from the facilities that are not permanently present but are only present from the afternoon until the evening. Its temporary presence also presents temporary territory. The second temporality is present through the form of the object/facility itself. Almost all objects have instruments that allow the

intervention of visitors. Objects that tend to be static/ immovable (tent stall, painting, playground, etc) also have flexibility in defining their territory. The devices/ instruments owned by each of these facilities, such as benches, lamp poles, etc. take on the role of territorial markers because these facilities do not have specific physical boundaries. The third temporality is annotating human movement across imaginary territorial boundaries

in each facility. Human/user interpretation creates a more flexible and transitional space that not only blur the boundaries but also the distinction of function (Marlor 2021). This condition causes the definition of territory present in this alun-alun's spatial arrangement to be very fluid and flexible (Figure 8). The action factor of humans becomes essential in the role of forming temporary territory.



FIGURE 8. Three temporalities

MULTI-LAYERED CONFIGURATIONS

The first and second findings indirectly present the third finding, namely the existence of a multi-layered configuration (Figure 9). The layers are the configurations arranged at the beginning before the visitors arrived and when they were doing their activities in *alun-alun*. Buying food, seeking entertainment, and interacting are simple things that are part of people's everyday lives. The quality

of this everyday architectural space seems not to be captured because we are immersed in it (Wigglesworth and Till 1998). However, reading these activities as drawings in this study reveals a difference between the expected spatial arrangement at the beginning and how humans articulate space. Facilities that seem to be arranged in a particular order system do not fully describe how the human body as a user responds and moves in it. This body movement presents another possible configuration.

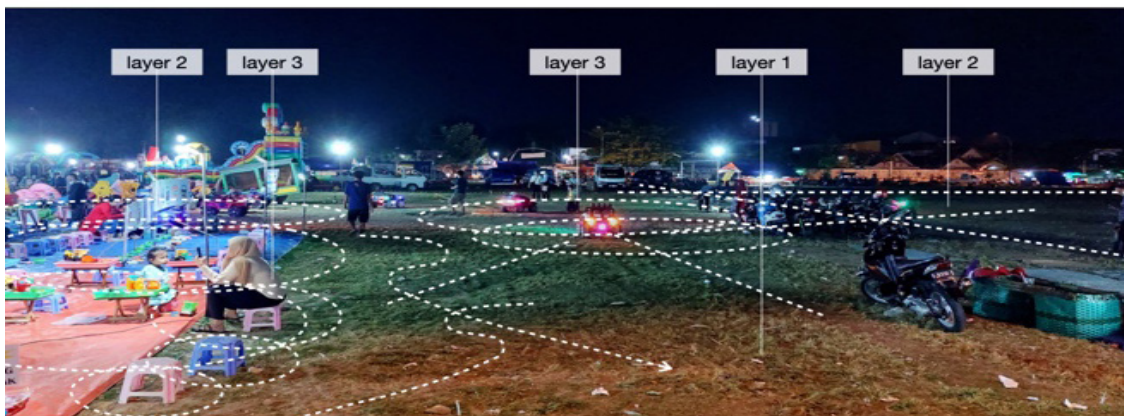


FIGURE 9. Multi-layered configuration



## CONCLUSION

This paper offers a way of reading about the quality of space and territory by reading the body's movement as a drawing. An understanding of the notation used in the study of Alun-alun Solo reveals the existence of imaginary territorial boundaries formed by the object of the facility there. However, what later becomes essential in the existence of the imaginary territory is the annotation by the movement of people/visitors. This annotation shows a layer of complexity about the articulation of space and the formation of new imaginary territories as well. The findings on the reading of *alun-alun* suggests the importance of understanding human existence in the process of space construction. As a consequence, the approaches in architecture should consider body's movement as one of most important aspects. The study has limitations because it has not been carried out in different types of alun-alun in different cities. The social characteristics of different people will certainly relate to how they move in public spaces. Further studies in the future are needed to find out how far the understanding of drawing can be used in discourses about architectural space or the relationship between architecture and the everyday.

## ACKNOWLEDGEMENT

This research is supported by the Ministry of Education, Culture, Research, and Technology under Penelitian Dasar Kompetitif Nasional 2022, Grant Number: NKB-993/UN2.RST/HKP.05.00/2022

## REFERENCES

- Allen, Stan. 2009. *Practice: Architecture, Technique + Representation*. Expanded 2<sup>nd</sup> edition. Routledge.
- Carmo, Mario, ed. 2013. *The Digital Turn in Architecture 1992-2012*. AD Reader. Chichester: Wiley.
- Cook, P. 2013. Looking and drawing. *Architectural Design* 83 (5): 80–87. <https://doi.org/10.1002/ad.1638>.
- Creswell, J. W. 2003. *Research Design: Qualitative, Quantitative, and Mixed Method Approaches*. 2<sup>nd</sup> edition. Thousand Oaks, Calif: Sage Publications.
- Damayanti, Rully, and Handinoto. 2005. Kawasan 'pusat kota' dalam perkembangan sejarah perkotaan di Jawa 33 (1): 34–42.
- Eeckhout, R. 2021. Drawing on situational sites. *Architectural Design* 91(4): 86–95. <https://doi.org/10.1002/ad.2716>.
- Fernández Contreras, Javier. 2022. Annotation as review: Graphic thinking in Enric Miralles' Ph.D. thesis. *Architecture and Culture* 10 (2): 272–83. <https://doi.org/10.1080/20507828.2021.1946746>.
- Frascari, M. 2009. Lines as architectural thinking. *Architectural Theory Review* 14(3): 200–212. <https://doi.org/10.1080/13264820903341605>.
- Groat, L. N., and David Wang. 2013. *Architectural Research Methods*. Hoboken, New Jersey: John Wiley & Sons.
- Handinoto. 1992. Alun-alun sebagai identitas Kota Jawa, dulu dan sekarang 18(1): 1–15.
- Ikaputra, and K Narumi. 1994. A study on the transformation of symbolic square in Javanese historical cities. 29: 337–42.
- Ingold, Tim. 2007. *Lines: A Brief History*. Repr. London: Routledge.
- Janeiro, Pedro António, ed. 2019. *Drawing (...) City (...) Body, Dwelling on Earth: Imagined-Architectures: Architectural Graphic Representation and Other Images*. Boca Raton: CRC Press, Taylor & Francis Group, 2019.
- Kohori, Takako, and Katsunori Furuya. 2017. "The Characteristics of Indonesian Open Space Image Based on The Space Configuration." *Journal of the Japanese Institute of Landscape Architecture* 80 (5): 579–84. <https://doi.org/10.5632/jila.80.579>.
- Kohori, Takako, Akhmad Arifin Hadi, and Katsunori Furuya. 2019. "The Spatial Composition of Alun-Alun on Java Island Today." *TATALOKA* 21 (2): 204. <https://doi.org/10.14710/tataloka.21.2.204-215>.
- Lucas, Ray. 2016. *Research Methods for Architecture*. London: Laurence King Publishing.
- Marlor, L. 2021. New territories: Reimagined interiorities. *Interiority* 4 (2). <https://doi.org/10.7454/in.v4i2.113>.
- Paramita, Kristanti Dewi, and Tatjana Schneider. 2018. Passage territories: Reframing living spaces in contested contexts. *Interiority* 1 (2): 113–29. <https://doi.org/10.7454/in.v1i2.34>.
- Rukayah, R. Siti and Bharoto. 2012. Bazaar in urban open space as contain and container case study: Alun-alun lama and simpang lima semarang, Central Java, Indonesia. *Procedia - Social and Behavioral Sciences* 50: 741–55. <https://doi.org/10.1016/j.sbspro.2012.08.077>.
- Santoso, Jo. 2008. *Arsitektur-Kota Jawa: Kosmos, Kultur & Kuasa*. Cet. 1. [Jakarta: Centropolis, Magister Teknik Perencanaan, Universitas Tarumanegara.
- Spurr, Sam. 2009. "Drawing the Body in Architecture." *Architectural Theory Review* 14 (3): 322–32. <https://doi.org/10.1080/13264820903341670>.
- Tayob, H. 2018. Subaltern architectures: Can drawing 'tell' a different story? *Architecture and Culture* 6 (1): 203–22. <https://doi.org/10.1080/20507828.2017.1417071>.
- Troiani, Igea, and Tonia Carless. 2015. "'In-between': Architectural Drawing as Interdisciplinary Spatial Discourse." *The Journal of Architecture* 20 (2): 268–92. <https://doi.org/10.1080/13602365.2015.102772>.
- Wigglesworth, Sarah, and Jeremy Till, eds. 1998. *The Everyday and Architecture*. Architectural Design Profile, 68,7/8 134. London: Acad. Ed.