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DATA-DRIVEN SELF-PORTRAITS: More intimate Relationships with City Information

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ABSTRACT

In the city of Quito, a series of data-driven sculptures have been installed to visualise the movement of urban cyclists. The creation of these interventions involved the design of a series of interfaces to record and present their movement.

The article explores the author's personal connection with Quito by creating personalised maps that trace their most significant cycling routes, during a process which involves reflection on the tension between objectivity and subjectivity in urban research. The employment of autoethnographic methodologies and the utilisation of data-driven self-portraits fosters a more intimate relationship with the data, thereby encouraging more humanised and diverse interpretations.

This approach contributes to the establishment of a more pluralistic vision of the city, diverging from colonial perspectives. This proposal contributes to the ongoing discourse on creative cities, underscoring the necessity for novel formats of representation to study the manifold forms of connectivity within the city.

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1. Introduction

If everyone has a different experience of walking through the city, who decides what they look like, what they show, and what they hide? Historically, maps have been in dialogue about physical spaces in interaction with society, politics and economics (Lefebvre, 1991). However, maps are inextricably linked to power relations. Colonial maps were used by empires to establish control over conquered territories, military maps as tools to plan strategies of attack or resistance, or cadastral maps to legitimise control over land (Harley, 2001). Today, the most widely used maps are developed by large corporations in the Global North; this new cartography, based on spatial big data, is also shaping the way people perceive and navigate their territories (Dalton & Thatcher, 2015).

Lynch (1960) discusses urban navigation by focusing on purely physical and material spatial elements (i.e. streets, edges, districts, nodes and landmarks). However, Montello (2005) and Golledge (1999) discuss spatial behaviour by including the person as more than an observer, through a cognitive, social and cultural perspective. For Lefebvre (1991) these relationships will also correspond to a subjective, emotional and cultural experience. However, he also includes concepts such as rhythm in everyday movements and practices.

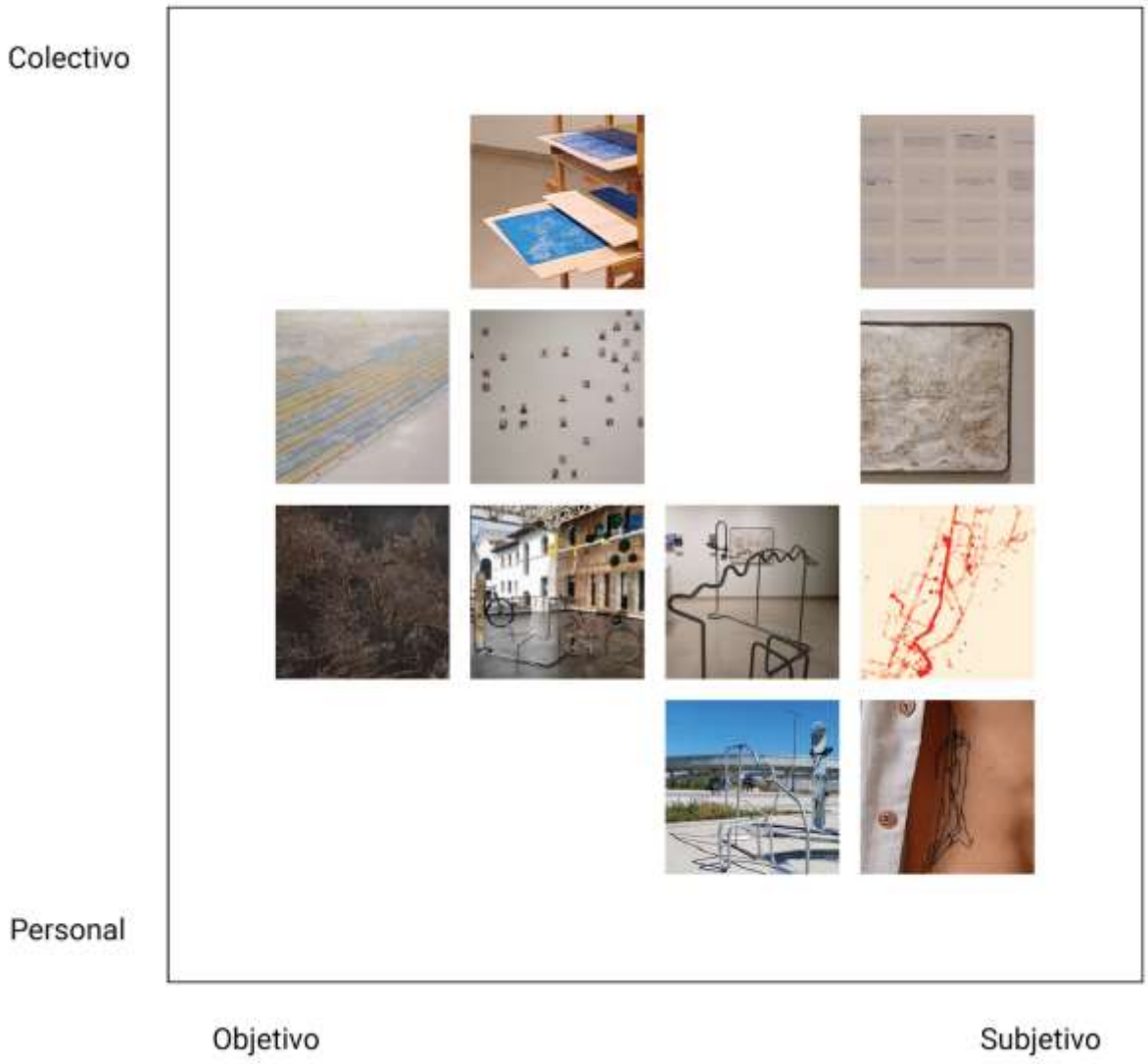
Authors such as Rosetto and Lo Presti (2021) have delved into the critical and cultural dimensions of mapping. They refer to maps as tools of power for nations and institutions and propose new creative approaches to reconstruct inclusive maps taking pluralities into account. Similarly, Crampton and Krigier (2010) mention that maps not only represent the space in which we live but also delimit it. Thus, several authors propose a *counter-mapping* methodology (Peluso 1995) as a tool to reveal the power hidden in social dynamics, as an opposition to hegemonic power.

In order to approach a personal representation of the city, incorporating the concepts of urban navigation, it was decided to take a data-driven approach. In this regard, scholars such as Manovich (2010) have underscored the significance of the interplay between visualisation technologies and the evolution of cultural production. The author refers to key concepts such as complexity reduction, interactivity, automation and aesthetics as important criteria for the representation of these routes. While his theoretical gaze reflects on the implication in media and everyday life, others focus on the visualisation of information as specific mechanisms for understanding urban environments (Ciuccarelli et al., 2014; Picon & Ratti, 2023). These authors posit that visualisation systems function as instruments, which, in this particular case, can facilitate the revelation of mobility patterns, relationships, individual or group dynamics, and even experiences.

For Ciuccarelli and colleagues (2014), the motivations for working with visualisation systems are oriented towards practical reasons (e.g. facilitating decision making, publishing data or promoting innovation in urban planning). Picon and Ratti (2023), on the other hand, add more exploratory ones, such as understanding hidden urban life or promoting citizen participation. Lo Presti (2018) explains that encounters between art and geography can question and transform the ideologies and political implications of other maps. In turn, these encounters can introduce new reflections on materiality, sensoriality, relationality, etc. And in relation to the use of data, he refers to the play on words that correlates Dadaist exploration with a "dataist" reference capable of weaving links between cartographic experiences and digital networks.

This study is part of the *Making Visible the Invisible (HVLI)* research project (Barriga-Abril et al., 2024). An initiative that uses conventional and unconventional methods to collect and represent the relationships of cyclists in the city of Quito. The result is a collection of data-based portraits that represent the individual and collective relationships of cyclists and urban space (Figure 1). The author of this article, an urban cyclist and researcher, began this process with a reflexive self-exploration that allowed him to understand in a holistic way the kind of data he would be working with in the HVLI project. This article discusses the contribution of an autoethnographic and artistic process in fostering a more intimate relationship with the data, encouraging the combination of objective and subjective information.

Figure 1. Maps in HVLI artistic research.



Source: Own elaboration, 2024.

2. Method

This research explores an individual's relationship with the city through his journeys by bicycle. In this way, the author aims to generate a new representation of the city, away from visions centred on the car and dominant technology.

It has been proposed to work around autoethnographic processes that allow for the development of a deep and personalised understanding of the urban environment, where the results can emerge from the tension between objectivity and subjectivity (Pelias, 2004). It is important for this research to have an embodied practice (Spry, 2001). Thus, the body, mediated by the bicycle, is recognised as the motor of the process of interaction and movement. In this way, the author seeks to connect personal and cultural realities through this research. Ellis (2004) mentions that reflective narrative in autoethnography is able to connect one's own experience to a wider cultural and social context in a profound way.

To analyse and reflect on the findings, the author records the information from the autoethnography using visual resources (Pink, 2001). Thus, this process combines graphic and textual methods to represent the author's information through the construction of a series of self-portraits based on the data (Donath et al., 2010) and a reflection on the reading of these records (Benford et al., 2009). This practice seeks to explore subjectivity and the humanisation of data as a particular element in reflecting on the different levels of production of space (Schwarze, 2023).

2.1. Recreate, Record and Represent

In order to collect the information, a strategy was developed that combines the concept of participant trajectories (Benford et al., 2009) with performance (Pearson & Thomas, 1994). This strategy aims to give the author the opportunity to reconnect through time with a particular moment or journey in their history when recreating and recording this mobility information. For this autoethnography it will be necessary to: list the most relevant routes in the author's life, develop a tool to capture this movement, walk the routes again as a performance, record this information, analyse the results of the recorded movements.

2.2. The Participant

The participant in this autoethnography is the author of this article, who became an urban cyclist in 2003. The author has cycled around the city of Quito for twenty years, some years more regularly than others. During this time, he has changed his place of residence and his daily destinations several times. Likewise, the city in which he lives has undergone multiple transformations in terms of mobility that have impacted his way of relating to the city through his journeys by bicycle.

2.3. Historic Routes

It is important for the author to record the most significant routes of his life as an urban cyclist. Although this list does not include all the routes he has ridden, the fifteen most significant routes have been identified (Table 1). These range from early routes, such as the journey he used to make from the house where he lived with his parents to the place where he studied, to more recent routes, from his current home to his current job. This list includes practical routes as well as the most recurrent urban recreational routes in the author's cycling life.

Table 1. Author's most common routes

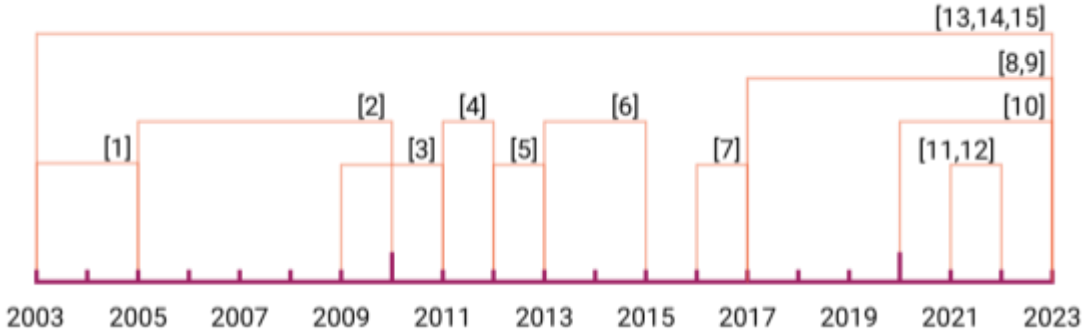
	Origin	Destination 1	Destination 2
[1]	*My parents' house* (home)	*Colegio San Gabriel* (educational centre)	
[2]	*My parents' house* (home)	*PUCE* (educational centre)	
[3]	*My parents' house* (home)	*Santillana* (office)	
[4]	*Florida* (home)	*Presidency - Historic Centre* (office)	
[5]	*Florida* (home)	*Presidency - La Colón* (office)	
[6]	*Shyris* (home)	*Condamine* (educational centre)	*Municipality* (office)
[7]	*My parents' house* (home)	*La Tola* (Workplace)	*PUCE* (office)
[8]	*La Carolina* (home)	*PUCE* (office)	
[9]	*La Carolina* (home)	*Bicentenario* (park)	
[10]	*La Carolina* (home)	*My parents' house* (home)	
[11]	*La Carolina* (home)	*La Floresta* (home)	
[12]	*La Floresta* (home)	*PUCE* (office)	
[13]	*Paseo dominical* - South		
[14]	*Paseo dominical* - North		
[15]	La Carolina (park)		

Source: Own elaboration, 2024.

Furthermore, to facilitate comprehension of the relationship between the author and the selected routes, information is included (see Figure 2) mapping the times and duration for which these routes

were regularly cycled. The research documents twenty years of cycling routes, commencing with the inauguration of the *Paseo Dominical* in 2003. This event is of particular significance as it marks the transition from early recreational cycling in his childhood and early youth to a later combination of utilitarian and recreational cycling activities.

Figure 2. Fifteen routes through time



Source: Own elaboration, 2024.

2.4. Registration Tool

With the aim of recording the routes listed, the author opted against using the applications available on the market, instead developing a system that would grant him complete control over the information that would be collected. In this manner, an open-source library known as *Processing*, which was developed with the objective of encouraging the participation of artists in the domain of programming, has resulted in the creation of a beta application. This application is capable of capturing positional data and utilising this information to generate maps that are associated with the author's movements. This application was created in the *Android* version of *Processing*, where the *Ketai* library (Sauter, 2010) was used to control the smartphone's sensors and capture positioning data via *GPS*. This application collects latitude and longitude information, then performs a series of calculations to reposition the point to an observable location within the range of the phone screen. Minimum and maximum latitudes and longitudes are defined based on the city limits usually travelled by the author.

```
float mapX = map (longitude * 1000, -78567, -78423, 0, width);
float mapY = map (latitude * 1000, -93, -351, 0, height);
```

To display the maps, each of the calculated latitude and longitude points is added to a list of coordinates, one for the x-axis and one for the y-axis. Then, in a for loop, a line is drawn on the phone screen, taking into account all the numbers in the arrays.

```
line (coordX.get(i-1), coordY.get(i-1), coordX.get(i),coordY.get(i));
```

In this way, each time the author moves around the city, the data collected by the GPS is repositioned on the scale of the phone's screen for the purpose of drawing new maps through movement.

2.5. Performance

The author chose to re-enact his travels as part of a dynamic process of interpreting and embodying past events. For Pearson and Thomas (1994), the re-enactment of past events, combining performance practices with archaeology, promotes a deeper understanding of cultural practices. In this way, performance becomes not only a bridge for recording routes, but also a broader mechanism for exploring memory, place and materialities.

The author reconstructs each route, taking into account the conditions in which the journeys were originally made. On the route between my parents' house and the school in San Gabriel [1], the author goes to the starting point. At 6:30 a.m., he is in front of my parents' house with his bicycle, trying to simulate as many of the conditions of the journey he made twenty years ago as possible: temperature, traffic, sleep, among others.

With the possibility of reproducing the performance, the author retraced the fifteen routes listed under different conditions. The result of this journey is illustrated by the drawing of a simple map for each route.

2.6. Analysis Representation

To represent the recordings, a series of maps were created with information about movement through the city. Similarly, a reflection on patterns, memories and movements was carried out based on the analysis of the visualisation systems.

The results of this process materialised in a collection of 15 simple maps and one general map. The maps correspond to the list of historical routes described in the methodology and are presented in the format of the mobile phone screenshot in a size of 1080 x 2340 pixels, the white line represents the route and is recorded on a totally black space that excludes other references to the city. However, in order to present the information, the colours have been inverted to optimise their visualisation. Only at the top left of the screen are technical details such as latitude, longitude and service provider, which are necessary to validate the operation of the application.

For the general map, the format is converted to a square, outside the constraints of the mobile screen. In this composition, each map has an opacity of 50% and a blend mode in the brightness format. In this way, all the maps can be viewed at the same time and overlapping routes can be identified. This display includes a legend at the bottom right of the screen to help understand which are the most and least common routes.

The simple maps have been articulated and arranged in such a way as to facilitate the author's reflection when observing them. The general map articulated all the routes, and the simple maps were placed in a 5x3 grid to observe them all. This process encourages the ability to describe a contextual relationship between the registers and their implications for the author's mobility. These actions highlight the concept of historical trajectory (Benford et al., 2009) for the author's post-performance reflection on the analysis of the register generated. Ellis (2004) and Pelias (2004) recommend that this autoethnographic reflection be conducted in the first person to emphasise the reflexivity of the narration of experiences, to situate the author within the context and to give a more authentic and personal sense of the process.

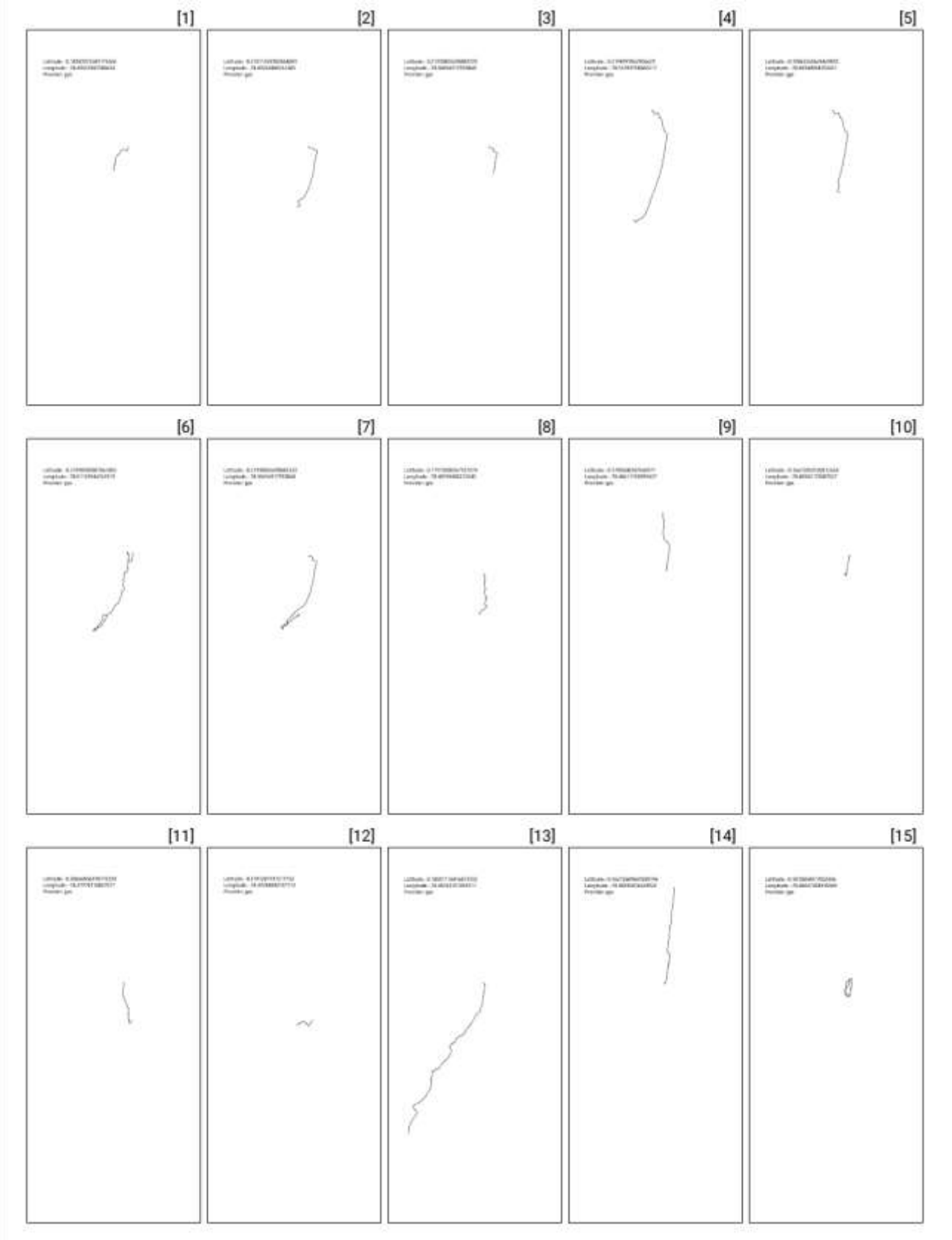
3. Results

The results are presented in two sub-chapters (i) Simple maps and (ii) General map. This section shows the visual results of the applied research and presents a series of reflections by the author based on the review of the maps produced.

3.1. Simple Maps

In these maps, the author presents fifteen routes representing a record of about twenty years. The simple maps (Figure 3) show a variety of characteristics, which can be seen in the shapes created by recording the routes. Each route has its own peculiarity, and beyond a simple trace represents an actual route captured from a performance. However, similarities can also be observed between the maps, such as: common areas, coherence between outward and return journeys, or the connection of no more than two places. Similarly, certain characteristics can be identified in the graphic representations of some of the maps. These characteristics invite us to reflect on certain relationships between the author and the city through the routes or at certain moments of his journeys.

Figure 3. Self-portrait, individual maps.



Source: Own elaboration, 2024.

Area of coverage. The maps show that I usually cycle in the same places during my city tours, and that this does not vary over time. In most of the maps [1,2,3,4,5,6,7,8,9,10,11,12,15] I explored the same spaces. The places where I have lived and the educational institutions and workplaces in my case have remained in central areas of the city. My interaction with the city tends to be very zonal.

However, there are routes that explore the extremes of the map. There are now three routes that go north and only one that goes south. It is important to note that the route that goes further south [13] and north [14] corresponds to the *Paseo Dominical*. This event was born in 2003 as a citizens' initiative and later institutionalised by the city (Ciclopolis, 2016). Every week, the *Paseo Dominical* invites citizens to cycle from one end of the city to the other. Twenty years ago, when I started to cycle around the city on the Ciclopaseo, I began my journey as an urban cyclist.

Linear routes. Most routes are shown as almost linear movements, usually in a north-south or south-north direction. The shape of the routes suggests that in order to move, I first perform a series of small actions around the neighbourhood until I can connect with a *main route* that allows me to travel most of the way along the same path. When I get close to my destination, I make a similar move to complete the route. That's why most simple maps have a Z [10,12] or C [1,11] shape (or the same figures reversed), where the height of the letter is determined by the distance of the route.

On my first utilitarian journey, from *home* to *school*, [1] my first movements took me along small streets, sometimes on the wrong side of the road, and along pavements to cross roundabouts, until I reached the main road. In this case, the avenue is a road with three lanes on each side, with a BRT line in the middle. When I took this route, a steep climb of about 1km, I rode in the BRT lane even though I had to go through an underpass designed for cars. Riding this route in my early years as a cyclist was very difficult due to the hostile nature of the chosen route and the lack of cycling culture in the city. Other, more contemporary routes integrate these patterns of linear routes with cycle paths as the *main route*. On the way to the *Parque Bicentenario* [9], the movement is so subtle that it is almost lost until it joins the main road. This route has an emotional charge, the opposite of the previous one. Although it also crosses a viaduct, it is closed to cars, and only bicycles can use it.

Closed circuits. In the routes developed, few roads take the form of circuits. Most routes are associated with academic or occupational activities. A notable similarity exists between these routes and the previously described linear movements. However, the route delineated in *La Carolina* [15] introduces a deviation from this linearity, adopting a closed form. Notably, this route is the sole O-shaped movement depicted on the map. This route is representative of movement within a central city park. In the author's own routes, this park functions as a transitional space, connecting point A to point B, while also serving as a recreational route.

Non-linear routes. It is notable that certain routes which are utilised for work-related activities and appear to follow a direct trajectory from point A to point B can in fact be considered non-linear in nature. Such routes may take a winding path, as illustrated by the route from *La Carolina* to PUCE [8]. At the time I was taking this route, which goes from my house to work, I began to explore the idea of drifting as a new concept of mobility (Debord, 1956). During this period, my journeys no longer sought efficiency in mobilisation; rather, they sought the ability to identify new paths that lay far from the self-centred criteria and the concepts of efficiency/speed that are often linked to the cycling movement (Lefebvre, 1991). It is important to mention that I was already familiar with the route to PUCE, having travelled it some years ago when I was a student [2]. However, navigating the city with this new criterion has led to the development of new strategies for decision-making regarding direction of travel. In this sense, the motivation for identifying novel routes is twofold: firstly, random and secondly, driven by the desire to discover new paths that enhance the journey. Following numerous explorations, the route that was eventually adopted was one that allowed the encounter of minimal traffic.

Other non-linear routes refer to movements that involve more than one point of arrival, i.e. routes that move from point A to B and then to point C [6, 7]. The route taken from the author's house to their daughter's nursery, and then to their place of work [6] constitutes a non-linear movement characterised by the presence of other people as companions. The initial section encompasses the complexity inherent in the transportation of a passenger, namely my daughter, who was seated on a component integrated into the bicycle's frame. For this particular segment, the decision regarding the optimal trajectory was predicated on considerations of safety. The initial sequence of movements involved traversing the zebra crossing, proceeding along the pavement until reaching the park, and then continuing along smaller streets that led to the kindergarten. To continue, I would meet my partner, with whom I would cycle together. She would utilise the public bicycle system, while I would use my own bicycle. This journey would also be characterised by a greater degree of caution, not on the main road, but on secondary roads that connected us to the last public bicycle station where she could deliver the bicycle before using the

BRT to move to her place of work. Her place of work was situated in the southern part of the city, which lay outside the main coverage area that had been previously delineated. After she deposited the bicycle, I travelled alone, returning to the previously described linear routes to reach my place of work.

Difference between outward and return routes. During the planning stage of the register, it was observed that not all routes exhibit a similar pattern of outward and return patterns. While there are instances where the journeys are identical, as observed in [2,10,12], other studies have highlighted that the outward journey can vary significantly due to various factors. These variations can be attributed to various factors, including the direction of the roads and the perception of safety [4,5], the convenience based on one's own mental map (Lynch, 1960) [4,11], or the inclusion or exclusion of a third point on the route [6,7], as evidenced in the case of *not very linear routes*.

During my commute to work in the historic centre [4], solely the outbound movement was documented. Despite the fact that the planning of the routes indicated that certain alterations would be made to the inbound and outbound journeys, I did not have the operational capacity to document all the variations in the routes. Nevertheless, even in the absence of such documentation, it is possible to reflect on how these phenomena affect the decision of which route to take. For instance, when departing from my house in Florida, a downhill road, I easily connected to a wide road that led to the main road. At the time of departure, I drove fast on this uncongested road. On the way back, the route I took was very different, from the main road I looked for a way to go up to my house, no longer on the wide road, but through small streets without much traffic that connected like little staircases to my house.

I also took different routes to enter and leave the *historic centre* [4]. After coming from the main road, to enter the centre I used the one-way BRT lane, which allowed me to get there quickly and without having to deal with many vehicles. On the way back, this lane no longer worked for me and I had to choose other routes that would allow me to connect with the same *main road*. There were two possible routes back, one with less traffic but a very steep hill, the other was flatter but with more traffic. In this particular case, I am not sure how I took each decision.

3.2. General Map

When the fifteen maps are superimposed, the historical result of the author's notion of the city becomes apparent for the first time (Figure 4). The overview map articulates, on a 2500 x 2500 pixel canvas, the individual historical records. In this map, a transparency was initially developed for each layer, with a subsequent layer of colour gradation adjustment placed on top. The colour shading facilitates the identification of routes with a lower level of recurrence (in orange) and those with a higher level (in purple).

Figure 4. Self-portrait, overview map

Source: Own elaboration, 2024.

For me, this map is a reflection of my cycling city. In this representation, some of the details identified on the individual routes are blurred, but others become more apparent. On the one hand, the identification of a much more familiar part of the city, the *coverage area*, becomes more obvious. On the other hand, some of the features that were less prominent on the individual maps become more apparent.

Overlapping routes. From the first moment I drew up the list of routes, it was not difficult to see that there were places that would be included more than once. Several routes have recurring departure or arrival points, such as *my parents' house* [1,2,3,7,10] or *La Carolina* [8,9,10,11]. In some scenarios, the roads near the recurring locations also become recurring routes.

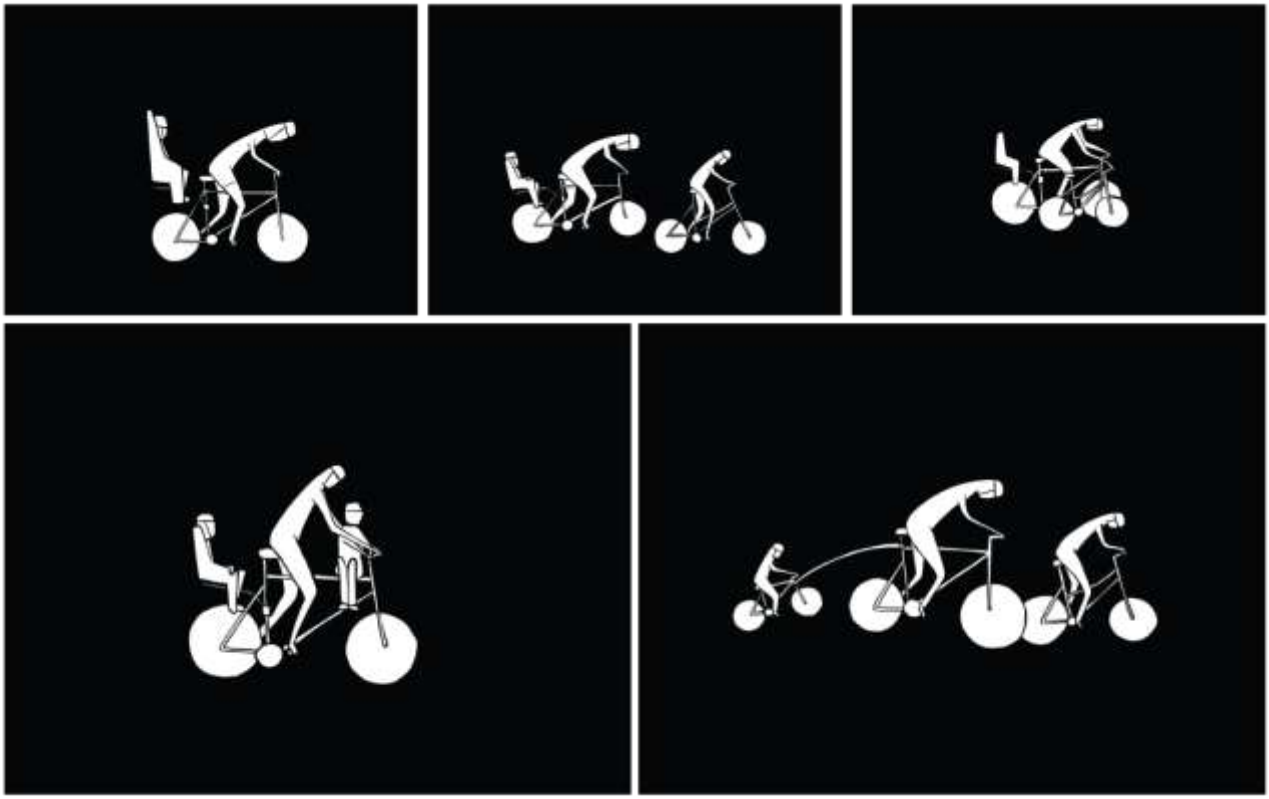
An examination of the available records indicates that the routes of departure (or arrival) to *My Parents House* are delineated by three distinct paths. Firstly, the routes that connect *My Parents House* to the south [2, 3, 7] were established prior to the implementation of the pandemic cycle lanes. These routes exhibit a certain degree of similarity. (ii) Conversely, the route that connects to the south, and which is more contemporary, traverses the cycleway near my *parents' house* from *La Carolina* [10].(iii) Finally, the third route that connects to the south-east with *The School* [1] is selected based on the

existing infrastructure in each period of my life and the route depending on where I am going (or coming from) and my mental map.

In the initial case study, three linear routes [2, 3, 7] were selected for analysis. These routes are characterised by a unidirectional movement, leading to a connection with the primary thoroughfare. In this scenario, the primary road is designated as an exclusive BRT lane. The selection of this route was driven by convenience, considering the individual's mobility needs and the efficiency of the BRT system. Notably, the BRT lane exhibited a reduced vehicular density compared to other road networks. In this particular system, the distance between stops allows the speed of the bicycle to be similar to that of the bus. These routes are built one on top of the other, like matrioshkas, or wayfinding (Lynch, 1960). The shortest route, the road to Santillana [3], is encapsulated in the route to PUCE [2], which in turn is encapsulated in the route to La Tola [7].

The notion of *wayfinding* is also represented in the route that connects *My Parents' House* with *La Carolina* [10], this route is encapsulated in the section of the *Paseo Dominical - north* [14]. In this case it is important to note that, although this route has been present within the cycling system since 2003, it did not present the conditions for it to become a recurrent route in my life. However, in 2020, when the section of the permanent cycle path was inaugurated on this road, it became a heavily used route. The south [13] and *north* [14] *Paseo Dominical* have been a reference for some sections that, over time, became permanent cycle lanes in the city. Since the inauguration of this permanent cycleway, the city has begun to occupy more spaces designated solely for bicycles, and to a lesser extent, roads shared with cars or BRT lanes. In the case of the route [10], it is important to mention that I usually do this route with my underage daughters. On this route, the ways of getting around can take different configurations (Figure 5), which, moreover, have been transformed as the girls have grown up. These characteristics also condition the process of selecting possible routes, in this scenario the selection of the route is guided especially by safety conditions.

Figure 5. Ways of transporting me with my daughters.

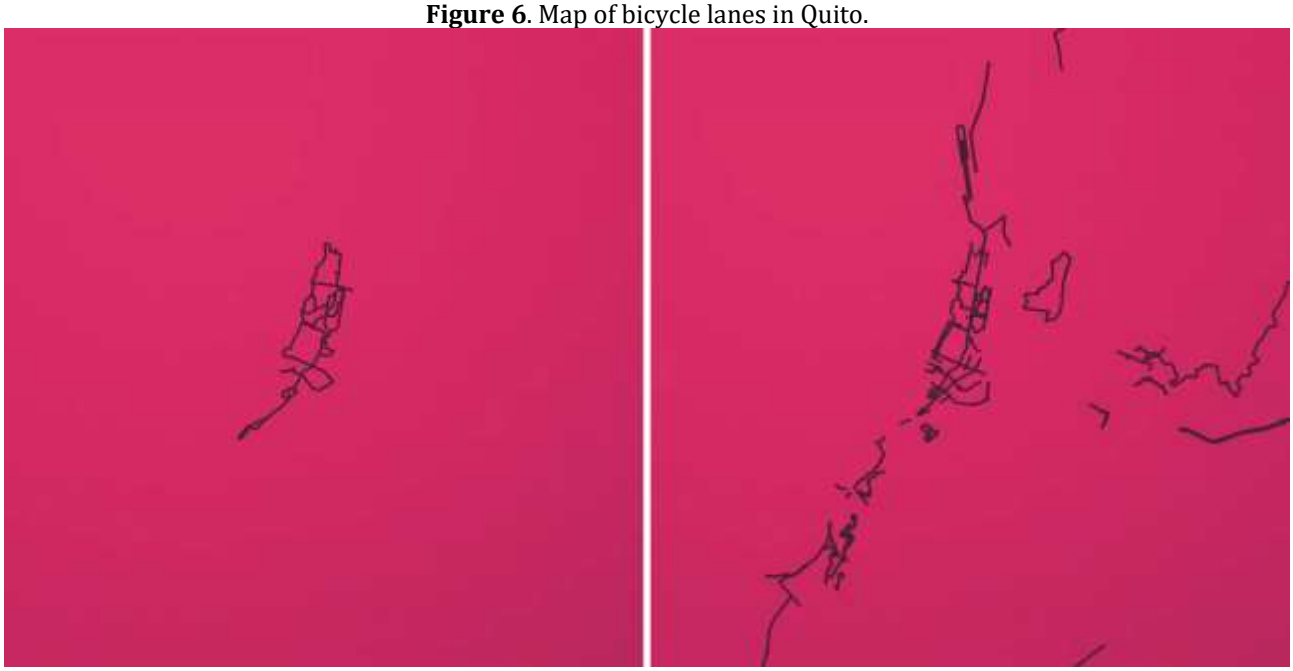


Source: Own elaboration, 2024.

Same destinations with different routes. Although psychogeography (Lynch, 1960) mentions that the way of moving in space can be influenced by familiarity with the environment, there are also cases where routes are modified due to different characteristics. From the routes I took, two specific cases can be identified.

The first case has been partially described, one of the reasons why the routes in and out of *my parents' house* [2,3,7], prior to the process of extending and improving the city's cycleway system (Figure 6), are different from those that follow [9,10] is the implementation of a quality permanent cycleway. This route started as an emergency route due to the country's restrictions during the pandemic. However, since this change, the cycleway has become a central axis in the bicycle mobility of many actors in the city (Quito Cómo Vamos, 2020). It can therefore be said that one of the reasons for the change in mobility habits has to do with the improvement in cycling conditions.

Figure 6. Map of bicycle lanes in Quito.



Source: Left (Google Maps, 2016), right (Secretaría de Movilidad DMQ, 2023).

The second case pertains to two distinct periods in my life, each characterised by distinct activities and locations. During the first period, PUCE is depicted as a place of study [2], while during the second period, it is portrayed as a place of work [8]. Despite the similarities in origins and destinations, the paths diverge significantly in these two scenarios. This is attributable to a shift in psychological and emotional perspective (Debord, 1956) concomitant with bicycle mobility. The non-linear nature of the routes is characterised by my decision to deviate from the conventional linear trajectory that culminates at the primary thoroughfare [2,7] and instead embark on novel pathways [8], as opposed to perpetuating the identical route that had been previously mastered and replicated over the years. These novel routes deviate from the conventional notions of masculinity and efficiency that are perpetuated by capitalist society, thereby facilitating a more relaxed and pleasurable connection to space and the enjoyment of the trajectory.

4. Discussion and Conclusions

The findings of this study yielded a series of maps and narratives, which collectively comprise the author's personal perspective on his relationship with the city of Quito, particularly in the context of urban cycling. This outcome, extending beyond the realm of graphic representation, is meticulously constructed through a multifaceted process entailing memory, reflection, and performance (Pearson & Thomas, 1994). It amalgamates objective data derived from geographical information with a reflexive narrative (Ellis, 2004) that forges connections between the individual journeys and a more expansive, overarching context.

4.1. Discussion of Spatial Issues

In this study, the author's endeavour to capture his historical routes was intertwined with his bodily, emotional and spatial perception (Golledge, 1999; Montello, 2005; Lynch, 1960). The author describes his relationship with the city through the impact on his body, which can be described as tired; his

emotions, such as fear or the frenzy of speed; and how he observes and feels the city from his senses. As time progresses, it is noteworthy how these perceptions undergo a transformation, and how the city itself evolves, thereby modifying the author's perception of space and his relationship to it.

In the context of movement, the author employs an abstract representation of the physical environment (Lefebvre, 1991), a concept that is indispensable as a guide to movement on his routes (Golledge, 1999; Lynch, 1960). The representation of this personal cyclist map provided an opportunity to reflect on the strategic decisions made during their historical routes and to identify the complexity of the decisions. Although, when looking at the different maps, not all graphs are easily understandable, individual analysis and specific groupings facilitate reflection of an imperfect and incomplete grid.

In addition, there are social and cultural components that have a two-way influence on the way the city-cyclist relates to each other. The author's active shaping of his surroundings as he moves through space contributes to the evolution of the urban landscape, often using designated areas for urban cycling and claiming codes such as safety when transporting his daughters on the cycleway. More significantly, however, he does so by exploring and re-signifying spaces that were not originally intended for cycling, such as pavements, parks and zebra crossings.

4.2. Discussion of Aesthetic Aspects

The practice of recording as a performative, reflexive and bodily process (Pelias, 2004) has been shown to generate artistic outcomes that engage in discourse with larger discourses than what is immediately apparent in visual representation (Camfield, 1979; LeWitt, 1969,). In this case, the self-portrait under consideration incorporates personal and subjective characteristics, reflexive narratives, spatial visualisation and symbolic elements.

In this context, it is imperative to emphasise that, in this research, the self-portrait is not merely the visual outcome, but also the conceptual and procedural nexus interwoven with the artwork. This representation contemplates a novel method of delineating the author's affiliation with his urban milieu, unveiling a series of photograms that evoke memories, habitual practices and sentiments associated with his bicycle journeys through the city.

The data captured and represented in the simple and overview maps present information with a high degree of reliability and accuracy. All representations show satellite information, which makes it recognisable that this is a geospatial interpretation. However, while the simple maps tend to represent a more objective view of the data, the overview map makes minor adjustments to slightly abstract the information (Donath et al., 2010). The simple maps include GPS latitude and longitude information and maintain the format of the graphics referring to the mobile phone screen and the longitudinal shape of the city (Carrión & Erazo Espinoza, 2012). In contrast, the general map eliminates the latitude and longitude information but adds a bar with a colour gradation that alludes to the number of times a space has been travelled. Furthermore, the transformation of the canvas to a square format serves to eliminate the vestige of the mobile phone screen and the previous hegemonic representation of the city.

A close examination of the graphics reveals that the primary layer constitutes a coherent, consistent and ordered structure, with the individual maps exhibiting an almost musical, harmonic rhythm when considered as a whole. The superimposition of the fifteen maps serves to reinforce the characteristic of unity and relationality, thereby rendering unexpected small movements more apparent. This dataset is indicative of occupation, appropriation and permanence in a profound interaction with public space. A thorough analysis reveals that each line in the dataset is characterised by multiple reflections of life and identity. In this exploration, the author employs an insightful reading of the relationship between time and the stages of life, the number of times the routes were travelled within a given period, and the changing internal and external factors that influence the author's relationship with the city. However, a notable limitation identified in the work is the paucity of information and resources to reinforce this temporal-geographical approach (Ellegård & Svedin, 2012). Conversely, the representation of space is of significant power, compelling the audience to interrogate conventional spatial representations. The approach to a new map, based on the author's practices in relation to his movements through public space, constructs counter-mapping representations (Peluso, 1995) for the relationship between the author and the city. In which, from a critical perspective, tools of social empowerment, resistance and imagination are used in the face of dominant narratives.

4.3. Discussion of Methodological Aspects

This study presents a variety of data that attempts to describe the author's relationship with his city. This information takes different forms, ranging from geospatial graphics, documentary information about the city, self-portraits, reflective narratives, and others. However, the focus of this methodology is to humanise the more objective data through a more human, subjective gaze. The juxtaposition of figurative and abstract representations, along with the equilibrium between objective and subjective data, has contributed to a more comprehensive depiction of the subject. The personal nature of the research process has facilitated a deeper introspection into interests, memories, and assumptions, thereby establishing a nexus between data, forms, and experiences. The incorporation of intimate processes, such as performance (Pearson & Thomas, 1994), historical trajectory (Benford et al., 2009), and reflexive narrative (Pelias, 2004), served to enhance the voice of the researcher. Consequently, in this study, the author temporarily disengages from the role of the objective to intervene in the performative nature of self-representation, thereby endowing the research with a personal, emotional, and somatic focus, in addition to a spatial dimension.

Through the use of self-representation of data, researchers are able to establish an intimate relationship with the data while crafting rich narratives that capture the complexity of their experiences as participant-observers. This approach challenges the conventional methods of geospatial research and explores alternative approaches that are decolonial in nature (Crampton & Krygier, 2010; Rossetto & Lo Presti, 2022). These alternatives include autoethnographic approaches (Elis, 2004; Pelias, 2004) and self-portraits in data-driven research (Donath et al., 2010). This process interrogates the conventional tenet of objectivity in research, thereby establishing a more subjective, emotional, embodied, experiential and empathetic approach to conveying lived experiences and the intricacies of the person-urban space relationship.

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