Gamifying the city: E-scooters and the critical tensions of Playful Urban Mobility

Mattia Thibault (joint first author), Gamification Group, Tampere University

Eetu Wallius (joint first author), Gamification Group, Tampere University

Thomas Apperley (corresponding author), Centre of Excellence in Game Culture, Tampere University

Juho Hamari, Gamification Group, Tampere University

Abstract. This article builds on previous scholarship on urban play, playable cities, and gamification by focusing on the contemporary relationship between play and mobility in cities. The article applies Floch's semiotic square of valorisations to urban mobility by examining the values that are employed to make sense of movement through the city. The model is developed through Caillois' forms of play: chance, competition, simulation, and vertigo. The model of playful urban mobility is contextualized in relation to historic and contemporary forms of playful urban activity to illustrate the multiple ways that play is valorised within mundane, everyday practices of urban mobility. The tensions between playful and practical consequences within these different valorisations of play are located and expanded through a case study of the uptake of the e-scooter drawing on news coverage and promotional materials. The case of the e-scooter illustrates how playful urban mobility marks new connections between civic concerns of data security, physical safety, inclusivity, and urban sustainability, in the field of mobility. The key contribution of this article is the applied model of playful urban mobility which uses the e-scooter to illustrate the potential critical tensions that characterise playful and gamified forms of mobility and transportation.

Mobility is a multifaceted phenomenon, encompassing the physical movement of bodies and objects through space, but also the social practices that emerge around it and the many kinds of representations that sediment it in culture (Cresswell 2006; 2010). All these different aspects are interrelated and evolve in parallel, affecting socio-cultural relations in all anthropic environments. The 'new mobilities' paradigm proposes a reading of the current transformations of mobility and argues that contemporary mobility is increasingly dematerialized and individual (Sheller and Urry 2006). Developments in pervasive computing have been pivotal for the emergence of this paradigm, as it has become a crucial feature of many vehicles and is also significant in integrating the use of smartphones for everyday mobility needs. While the machines we use are increasingly 'miniaturized, privatized, digitized and mobilized' (2006, 221), the networks around them are ubiquitous and intrusive, collecting and organizing the informational traces that we leave behind us. In this article we examine how the technological augmentations of the urban landscape, which underpins the emergence of 'new mobilities' are also enablers that establish the possibility of the 'playable city' (Nijholt 2017). To tease out the implications of this connection we turn to the parallel discourse of gamification which postulates that our technologies, societies, and cultures are becoming increasingly gamified and playful (Hamari 2019). In this article, we deploy gamification to explore the role of mobility in the reshaping of contemporary cities through the concept of *playful urban mobility*.

Playfulness is not an intrinsic feature of transportation devices, it emerges through their use, and from the socio-cultural values—or valorisations—that are assigned to them. The framework of playful urban mobility considers the role of playfulness in sustaining, providing, and encouraging mobility in the city, and mobility itself as a site of play. This is elaborated through Floch's (1990) semiotic model of marketing strategies for the automobile, incorporating Roger Caillios' (1958) four forms of play to attune to the specificities of the

playful elements of urban mobility. This framework illustrates how mobility and its devices are valorised by examining the values that users employ to make sense of their own movement through the city and of the vehicles they use to that end.

To illustrate how *playful urban mobility* can offer conceptual tools to make sense of the complex relationships and underlying contradictions between gamification, mobility, and urban space we will use the framework to examine the e-scooter. The rapid proliferation of e-scooters in urban spaces since 2017 illustrate one of the many ways that cities are being transformed in ways that make them more playable through widespread and everyday adoption of new mobilities. Companies like Bird, Lime, Uber Jump, Grab, VOI, Tier, Grow, Movo compete for local and global 'micromobility' markets using dockless e-scooters activated, billed, and tracked by smartphone apps. The 'micromobility' market refers to those journeys of 8 kilometers or less, the global market for such travel will be worth 500 Billion dollars annually by 2030 (Heineke et al. 2019). This competition has led to a remarkable influx in the availability of sharable scooters in many cities around the world from Asia to Latin America. Among other transportation sharing services (such as Uber, Lyft and a variety of bicycle sharing systems) that have introduced new ways for citizens to experience urban life, e-scooters have strong playful affordances: they allow free, seamless, and independent movement, often escaping the mobility regulations and infrastructures of the city. Thus, they promote a playful experience of urban spaces alongside a more practical mobility. This juxtaposition creates novel opportunities for play and the experience of playfulness into everyday mobility.

We begin this article by conceptualizing playful urban mobility through the reworking Floch's model of marketing, focusing on developing a sense of the different ways that playful urban mobility is valued or valorised. Then in the following section we illustrate how playful urban mobility establishes relationships between quite specific practices, that may be

augmented by software, hardware, and devices, which allow citizens to play between, through and in urban spaces, and open up new—and reclaim existing—space for playful uses through movement. In the final section of the article, we develop the model of playful urban mobility by focusing on the valorisations of the e-scooter and considering how the ludic tensions in these valorisations pinpoint key contradictions and controversies between play, risk, and civic values that characterize playful urban mobility.

Playful Urban Mobility

To delineate playful urban mobility as a research topic, this article positions it into extant perspectives and frameworks to outline its field of application and to map some of its manifestations. To avoid essentialist approaches that see play as an ontological (and therefore necessary) feature of some modes of transportation, we instead focus on the perceptions and interpretations of the people involved in different forms of mobilities - and the discourses, practices and social frames that arise around them. Rather we focus on the semiotic dimensions of playful urban mobility, and we will consider it as a kind of valorisation in accordance to Floch (1990). We will substantiate this model through illustrating how various notable play practices are positioned within it.

The Valorisations of Urban Mobility

As Cresswell (2006; 2010) argues, mobility can be understood as a composition of *movement,* which is observable and quantifiable, *representations*, which relate to the meanings that are being assigned to it in for example films, law or literature, and *practice,* which refers to the embodied human experiences of being mobile. The practices and representations of mobility are closely connected, as our experiences are often shaped by how mobility is represented to us and, alternatively, how mobility is represented is often based on

how it is practiced and embodied (Cresswell 2006). Following the idea of Cresswell (2006; 2010), we conceptualise playful urban mobility as a group of associated approaches to transportation which include diverse values and ideologies that are tangibly expressed in: the playful features of mobility devices; the emergent behaviours and practices of users found in their practical implementations; and the associated discourses of transport suppliers and consumers – capable, in turn, to shape the experience of mobility of the users (Cresswell 2006, 4). For this reason, we will focus on developing the valorisations of mobility emerging from its representations and practices, using Floch's semiotic square (1990). The semiotic square was initially developed as a tool for discourse analysis of automotive advertisements, it has been applied to a variety of domains. Floch developed it from a previous study of market spaces (Floch 1987) and subsequently applied it to other areas, such as furniture advertising (Floch 1995). The semiotic square has been modified for use in discourse analysis investigating topics such as book covers (D'Ambrosio 2008), environmental communication (Catellani 2009), tourism (Bertoša et al. 2011; Mocini 2015) and gender identities (Jobling 2014; Federici and Bernardelli 2018). These diverse fields of application testify both the analytical usefulness of the model, and the fact that, being framed at a high level of abstraction, it can be fruitfully extended beyond advertisement, to the everyday discourses and practices of value attribution.

Floch's initial semiotic square (Figure 1) builds on the semiotics of Greimas (1989) to develop a basic semiotic opposition that distinguishes between the opposite dimensions of utilitarian values (i.e. the use values of the object that is advertised) and existential values (which stem from base values that are related to identity and self-expression).

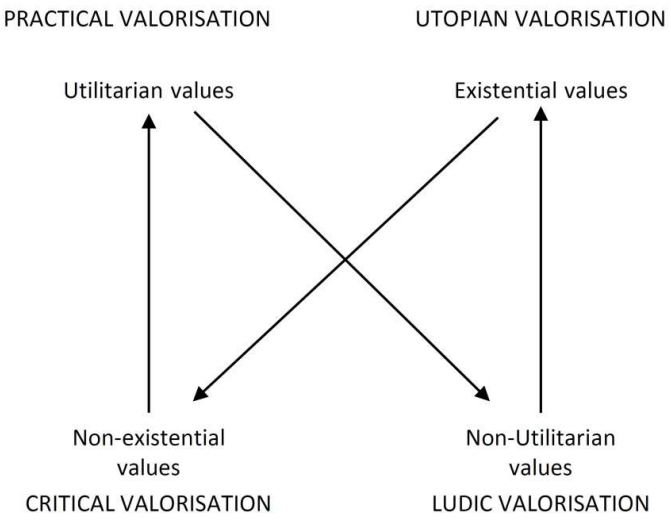

Figure 1. Semiotic square of valorizations (Floch 1990)

By creating an axis of contraries (utilitarian and existential values) and an axis of subcontraries (non-existential values and non-utilitarian values), Floch's semiotic square determines four deep semantic positions. He elaborates these positions as the four forms of valorisation that can emerge in surface-level discourses (illustrated in table 1). While the deep semantic oppositions are irreconcilable, the surface-level discourses allow contradiction and can indeed present more than one form of valorisation at a time, even those derived by contraries and subcontraries. Indeed, discourses often operate in a reconciliatory fashion towards such contradictions. Floch points out that many car advertisements promise to, 'combine business with pleasure' (Floch 1990, 130, authors translation from original Italian) thus reconciling contradictory utopian and practical valorisations.

Table 1. The four forms of valorization

Type of valorisation of cars	**Related Value**	**Floch's examples**
Practical valorisation	Utilitarian	'maneuverability', 'comfort', 'reliability'
Utopian valorisation	Existential	'life', 'adventure', 'identity'
Critical valorisation	Non-existential	quality / price ratio, innovation / cost ratios
Ludic valorisations	Non-utilitarian	'luxury', 'gratuity', 'refinement'

In this article we re-apply this model to account for the multifaceted ways in which people moving though urban spaces confer and assess the meaning of different mobility devices and practices. Refocusing Floch's valorisations on the issue of mobility, we delineate four non-exclusive types of mobility: practical, utopian, critical and ludic.

Practical mobility identifies the most convenient way of moving according to the perceptions of the people in motion. The utilitarian values focus on the comfort and the duration of the trip. This type of mobility generally favours private transportation (from cars and taxis to private jets) and expensive solutions (leg space in first class flights, warming seats in luxury cars) because of the comfortable, flexible, and stress-free mobility they provide.

Utopian mobility is related to the construction and perception of the identity of the mobile individuals. Almost every kind of vehicle can undergo this kind of valorisation and become a symbol of the status or ideals of their owners. For example, riding a bike can connote the cyclist as someone with ecologist ideologies, driving a sports car is a symbol of wealth, and using a Segway can be a matter of style and fashion (or anti-fashion). Differences between means of transportation can also become ways to construct one's self image in relation to

ethnicity, gender, sexual orientation, disability, culture, and politics. Some devices carry very strong utopian valorisations, for example: rollerblades, Jeepneys, Harley Davidsons, or tuned-up Honda Civics become symbols of pertinence to a certain (sub)culture, group, or community.

Critical mobility is based on a strategic thinking regarding the expenses and benefits arising from different means of transportation. The benefits can very well be individual (buying the bike with the best quality/price ratio) or societal/global (choosing to travel with a low carbon print because of climate change).

Ludic mobility is based on the hedonistic and 'unserious' pleasures that people can derive from mobility. It includes a remarkable breadth of activities. In order to give some structure to these variations with ludic mobility, we elaborate this valorisation using the four forms of playful activity defined by Roger Caillois (1958). These core forms of play: agon, alea, mimicry, and ilinx, support a definition of ludic mobility that conceptualises a wide variety of seemingly disparate playful activities.

In the context of developing the model of playful urban mobility presented in figure 2, the structure provided by Caillois' four forms provides scope for considering heterogenous mobile playful practices—such as using an e-scooter, playing *Ingress* or reappropriating urban spaces with skateboarding (Woolley and Johns 2001)—within the same framework. Additionally, it allows us to consider activities which might not usually be thought of as forms of play because their utilitarian functions overshadow other uses. For example, e-scooters are not typically understood as playful devices, but this does not mean that people don't play with them while using them to become mobile. Each of the four forms of play aligns ludic mobility with current and pre-existing play practices. Agon, or competition, connects ludic mobility to the possibilities of competition and races that arise from mobility

within the city, whether that be from vehicles or ambulation. Alea, or chance, connects to everyday practices of wandering, as well as more deliberate practices such as the Situationist *dérive*. Ilinix, or Vertigo, connects ludic mobility to the speed, swiftness and acrobatic movement enabled by certain vehicles, and practices such as parkour (Stevens 2007). Mimicry, or simulation, encompasses practices based on reimagining the meaning and function of urban elements (e.g. the use of stairs and other street furniture by skateboarders) and experiencing cities in unusual ways (such as marathons, parkour, and through augmented reality games such as *Pokémon GO*).

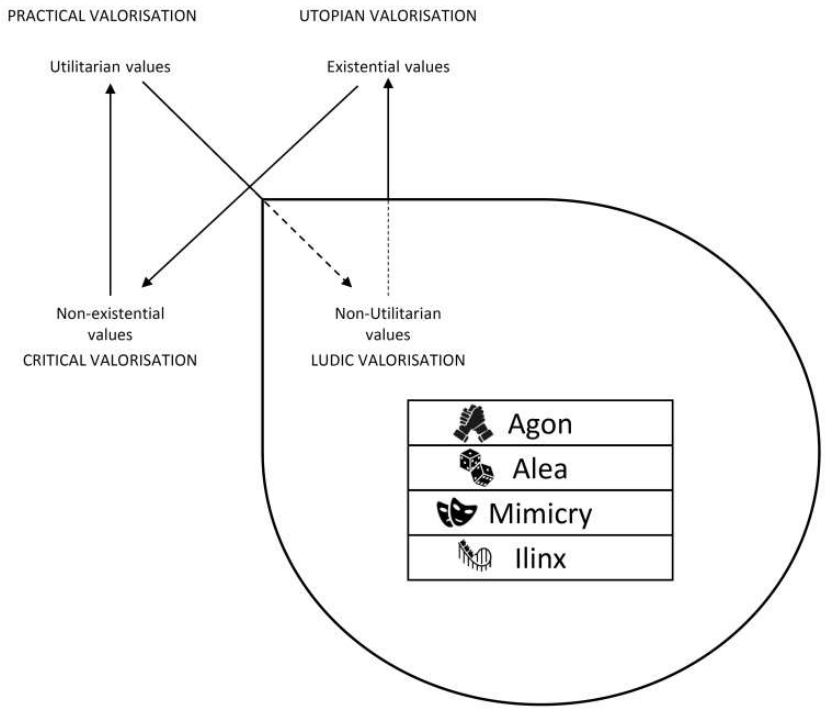

Figure 2. Semiotic model of playful urban mobility

The model presented is not static: the practices and discourses of play can cut paths across categories that join two or more forms of valorisation. These novel valorisations may even appear contradictory. Driving an expensive car because of the comfort it allows (practical valorisation) entails also the acquisition of a status symbol, as the drivers may start to think of

their car as something that defines their identity as elegant and wealthy individuals (utopian valorisation). In this case, the representation of mobility is shaped by how it is experienced and practiced (Cresswell 2006). Similarly, the spatial desire (Bäckström and Sand 2019) that leads a community of skaters in their struggle for the urban space (Vivoni 2009) and for their right to the city (Stratford 2016) is based on a critical valorisation of skateboarding. This leads to a playful use of skateboards, and therefore to a ludic valorisation – the mobility practices are being shaped by representations (Cresswell 2006). The practices of playful urban mobility are seldom purely playful and are often carved out from the spaces and times afforded by the scales of the orchestration of life created by the utilitarian necessities of the contemporary city.

The Practices of Playful Urban Mobility

The practices of playful urban mobility in the urban environment are intertwined with the everyday negotiations of life and movement in the city. They are shaped by the specific morphologies of the urban environment and matters like population density and traffic flows have a deep influence on people's experience of the practical actualisations of playful urban mobility. Our concern is precisely with considering these less institutionalised, 'unofficial' playful practices found in areas such as experimental art, sports and play, and software design that take place within the frame of ordinary, everyday experience.

From Flanerie to the Derive

While the well-noted ludification of culture (Raessens 2006) has a role in the growing significance of playful urban mobility, many practices of playful urban mobility have histories that reach back as far as the 19th century. The flaneur, for example, is an important early figure of playful urban mobility. Walter Benjamin (2006), in his analysis of the poetry of Charles Baudelaire, describes this figure of an urban wanderer or stroller, that walks

through the city without a direction or a purpose, looking at the city and the urban life from a somewhat detached perspective. Walking, in this case, does not respond to any utilitarian value, it is an open refusal of them: in the figure of the flâneur mobility acquires a specifically ludic character (de Souza e Silva and Hjorth 2009).

Other key examples can be found in the works of the Situationist International. Guy Débord's psychogeography (1956) proposes an alternative set of values to those of capitalism and production, which prioritize experience and humanity. Situationism, therefore, opposes the practical valorisation of transportation based on productivity and on the necessities of the market and proposes a valorisation that is both critical (McDonough 2002) and ludic (de Souza e Silva and Hjorth 2009). This opposition is demonstrated in the practice of the *dérive*. The *dérive* is a particular form of playful urban mobility, similar to the flânerie for its rejection of utilitarian values, in which the people moving through the city look to attain a state of *dépaysement*, of disorientation, in which a fresh gaze is able to rediscover the city and break its calcined routines. To attain this state, the person walking through the city has to give up their control over the movement and 'get lost' in the urban environment by following an unfamiliar and largely random path, therefore adding an element of *alea* to the practice. Gilles Ivain (1958) claims that a continuous *dérive* will be the main activity of the inhabitants of the future cities. He imagines the urban landscape to be in such a continuous transformation that the *dépaysment* of the inhabitants will be complete, and therefore predicts a sort of playable city in which technological advancement will facilitate a ludic relationship with public spaces.

From Skateboarding to the Playable City

The more artistic and conceptual approaches to playful urban mobility have become increasingly supplemented by countless activities that emerge from popular culture, the use

of everyday technologies, and the institutionalisation of urban art. Key examples include skateboarding, location-based gaming apps, and the Playable City project. This is not an exhaustive list, but rather these are elaborated to illustrate how by considering the 'playful' we can conceptualize quite diverse, and seemingly unconnected practices of playful urban mobility.

Skateboarding is a body-centred practice that produces and reproduces space in the city (Borden 2001). It has a strong ludic valorisation, based on the execution of 'tricks' and acrobatics that stimulate the pleasure of *ilinx*, *mimicry*, and *agon* (see: Snyder 2012). Skating also undergoes other valorisations, such as a critical one—when it becomes a form of social resistance (Beal 1995)—and a utopian one—when to deal with the identity, style (Buckingham 2009) and gender (Abulhawa 2008) of the skateboarders. Parkour and freerunning are valourised in a similar manner (see: de Souza e Silva and Hjorth 2009). The practices feature an overall ludic valorisation as a form of playful urban mobility that is born from social resistance (Waern et al. 2012), opens up the spaces of the city (Ameel and Tani 2012) and gives neighborhoods new meaning (Leone 2009).

Location-based game apps make mobility a game mechanic. The app forms a context that shapes the movement of players through the urban spaces, reframing mobility as part of a play activity. Some games, like *Wayfinder Live* might require the players to move through the city on purpose (Innocent and Leorke 2019), others like *Pokémon GO* or the MUV app gamify everyday urban mobility (Ferri et al. 2021). Gamified transportation apps like MUV tend to encourage sustainability, thus focusing also on a critical valorisation of playful urban mobility. Similarly, the studies that underline the health benefits of *Pokémon GO* (e.g. Koivisto et al. 2019) also highlight to critical valorisation of the activity. This 'playfulness' need not be limited to gaming apps, many other apps have playful or game-like elements or are explicitly gamified. For example, van den Akker (2014) describes how FourSquare users

‘play’ with their presence by deliberately not checking into locations, while Garda and Karhulahti (2019) describe the ludic aesthetic of the dating app Tinder.

The Playable City framework gave rise to several new projects that make use of technological advanced tools to provide ludic valorisations to playful urban mobility. For example, *Stop, Smile, Stroll*, by design studio Hirsch and Mann and winner of the 2016 Playable City Award, is a playful installation working as a traffic light in a pedestrian crossing. The installation entertains the people that are waiting to cross by asking them to show their feelings and by capturing their facial expression. A modified version of the picture is then shown by a twin device on the other side of the road. In this way the momentary pauses created by flows of traffic is made playful, valorising the ludic element of this everyday pedestrian experience. *Biketag Colour Keepers* is another project developed in the frame of playable cities that addresses ludic mobility. Created by artists Jayoung Bang, Yunjun Lee, Tine Bech and Julian Sykes during the Playable City Sprint, this project involves both cooperative exploration and competition, requiring the players to ride LED-coloured bikes around the city, creating colourful trails on an online map using GPS tracking. The players, using a device composed of LED lights, proximity sensors and a smartphone app, can also tag players from other teams and change their bike colour to make them join their team.

But not all forms of playful urban mobility necessitate direct control on the movement itself. There are a series of playful activities that can be played while commuting to transform the dullness of a bus ride. Some of these games are based purely on imagination: we look outside the bus window and imagine someone running outside and jumping obstacles, for example. Daniel Disselkoen’s GVBeestje! game builds on this sort of pastime. Disselkoen in collaboration with the public transportation system in Amsterdam placed several stickers of a flying monster with gaping jaws on the windows of different trams. A set of instructions, also positioned in the trams, explains to the commuters how to play: close one eye and adjust the

position of your head so that the monster ‘devours’ as many passers-by as possible in the time between two stops.

The Varying Dimensions of Playful Urban Mobility

By mapping some of the varying practices of playful urban mobility, ranging from *flanerie* to location-based games we can demonstrate two important points. First, that play is a crucial concept for conceptualizations of mobility within the city. While some practices of playful urban mobility do not serve a direct or obvious utilitarian purpose, playfulness can be considered a dimension of even the most instrumental and mundane forms of urban transportation. Technological advancements increasingly allow for engaging in playful activities, such as playing location-based games, while being mobile out of necessity, reinforcing the ludic aspect of moving. Even if practical and critical valorisations are likely behind the everyday choices of commuters as well as the long-term urban planning strategies, ludic valorisations of playful mobility are persistent and variegated. Second, within playful urban mobility there is a wide range of complexity and diversity. There are several different strategies to valorise transportation in a ludic way concerning different ways of moving though the city (e.g., on foot, by bike, by car, by public transportation) and different forms of play (agon, ilinx, mimicry, alea).

In order to deepen our perspective on playful urban mobility, we will now continue to develop the model through the following section that focuses on e-scooters, which are, in many cities, the most prevalent form of the personal mobility devices (PMDs) currently available. These devices are quickly becoming endemic, modifying the ways that citizens experience and move through urban spaces. The features of e-scooters make them a particularly illustrative case study for investigating the tensions between playful urban mobility and other non-playful values and practices.

The E-scooter

E-scooters have established new opportunities for playfulness within everyday mobility that suggest the possibility of the reconfiguration of urban space. They provide an apt context for the conceptualisation of playful urban mobility, because in addition to connecting play to mobility (and vice versa) they highlight that mobility itself is a key site of play which opens urban space to new spatial and temporal arrangements. The remarkable spread of the e-scooter device across many countries in Asia, Europe and the Americas was accompanied by several types of valorisation, which becomes apparent when, for example, examining the websites and social media feeds of various e-scooter service providers.

Valorisations of the E-scooter

Practical Valorisations

The practical valorisations are based on the idea that e-scooters offer freedom of movement, as one can ride and dismiss them without excessive limitations. This is often reinforced by the promotional material of many companies offering this service. US-based Lime describes their services as 'Smart Mobility for the Urban Commuter', anchoring their product to the rhetorics of the Smart City, that is, cities that use sensory data collected from citizens in a pervasive way to manage and improve urban functions, operations and services (Albino et al. 2015), while valorising rideshare e-scooters as a clever way to commute. Similarly, as of May 28, 2020 their homepage outlines in a minimalist way the three steps required for making use of their services - 'Locate', 'Scan', 'Ride' - again suggesting simplicity and ease of use.

Utopian Valorisations

Utopian valorisations of e-scooters are also common. This aspect is highlighted in the name of many of the companies, generally suggesting a notion of freedom, for example: 'Wind',

'Bird', or 'Spin'. This is often reinforced in their promotional materials: as of May 28, 2020 the homepage of US-based Bird, for example, showcases their new devices under the line 'see them fly' clearly connecting this seamless movement to the one that their users will experience; on the same date the homepage of US-based Spin claims that 'With Spin you're free to move'. These forms of valorisations appears also to address a specific demographic that are inclined to use e-scooters. Spin, for example, uses as their motto 'ride the moment', associating their product with carefree convenience and spontaneity.

Critical Valorisations

Critical valorisations of the e-scooter assume several forms. Some companies, like Bird or Spain-based Wind, make the dubious claim that their service is eco-friendly. On May 28, 2020 Birds homepage states 'Cruise past traffic and cut back C02 (sic) emissions-one ride at the time', while on the same date Wind's homepage claimed their products were 'zero-emission e-scooters'. Bird's homepage also invests some space valorising their devices as reliable and safe, underlining that they have 'Our safest batteries to date', 'Self-reporting damage sensors' and 'Dual anti-tipping kickstand.' E-scooters do not seem to share critical valorisations related to the struggle for urban spaces as skateboards do. While skateboards are often used as conscious means of spatial production that challenge the structures and regulations of the urban spaces (Borden 2019, Woolley and Johns 2001), the influence of e-scooters on the perceived, conceived and lived spaces of the city (Lefebvre 1991) palpably emerges from the socio-economic conditions of the companies that offer their services more than from the political awareness of their users.

Ludic Valorisations

There are also several ludic valorisations. Wind's promotional material is strongly oriented towards mimicry, for example, comparing their users to superheros and their services to

superpowers (the homepage opens with a huge ‘Get Super Powered’). As of May 28, 2020, Wind also promoted a feeling of ilinx on their homepage, inviting their users to ‘Zoom Through the City’ and claim they will be ‘whizzing around’. Sweden-based Voi also promotes a rather ludic narrative. As of May 28, 2020, their website opens claiming to offer ‘magic wheels’, makes several claims about how ‘fun’ it is to use their service and features images and videos clearly inspired by meme culture. Even when explaining riding the etiquette and rules of riding e-scooters it makes use of ludic valorisations to connote their positively (‘The sidewalks are lava! Stay on bike lanes or close to the side curb’).

Ludic valorisations of e-scooters, however, are not only proposed by the companies offering their services but can be promoted by a variety of other actors. For example, the ‘Lime Scooter Grand Prix’, a rideshare e-scooter race that took place in New Zealand, was organised by a local bar (Saxton 2018). The event introduced a clear element of agon to the ride, which was opposed by representatives of Lime, who described it as ‘reckless riding’ (Saxton 2018).

Ludic valorisations of e-scooters often develop from bottom-up perspectives and can be inferred by their actual uses. The feeling of novelty and freedom offered by e-scooters appears to appeal to a primarily playful means of mobility, which is suited for experiencing the urban environment from a new perspective. These valorisations, while sometimes promoted by the companies themselves, can often go against the discourses that they wish to convey and promote an unsafe use of the devices. In some cases, the playful valorisations can also be destructive, and e-scooters become a target of creative vandalism. Ludic valorisation, then, often creates tensions, both with other valorisations and with the practical issues raised by their use.

The playful aspect of e-scooters is prominent in their promotion and is due to some specific characteristics of the devices and of their introduction in the city spaces. As the emergence of e-scooters has happened suddenly, in the case of rideshare e-scooters almost literally overnight, they have yet to become 'institutionalized'. Unlike many more well-established and conventional means of mobility, such as bicycles, as well as other emerging mobilities like e-bicycles and e-cars, there is no dedicated infrastructure, and only a limited amount of regulation concerning e-scooter usage. Their novelty means that there are no established expectations on how e-scooters ought to be operated among other road users; the 'e-scooter road etiquette' has yet to be formed. Thus, e-scooters afford a flexible means for playful urban mobility, not just in terms of ludic city exploration, but also other situated and potentially spontaneous playfulness which respond to local conditions; whether it involves swiftly weaving among pedestrians (i.e. 'ilinx'), utilizing existing infrastructure in unconventional ways in order to experience urban environment from a new perspective (i.e. 'mimicry') or playful racing among friends (i.e. 'agon'). E-scooters quite deliberately communicate themselves as playful objects, through their 'toyified' appearance, as they generally feature bright colours, round shapes and informal writings (Thibault and Heljakka 2019). Their electric motors are small enough to be almost invisible and are very quiet: e-scooters look and sound like traditional scooters and especially the toy versions of them. They also quite obviously lack some utilities, such as seats and baskets for carrying personal belongings, which suggests that they are not designed to be purely practical devices. This is reinforced by the fact that some of the e-scooter companies portray their devices as well as riding them in the cityscape as something rather playful. We have mentioned Voi and its uses of caricature-like images and expressions such as 'The sidewalks are lava!' and 'Kick 3 times for magic feels!' on their website to present the instructions for operating the scooters. Similarly, US-based company Gotcha uses the following slogan on their website as of 28

May, 2020: ‘License to thrill’ to playfully describe the e-scooter experience. Representation shapes how mobility is practiced and experienced (Cresswell 2006), and all these factors combined communicate the idea that e-scooters are not ‘real’ vehicles and that therefore they afford courses of actions that are mostly playful.

The Ludic Tensions of the E-scooter

E-scooters are not simply toys, nor are they exclusively ludic mobility devices. Unlike many other devices of playful urban mobility, e-scooters have no specific places that are designated for their playful uses, like skate parks, for example. Rather, rideshare e-scooters are used in the city streets, alongside pedestrians and other less ludic-oriented vehicles. This means that e-scooter users must often choose paths through the city that host other uses of public spaces, such as sidewalks, where various competing activities—both mobile and stationary—are simultaneously taking place (Ehrenfeucht and Loukaitou-Sideris 2010). This mixing of e-scooters and other practices taking place in urban spaces is not unproblematic and this is clearly reflected in how the public discourses around these devices have rapidly shifted towards the concerns and threats that e-scooters pose (Gössling 2020). While novelty and lack of knowledge often affect risk perceptions (see: Slovic 1987), many of the concerns raised regarding e-scooters are not completely unjustified. The injuries associated with e-scooters and PMDs cannot be regarded as one-off or negligible (see: Kobayashi et al. 2019). Furthermore, the risk of injury is aggravated by the device being particularly susceptible to defects in urban infrastructure - such as cracks and rough surfaces (Platt and Rybarczyk 2020), while the use of e-scooters without the correct safety equipment, or while intoxicated, is alarmingly common (Kobayashi et al. 2019).

The negatively oriented publicity around e-scooters and the risky and careless behaviours associated with them, suggest that the perception of what is ‘safe’ is somewhat divisive.

While the risks associated with playful urban mobility are acceptable for some, for others they are too 'risky' and are considered a threat to not only the safety of their users, but also to other forms of mobility practices. We argue that the fact that these devices are valorised - and therefore used - primarily in a ludic way conflicts with the critical, practical and utopic valorisations of mobility and urban spaces. This takes place both on a discursive level and on pragmatic one, and can partially explain unsafe practices, risk-taking, disregard for others and other problematic aspects associated with the use of e-scooters. The opposition between the contradictory values behind such valorisations (utilitarian, existential and non-existential vs non-utilitarian) intensifies these divisive perceptions, potentially creating a divide among citizens.

Conflicts between ludic practices and safety and accessibility valorisations

Playful activities, as well as the risks associated with them, are mostly understood as voluntary by nature, although in some cases they are a response to undesirable necessities, such as commuting. The driver of an e-scooter is not a passive spectator, but (in a certain measure) controls the device as well as the risks involved. Due to the perceptions of voluntariness and controllability, the safety risks of riding an e-scooter can be regarded as individual level risks (Vlek and Stallen 1980). Individual level risks are perceived as more acceptable compared to the societal level risks, which are, contrarily, characterized by perceptions of involuntariness and uncontrollability (Vlek and Stallen 1980). In addition to the 'inherent' risks of riding an e-scooter, other easily avoidable yet dangerous behaviours are quite common, including the non-usage of protective gear and 'doubling' (i.e. two people riding one scooter simultaneously (Haworth and Schramm 2019). These and other dangerous behaviours can be regarded as manifestations of low perceived risk or, alternatively, of deliberate risk-seeking. This, we argue, results from the ludic valorisations that these devices are invested with, as well as from the playful practices that follow. The tensions between the

ludic valorisations of the e-scooter, and its other valorisations and uses, touch upon several key aspects of civic life, including safety, urban accessibility, privacy and privatisation which are discussed in the following subsections.

The 'Oasis Effect'

Ludic valorisations can sometimes downplay and erode the other valorisations of a certain object, sidetracking their users' interpretations. We will call this phenomenon the 'oasis effect'. Eugen Fink (1968) claims that play is an 'oasis of happiness' within everyday life, a way for escaping dullness and routine and enjoy a space that is at the same time safe and free. Being playful, then, involves adopting a frame of interpretation that separates play from everyday life on an ideal level and orients the perception of the activities that take place within it. Combined with the fact that play is an activity in which social limitations of everyday life as we know them do not apply (see: Huizinga 1938), this separation from 'real life' may contribute to the erosion of practical, critical and utopian valorisations and of the values they are related to. This can cause exposing oneself or others to hazard because play can be perceived as 'safe space', or at least one with reduced consequences and ramifications for actions.

In the case of e-scooters, this involves neglecting or underestimating some of the hazards they pose as enjoyment and pleasure associated with riding them tend to lower risk perceptions (see: Gregory and Mendelsohn 1993). This is often reinforced by the ludic valorisations derived by their playful appearance and those proposed by their service-provides. The latter, adopting delightful names, such as Wind or Bird, do not communicate e-scooters as something potentially dangerous, but rather something quite harmless and ordinary. Consequently, behaviours such as wearing a helmet might feel unnecessary. Based

on these notions, we argue that valorising e-scooters primarily as ludic has considerable implications on their safety, as well as on several other issues.

The oasis effect, weakening other valorisations, often gives the upper hand to ludic valorisations when tensions arise. In order to explore the issues emerging from these ludic tensions, we will articulate them based on the type of valorisations they oppose and on the kind of problematic behaviours they can cause, as shown in the following table:

Table 2. Ludic tensions and following behaviours

Name	**Ludic valorisations in tension with:**	**Description:**
Adventurous behaviour	Practical valorisations	Un-practical ludic valorisations see e-scooters as devices for risk-taking and thrill seeking behaviours.
Self-centered behaviour	Critical valorisations	A-critical ludic valorisations focus on the individual experience and disregard the effects of playful behaviours on other citizens.
Heedless behaviour	Utopian valorisations	Short-sighted ludic valorisations relate ideas of "freedom" to the use of e-scooters, while the latter raises issues of data protection and privatisation of space.

Adventurous Behaviour

According to practical valorisations, e-scooters are comfortable devices, quick and easy to use and rather convenient to move in the urban environment. This is reinforced by how the e-scooter companies often highlight freedom of movement when promoting their devices. Ludic mobility, on the other hand, valorises them as playful objects that can be used in un-practical ways to have fun. Therefore, in addition to providing useful means for commuting and of city exploration, e-scooters afford the user numerous opportunities to engage in voluntary risk taking, creating a situation where freedom to move in playful ways potentially means increased danger. One of the reasons behind risk-taking behaviours is the pursuit for

arousal (Horvath and Zuckerman 1993), often based on different forms of play. E-scooters can be used to achieve the ‘adrenaline rush’ of ilinix (by going fast or pulling stunts) or of agon (when involved in races). Due to the pervasiveness of e-scooters, such ‘risk play’ using these devices is available to basically anyone and anywhere in the city. The toyified appearance of the e-scooter suggests that they can (or indeed, should) be used for tricks and stunts. Nevertheless, e-scooters are not designed and hardly suitable for tricks requiring extensive skill and practice - they are heavy and thus too unwieldy. Therefore, unlike practices such as skateboarding, the forms of ilinx the e-scooter affords are often related to using them in ways, or riding in places (e.g. among traffic, on the sidewalk or even down a stairway), which are out of the ordinary and inherently dangerous.

However, deliberate risk-seeking is not only a means for achieving the adrenaline rush of ‘ilinx’. Lyng (2009) uses the term ‘edgework’ to describe such behaviours and conceptualizes risk-seeking as a form of negotiation between boundaries - in most extreme cases the one between life and death (Lyng 2009). Although prior training as well as skillfully maintaining control over one's emotions is central to the concept, the element of unpredictability is essential to the appeal of edgework (Lyng 2014) - one can never be completely sure of whether they will succeed the ‘boundary negotiation’ unharmed. In this sense, risk-seeking behaviours using the e-scooter can be seen not just as a form of ‘ilinx’ but additionally a rather extreme form of ‘alea’ - a game of chance. These practices of ilinx, agon and alea, then, are manifestations of the tensions between ludic and practical valorisations of mobilities, whose consequences relate most importantly to safety.

Self-centred Behaviour

Critical valorisations of e-scooters revolve around the fact that their use is cheap, does not create traffic and does not entail any CO2 emissions. From this perspective, e-scooters appear

beneficial both for their users and for the other citizens. Nevertheless, ludic valorisations and uses of these devices raise strong tensions. The risky behaviour related to ilinx, alea and agon we described above, affects the safety of other road users as well, as e-scooter drivers mingle among pedestrians (see Trivedi et al. 2019).

Additionally, as most cities lack the dedicated infrastructure to support e-scooter usage, they afford opportunities for experiencing the urban landscape and its infrastructure from an unconventional perspective - a form of 'mimicry'. However, for those not using e-scooters, they hardly come across as something 'fun' but rather as obstacles which they are required to share space with. Jimenez et al. (2018) pinpoint conflicts which result from the coexistence of e-scooters and pedestrians, including difficulty of detection, reduced reaction time due to the high speeds and lack of regulation. Pedestrians tend to feel more unsafe and uncomfortable when walking among e-scooters than bicycles, for example (James et al. 2019) - the playful seems to come across as capricious. Moreover, as e-scooters are dockless, they are often left on footpaths and other unsuitable areas, which poses risks to pedestrians, especially those with visual impairments, who might be unable to detect them. Unlike riding an e-scooter, sharing a sidewalk with them cannot be regarded as a voluntary activity. From the pedestrian perspective, the emergence of e-scooters and the risks they pose are 'societal risks' (see: Vlek and Stallen 1980) - involuntary and somewhat uncontrollable. Whereas using an e-scooter to speed down a sidewalk or through a marketplace can be perceived as a form of 'mimicry' by the rider, from the outside perspective such behaviours are merely sources of danger and a disruption to the status quo of the cityscape. Walking around cities seems to have become, even if just marginally, more dangerous. These practices of mimicry, together with those related to ilinx, agon and alea discussed above, give rise to tensions between the ludic and critical valorisations, whose effects are related especially to pedestrian safety and accessibility of cities.

Heedless Behaviour

Safety is not the only point of tension of ludic valorisations of e-scooters. A single type of mobility can be seen in the light of very different urban imaginaries, as exemplified by Nikolaeva and Nello-Deakin (2020) in their exploration of two contradicting 'velotopias': the Corbusierian utopia of 'efficiency and speed' as well as the Constantian utopia of 'discovery and play'. Although bicycles are central to both, these utopias have little in common - the former emphasizes the practical valorisation of the bicycle whereas the latter sees it as a ludic device. Similarly, e-scooters can be understood in light of contradicting future visions; that of the 'playable city' or, alternatively, that of 'mass surveillance and control', depending on how they are primarily valorised. While utopian valorisations of these devices suggest freedom of movement, carefree mobility and a direct connection with the urban spaces, their playful uses often downplay several issues related to privacy and privatisation that are in direct contrast with these ideas.

Far from being unproblematic and carefree, rideshare e-scooters raise several issues related to surveillance and privacy, although somewhat neglected in the discourses around them. The apps and devices rely on GPS tracking, and thus involve the sharing of personal data about the users' location and movement. Petersen (2019) suggests that, as e-scooters are primarily used for 'last-mile transportation', the data collected from their usage may accurately provide information on users' living arrangements as well as employment, social life and consumer habits. The usage of this data is often not specified by e-scooter companies (Petersen 2019) and the possibility of data breaches poses further risks to the users. Nevertheless, considering their popularity, the ludic as well as practical value of e-scooters seem to often outweigh the individual privacy and data security concerns. These issues of privacy and surveillance, however, cannot be solely regarded as conflicts between ludic, critical, and practical valorisations. The question of how much data we are willing to hand over to corporations is a

question of what type of society we want to live in. Hence, the reason for not using e-scooters or PMDs, or even opposing them in various ways, can be a reflection of one's ideology and, therefore, primarily utopian valorisation that contrasts the practical valorisations, or use values, of the e-scooter.

Similarly, far from the free and open space proposed by their utopian valorisations, the strategies adopted by service providers often go in the direction of the privatisation of public space. While the sudden appearance of e-scooters and the direct relationship that the citizens appear to have with the device make them seem as a bottom-up phenomenon, we should not forget that they are part of a globalised business strategy. Private companies distribute these devices, often forcing municipalities to create reactive regulations and citizens to adapt to this change of urban landscape. The lack of specific infrastructures that we mentioned cause a partial rewriting of the meaning of the urban spaces and of the day to day practices of the citizens. Furthermore, instead of merely something 'playful', some might perceive e-scooters as another symbol of tech-industry, 'global consumerism' as well as hectic lifestyle, which have come to pervade the urban landscape and culture. As argued by Fink (1968), seen from outside of play, a 'plaything' loses its character and becomes merely a piece of material or a product of industry. This can indeed intensify the tensions between ludic and utopian valorisations of the e-scooter.

Yet another tension arising between ludic, practical, and critical valorisations of the e-scooter relates to the notions of privilege and segregation of urban spaces. While the e-scooter companies portray their devices as simple, convenient and fun to use, this is only true for certain demographics and urban areas as e-scooters require maintained infrastructure as well as a level of physical capability from the rider to be safely operated. The limitations related to infrastructure and accessibility of these devices can lead to further demographic segregation in urban areas, and the proliferation of e-scooters can be seen as a part of the broader transit

development that favors rich areas around city centers (Purifoye 2020). Moreover, the discussion of privilege related to e scooters can be broadened to a global scale as these devices are mostly available in developed regions due to their infrastructure requirements.

E-scooters and Playful Urban Mobility

This discussion of e-scooters illustrates how playful urban mobility can produce constructive mappings of the tensions and conflicts that arise in the context of movement within the city. In the case of the e-scooter it is clear that these tensions in part stem from the ambiguity that the toyified appearance and playful uses create around perceptions of risk to self and others. But *Pokémon Go* and other location-based apps have also been subject to similar controversies, as distracted players were accused of walking out onto busy streets and otherwise disrupting the routines of the city and endangering themselves and others. The need for more work on issues of data and public space, parallel issue in many other spheres of daily life, including the disconcerting alignment that appears to be emerging between the ludification of culture and high-tech consumerism, which seems like it can only exacerbate already existing divisions within the city. It appears that, for some people, e-scooters have become a flashpoint of resistance to 'global' culture. For example, as of May 28, 2020, the Instagram account Bird Graveyard (@birdgraveyard), collects images and videos of people creatively destroying e-scooters: throwing them in rivers or from a window, setting them on fire, or simply pushing them on the ground. While other videos on the account show accidents provoked by e-scooters - as a sort of critical perspective justifying the destruction - many have an aggressive yet playful character.

E-scooters are hardly novel, but the sudden preponderance of them certainly is. It is this rapid introduction of e-scooters that has contributed to the sentiment that they are somehow a 'nuisance.' Their playful framing may also contribute to their negative image, as they are

perceived as inconsequential even while discourses claiming that they might have a role in creating sustainable cities are emerging (Hwang 2010, Longo and Roscia 2014, Nocerino et al. 2016). This is a form of critical valorisation of e-scooters, based on the idea that the low carbon print of electric vehicles makes them ideal solutions to guarantee agile urban mobility while diminishing air pollution. Nevertheless, whether e-bikes and e-scooters have indeed a low impact on the environment is still debated. Hollingsworth et al. (2019), for example, underlines how the manufacturing of these vehicles and their collection for daily recharging have a rather heavy carbon print. Furthermore, the generally short life span of e-scooters, around one month, increases their impact enough to prevent them to be green solutions (Moreau et al. 2020) - and likely creates lots of waste. While longer life cycles might make shared e-scooters a green solution after all (Moreau et al. 2020), the fact that their ludic valorisations can contribute to oversight regarding the issues in their distribution and their role in the current cityscape is problematic.

Conclusion

In this article we outline playful urban mobility as a methodology to engage transportation and mobility in contemporary urban environments. We have done so by making use of Floch's semiotic square of valorisations and applying it to urban mobility as outlined by Cresswell (2006) and its current evolution described by the new mobilities paradigm (Sheller and Urry 2006). We have then added a second layer of analysis by articulating Floch's ludic valorisation according to Caillois forms of play. Using this framework, we mapped the ludic valorisations of different types of urban mobility, revealing a wide and heterogeneous set of representations and practices. But using e-scooters to demonstrate this framework we were able to pinpoint some of the pragmatic concerns that arise from the unilateral implementation of new modes of transportation in the urban environment.

In future research we will continue to develop our approach to urban ludic mobility, for example by taking into consideration its cultural representations or engaging the regulations established by different policy-making bodies. In particular, it is crucial that future research explores how factors such as disability, race, gender and sexuality shape the experience of participants in playful urban mobility. At the same time, many other case studies are worthy of attention, ranging from classic ones (bicycles, cars) to technologically innovative ones (self-driving cars, drones, and Segways).

This work offers a conceptual framework for contextualizes the representations and practices of playful urban mobility articulate using valorisation and a nuanced understanding of human playfulness. This framework will support exploration of the benefits, challenges and criticalities emerging from the increasingly playful nature of urban transportation in the changing contexts of mobilities research.

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