Cartographies of poverty: Rethinking statistics, aesthetics and the law

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Abstract
The article explores cartographic and statistical registers of poverty as geo-legal technologies operating across shifting visual economies which structure ways of seeing and concealing ‘the poor’ in the urban landscape. Drawing on the fields of critical cartography and digital urbanism, and taking a 2013 controversy around Google Maps’ mapping of favelas in Rio de Janeiro as a starting point, it investigates the aesthetic role of digital maps and data in the legal geographies of urban poverty. It is argued that sociospatial encodings give form to poverty in ways that activate antipoverty responses and continuously support correlations between poverty and criminality. This argument entails a post-representational approach to maps considering their inscriptional, propositional and normative functions. Cartography, statistics and law are interrogated as devices of global governance that work aesthetically to shape poverty and its modes of appearance in the city, i.e., as productive methods of documentation as well as world-making, through which geocodings simultaneously create images of poverty and become functional of spatial transformations. Poverty is thus conceptualized as it is made into an aesthetic category subjected to continuous geo-legal modulations.

Keywords
Poverty, aesthetics, cartography, statistics, Google Maps

At the turn of the twentieth century, a new field of knowledge production and policy making has been established concerning urban poverty. In contrast to earlier charity-based models, scientific methods of social survey and social cartography emerged as the most promising tools to understand and fix ‘social problems’ in the world’s growing urban centres (Bales, 1996; Bulmer et al., 1991; Davis, 2006). The quantitative reification of poverty into
classificatory structures, calculative ranked measurements and sociospatial encodings has since transformed considerably the views and the lived experiences of ‘the poor’, with poverty being pragmatically framed as a problem that could be remedied by means of evidence-based legal reforms. By the mid-twentieth century, a global industry of poverty aid had been launched building on this increasing fixation with mapping poverty, through a planetary scale ‘data revolution’, in order to effectively solve it (Atia, 2014; Pahuja, 2014; Roy, 2010).

From an early fascination with slums in the world’s leading industrial cities to contemporary interests in finding alternative digital and technological forms of investigating urban settlements in the ‘underdeveloped’ corners of the world, the quest to know and contain urban poverty has since been continually renovated by ambivalent affects such as fear, horror, hatred, pity and benevolence (on this historical continuity, Davis, 2006; Roy, 2011). Also responding to affects, the historically constructed link between urban poverty and criminality has been continually re-instantiated through technical-scientific models, imposing conditions for poverty’s visibility in the urban landscape along with corresponding norms of circulation and confinement (Garland, 2018; Wacquant, 2009). These ever-shifting visual economies of poverty, dictated by expert gazes, keep on modulating territories and populations into manageable modes of appearance at the same time that they eliminate non-conforming existences from sight.

However, while the management of urban poverty certainly involves politico-ideological interests shaping dominant visual representations of ‘the poor’ (Elwood and Lawson, 2020), scientific formulations also work to produce concrete effects in the world by inconspicuously shaping ways of seeing and conditions of appearance of the very ‘social problems’ they inquire. Yet, the fast-advancing evidence-based field of poverty inquiry and management – supposedly rooted in objective representations of reality to enable projections and planned interventions – seldom factors in how its own practices impact the territories and populations that are being depicted and acted upon. Specifically considering the field’s role of prompting legal change, there seem to be no consideration as to how law participates in the creation of its supporting data and maps in the first place, and indeed of the ‘realities’ they purportedly represent.

Facing this circular predicament of self-reference, this article examines cartographic and statistical registers of poverty as geo-legal technologies operating across shifting visual economies and effectively guiding the ways of seeing (or concealing) poverty in the urban landscape. The main argument is that encodings of poverty’s sociospatialities, particularly in digital maps and data, give aesthetic form to poverty in the world and enable particular kinds of poverty politics – most centrally here, that of criminalization of poverty. In other words, sociospatial encodings endorse regimes of truth about poverty – i.e., they normalize the visibility and invisibility of poverty in the city – in ways that activate trends of anti-poverty practices and enact continuous legal re-instantiations of the historical correlation between poverty and criminality. In today’s global pattern of financialized and militarized cities, these iterations occur in increasingly more inescapable ways, notwithstanding the nuances of the hidden places of law (Braverman, 2011; Rolnik, 2019).

For this task, poverty is conceptualized as an aesthetic category, beyond a socioeconomic classification. Statistically- and cartographically-treated poverty form an aesthetic composition. Through calculations and geocodings, complexity is moulded into a linear and intelligible image: a visible or recognizable problem everywhere. Yet, images are themselves technology and produce effects in the material world (Bottici, 2019; Bratton, 2015). It is precisely in their technological aspect, rather than representational, that ‘images of poverty’ are interrogated. From this perspective, resulting from geo-legal modulations by maps and
data, poverty is made into an aesthetic category that also becomes functional – i.e., productive of world-making material effects.

Taking the controversies around Google Maps’ mapping of favelas in Rio de Janeiro, Brazil, as a starting point and drawing on literatures of critical cartography and digital urbanism, the article articulates cartography, statistics and law as devices of global governance that work aesthetically to shape poverty and its modes of appearance in the city. The first section looks into the digital mapping of favelas as a mode of knowledge production and geo-legal modulation. Specifically, it presents Google Maps’ recent participation in this history as an archetypal reiteration of the twentieth century’s ventures of urban poverty mapping. The second section revisits the history of social surveys to situate maps and data visualization techniques as both imaginal artefacts and technological devices that operate aesthetically in the transformations of urban poverty’s visual economy. Section three highlights key geo-legal implications of poverty encodings in terms of interplays between scientific quantifications and legal qualifications. Section four interrogates the historical absence of favelas from official maps pointing to a ‘geopolitics of invisibility’ which rules out the presence, or the very existence, of the urban poor in the city of Rio, in an instrumental way to the wider context of Latin America’s war on drugs. Finally, section five demonstrates some of the brutal effects of this geopolitics in terms of a dominant invisibilization, criminalization and indeed elimination of ‘the poor’.

As to the methodological approach, it is important to stress that although this article is empirically engaged, it is primarily aimed at a theoretical understanding of geo-legal processes. The local context in which this discussion is grounded is but a means to capture the wider conditions of the financial-militarized city which governs appearances and disappearances of poverty globally. Rio’s local complexities offer a privileged perspective to observe how geo-legal technologies engender visual economies that, in turn, normalize ways of seeing poverty and, in fact, inscribe its appearance, presence and existence in the urban landscape.

Guiding the empirical analysis of local aspects, the methodological approach of ‘recollec- tion as a method’ (Dobson, 2017) draws from the investigator’s accumulated experiences in the narrated context – in this case, my experience as a researcher, practitioner and activist in Rio de Janeiro at the time of the recounted events. As a critical practice-research method, recollection serves the purpose of relativizing institutional narratives and provides insights from other viewpoints – the counterpoints of ‘on the ground’ experiences. Hence, in what follows, I reconstitute a series of events which, from personal and collective memory, bring new insight into the invisibility (or selective visibility) of urban poverty. The contextual footnote references used throughout the text have been selected to provide evidence of the claims made as well as to illustrate the case to an international readership.

**Geo-legal modulations: The inscription of existence and nonexistence into maps**

In 2013, Google Maps removed the term ‘favela’ from its maps of Rio de Janeiro, Brazil. While the erasure was claimed to be motivated by a technical need to establish a hierarchy of input between official neighbourhoods and informal settlements overlapping in the same territory, it was also reported to have been lobbied by the local government for tourist and economic interests in the run-up to the 2014 World Cup and 2016 Olympic Games. Rather than a circumstantial innovation this ‘terminological cleansing’ seemed to echo a familiar...
and long-standing reluctance to record existing favelas on maps (Reyes Novaes, 2014; Rolnik, 2019; Valladares, 2009).

For many critics, the incident symbolically mirrored the violent episodes of evictions and decimations of entire poor communities that are recurrent in the history of the city of Rio. With this modification, markers of entire communities disappeared from the (digital) map, with favelas losing their specific denomination and geo-representation. At most, the areas of favelas would be simply referred to as hills on Google Maps, as indeed they are also popularly denoted – in a reference to their common location on a hillside. However, the limits of favelas do not necessarily coincide with the physical perimeters of a hill, that is if they are on a hill at all. In practical terms, decades and century-old favelas were no longer visible as favelas in Google’s maps of Rio.

This digital erasure was regarded as a violent gesture not only for the symbolic implications of wiping communities off the map but also for the reiteration of an ongoing history of violence that targets favelas and urban peripheries in the urbanization process in Brazil, since the end of the nineteenth century (Reyes Novaes, 2014; Rolnik, 2019). At the centre of this tension is the fundamental issue of a supposed impermanence of these informal and often uncounted, yet densely populated and long existing, settlements (Rolnik, 2019). Official maps from local governments tend to overlook the existence of some favelas or not to register their internal streets and landmarks. As uncharted areas, with narrow streets and alleys built spontaneously, improvised, and under unofficial designations, many favela residents live their lives without a formal residential address.

In other words, although favela residents form close to a quarter of Rio’s population, they do not form part of the city’s official account of itself. Likewise, in Google Maps’ platform, areas of favelas are often shown as blank spaces, mere blurs in the city, with occasional streets but no clear indication of the presence of a dense population. One might think that this problem could have been overcome by real-time satellite registers. However, what a ‘bird’s eye’ satellite image of a favela shows is an undeciphered mass of built-space density with unclear view of streets and pathways. The conversion of a same area into ‘map version’ often portrays an apparently uninhabited area whitewashing entire communities of people. By being unnamed by Google in 2013, favelas have been further hidden from view, with no traces left of the presence and indeed the existence of some communities.

In 2014, Google responded to criticism by starting an initiative to geo-process some of the very communities it had previously unnamed. By the time of the Rio Olympics in 2016, Google launched its 360-degree video platform ‘Rio: Beyond the Map’ where some areas of a few favelas are mapped using Google Street View technology. The platform also shows life stories of a few local residents who, we are told, successfully managed to trespass the social, geographical and digital border separating favelas from the city (Luque-Ayala and Maia, 2019). Other local collaborative and open-source initiatives have also emerged in recent years, where new digital technologies offer crucial tools for collecting and geo-processing information about favelas and their territorialities.

However, technologies play an ambiguous role in the sociospatial dynamics of favelas. On the one hand, digital maps are providing important tools for local struggles and for the denunciation of violations of rights in favelas. A growing number of apps now take favelas into account or have been created specifically aimed at favela populations, e.g., for the reporting of police brutality (such as DefeZap and Nós por Nós Mesmos). On the other hand, digital maps have been associated to a main role of economic inclusion, opening new markets for capital expansion (Luque-Ayala and Maia, 2019; see also Rizzini Ansari, 2020). While the benefits for local populations are still being interrogated, there is still no official access to or use of most of the newly revealed sites – e.g., no new bus lines for the newly
assimilated urban fabric have been created as a direct result of this new knowledge. However, the new knowledge about uncharted territories can be found to have facilitated renewed forms of segregation and isolation, e.g., in the ways that navigation apps now flag unsafe areas or ‘areas of increased risks of crime’ coinciding with favelas’ surroundings.7

This concrete scenario of ambiguous trends in spatial registrations of favelas can be construed as an archetypal reiteration of the twentieth century venture of urban poverty mapping presented in the next section. Although targeted by growing fascination from outsiders’ gazes, particularly in terms of the vibrant favela culture (Facina, 2013) and in terms of social research projects aimed at creating social change (Valladares, 2009), there is still scarce data about favelas in Brazil at large and Rio de Janeiro specifically. Depreciatively classified by the Brazilian Institute of Geography and Statistics as ‘subnormal agglomerates’, favelas have only recently, in 2010, been included in the Brazilian census and other national household surveys though integrated official statistics across the over 1000 favelas in Rio are still inexistent, with many favelas remaining uncharted and unaccounted for (Motta, 2019; Valladares, 2009). The lack of data, however, is here construed beyond a so-called ‘spatial exclusion’, with the historical nonappearance of favelas figuring as a denial of the presence and even existence of the urban poor in the city – an aesthetic condition, as will be argued, very much guided by geo-legal modulations.

As the Google Maps controversy seems to epitomize, digital technologies today have been introducing further ambivalent conditions to territories of poverty, mirroring early social investigations, with mobile media and software applications providing new tools of data collection. Due to the concrete effects that digital maps and data (or their failure to capture) can produce upon the populations and territories they depict, a very instrumental role of (geo-legal) modulations of social realities emerge in contrast to the objective representational role they are purportedly aimed at. The next section explores the broader processes whereby cartographic records produce and reproduce images of poverty and lead to consequences for people and sites identified as poor.

Mapping the poor: The aesthetic effects of statistics and cartography

The connections between quantitative and spatial methods of data analysis within social research can be traced back from the rise of social sciences as a structured discipline and of social surveys and social cartographies as prevailing techniques of empirical documentation at the turn of the twentieth century (Bales, 1996; Bulmer et al., 1991). Historically emergent within the global processes of industrial urbanization, a growing concern with the new conditions, symptoms and remedies concerning poverty has marked the birth of social sciences, social research and social policies as we conceive of them today. Although relatively recent, this ‘expert history’ significantly influenced the directions of the twentieth-century politics, particularly the coalescence of a global industry of poverty aid (Davis, 2006; Roy, 2010). More importantly to this article, however, it has also considerably transformed both the views and the lived experiences of the world’s poor (Pahuja, 2014; Roy, 2011).

Science and empiricism have played a crucial part in the shifting perceptions of poverty. Although demographic and statistical studies of population had been developing since the sixteenth century in Europe (e.g., the English Poor Laws world-leading experiences of periodic monitoring of pauperism), before the 1880s there were no consensus on the extents of urban poverty even in the world’s most modern industrial city, London (Bales, 1996). With the emergence of modern empirical social investigations, in particular the social survey movement – led by social reformers such as Charles Booth, Seebohm Rowntree, Arthur
Bowley, W.E.B Du Bois among other prominent names (Bulmer et al., 1991) – the meaning of poverty has been reframed by novel standards of households’ minimum needs. Giving rise to technical-scientific milestones – intended not to the formulation of philosophical grand theories but to influence social policy and law reforms (Bales, 1996; Porter, 1995) – standards of poverty measurement continually reformulated what it meant to be poor across borders, in an increasingly globalized world (Atia, 2014).

A resultant socioeconomic explicative system – in contrast to earlier theological charity-based models (Geremek, 1994) and mainstreamed in Keynesian economics by the mid-century – framed poverty as a negative material condition requiring repairment, the antithesis or by-product of wealth: the unfortunate yet inherent condition of those who did not accumulate, the have-nots. The objective identification of poverty, accordingly, would entail assimilation of lived experience into a framework of negative thresholds, where ‘the poor’ get modulated into the expected form of poverty in order to be properly rescued from it – think of how charity campaigns often expect passive and vulnerable receivers, how social benefits require labour-inclination and microcredit demands entrepreneurial attitudes from their beneficiaries; at a macropolitical level, note how development aid entails debt acquisition and adherence to pro-market reforms reshaping the structures of entire nations which then produce further inequalities and call for more aid and more adjustments to foreign creditors expectations (see Elwood and Lawson, 2020; Mader, 2015; Pahuja, 2014; Roy, 2010). The various modes of dealing with ‘the poor’ historically shape the traces of poverty, rather than the other way around – see also Simmel’s (1965) philosophical definition of who is ‘the poor’, in any given society, as depending less on any specific deprivation but rather on whether someone is the subject of assistance.

Moreover, the spatial distribution of poverty in urban centres and the need to organize urban sprawl also became a growing scientific and social concern early in the century leading to an upturn in design innovations in maps and data visualization techniques (notorious examples being Booth’s maps as well as Du Bois’s infographics; see Atia, 2014 and Kitchin et al., 2009 on the scientific history of cartography). Accompanying these developments, space-based forms of doing away with objectionable poverty in cities were increasingly predicated on removal or suppression from sight facilitated by both state interventions and private investments (Ferreira da Silva, 2009; Roy, 2019) – from early examples of social cartography prompting slum clearances (Davis, 2006) to financial activity in the housing market redlining areas of poor financial risk and recursively transforming urban landscapes (Aalbers, 2005; Rolnik, 2019).

But what are these indicators that cartographers and surveyors keep log of as symptomatic traces of poverty and which need to be monitored and intervened upon? From a philosophy of science perspective, social calculations render the world objective (intelligible and intervenable), originally attending to government, before it came to constitute the foundational principles of academic disciplines (Porter, 1995). In this perspective, the study of social problems to inform policy solutions, actually produce its own objects by turning statistical entities into factual or ontological entities with little consideration to their co-creating role (Motta, 2019; Porter, 1995).

An ingenious aesthetic function can be found in the practices of inscribing and quantifying social contexts that work to make poverty into a matter of ‘fact’ and visible as such in the world. This claim bridges epistemology and ontology, whereby sociospatial relations are cemented as real-world manifestations, articulating visual politics (see also Elwood et al., 2017; Elwood and Lawson, 2020). Recorded poverty data collate the visual assemblages that
make poverty visible and perceptible in the world, regardless of how diverse the contingent material conditions of lives can be, and become productive of concrete transformations of lived experiences and of intervention frameworks.

In view of this, statistically- and cartographically-treated poverty is construed as an aesthetic framing that unifies a wider heterogeneous phenomenon into such visible forms and traces. Through quantitative and calculative geocodings, complexity is moulded into a linear and intelligible image – an aesthetic composition that articulates sensorial, cognitive, affective and even imaginative elements, amounting to what Bottici (2019) designates the imaginal. Besides being a construct resulting from aesthetic processes, image is itself a technology that produces effects in the material world – both sense-making and world-making. It is the technological aspect, rather than the content, of ‘images of poverty’ that is of interest here.

Hence, images of poverty take shape in a very productive way by being recorded as data by maps and statistics. To say that they assemble the imaginal components of poverty is not to suggest that they compile dominant outlooks into poverty (although see Elwood and Lawson, 2020) but rather that data enable perceptions and intelligibility at the individual and social level, even before a dominant visual regime is forged out of a biased reading of data (Bottici, 2019). Simply put, descriptive data paint a picture of poverty which is less of a representation than a prescriptive template, an a priori imagery to be later detected in the world. On the other hand, other historical and contextual elements that do not participate in the poverty-defining repertoire (the current visual economy) are rendered invisible.

It has been established that sociospatial encodings of poverty give aesthetic form to poverty. But how can encodings be so powerful to even reshape the world they attempt to apprehend? This is a key point explored in critical cartography and digital urbanism through the notion of representation, but yet to be more closely elaborated with the lens of legal geography through the aesthetics of poverty (Braverman, 2011; Valverde, 2011). Osborn and Rose (2004), for example, construe the cartographical inscriptions in nineteenth century social surveys as a technology of spatialization that not only made space ‘thinkable’ but also ‘practicable’. Through social surveys and cartography, urban poverty is not simply revealed as a sociospatial phenomenon (an urgent problem requiring action) but also increasingly moulded into its prescribed sites, places and forms of circulation – i.e., in substantiating Victorian public health and sanitary reforms (Foster, 2015).

This understanding draws on important corpus of critical work on the role and concrete implications of maps in modernity. Rather than representation of objective information, critical cartography theorists have long reframed maps as social constructions with concrete consequences for the production of space by visualizing and making visible social contexts (Crampton, 2001; Harley, 1992; Pickles, 2004). Cultural landscape geographies also explore the production of visual geographic knowledges conferring important insights to how politico-ideological spatial practices affect the material conditions of everyday cultural life (Cosgrove, 2008; Mitchel, 2003).

Albeit substantially different in method and outcomes, digital mapping is also critically politicized and, in fact, present an intensified potential to transform the spaces they map, both due to how it unifies the user-mapper (Crampton, 2001) and transforms maps into ever-provisional objects (Cosgrove, 2008). This epistemic shift entails a critical conceptualization of digital cartography as a dynamic, multifaceted and interactive practice that transcends its self-referential and representational terms (Kitchin et al., 2009; Wilson, 2015).
The user-mapper of digitally visual geographic knowledges interfaces with imagetic platforms in an active and generative way (a point also made by Bratton, 2015), allowing innovative opportunities for aesthetic experimentations with spatial-interactive immersions into that which is digitally made visible (e.g., in a Cape Town’s black township, Brunn and Wilson, 2013; in both Peru and Kenya rural areas, Panek and Netek, 2019).

However, perhaps the most significant epistemological shift to be stressed is that which concerns the visual politics of mapping by which digital maps manufacture particular kinds of sociospatialities and enable continually renewed projects of urban governances. A post-representational approach to mapping (Elwood, 2015; Kitchin et al., 2009) is here evoked to underline the inscriptive, propositional and normative functions inherent to the various poverty mapping ventures today and in the past. In this light, ‘A map does not simply represent the world; it produces the world’ (Kitchin et al., 2009: 13; also, Crampton, 2001; Pickles, 2004). Hence, sociospatial encodings of urban poverty are productive visual practices that prescribe poverty’s visuality and work to substantiate antipoverty practices of various emphases. As the visual economies of poverty change in time, largely motored by the effects of preceding antipoverty practices, new forms of visualization emerge and continually produce the world as we know it.

Likewise, visual theorists assert that, as the product of both mental faculties and material conditions, images are not simply a visual resource but rather operative constructs that shape the world and its subjects (Bottici, 2019; Bratton, 2015). The visual inscriptions of social dynamics into maps make them into imaginal artefacts and technological devices that operate (aesthetically) in the transformations of urban poverty’s visual economy, directly affecting urban landscapes. Other key references articulate this image-technological aspect of digital mapping practices, particularly in in terms of how Google Maps shapes what appears in cyberspace and enact renewed (corporate) orderings of people’s interactions with space (Vaidhyanathan, 2011; Zook and Graham, 2007). Regarding how digital mapping increasingly captures favelas in Rio de Janeiro, Luque-Ayala and Maia (2019) provide important insights to how they re-configure territories by altering circulation and spatial formations. The digitized spatiality of favelas come to uncover the calculative practices of computational logics as a political technique, beyond a representational tool, deployed by ICT corporations to facilitate capital expansion whilst championing a (benevolent) discourse of socioeconomic inclusion.

Building on these important references, the various initiatives to map poverty – starting from the late nineteenth century and continually reformulated by digital technologies contemporarily – demonstrate how sociospatial encodings generate a framing process that structure ways of seeing poverty in the urban landscape and engender further aesthetic effects in the city by deploying the visible attributes of poverty to assimilate and intervene upon populations and territories. Social and geoindicators are simultaneously constructs and apparatuses in infrastructures of global governance (Merry, 2011). They give aesthetic form to poverty, outlining its markers and modulating the material conditions of lives in poverty.

Due to this imaginal politics that manufacture poverty as a recognizable and manageable problem in the world, what scientific methods induce and inscribe as seeming objective attributes of the poor, is instead preceded by inscriptive, propositional and normative practices that enable the markers of poverty to be seen and quantified in the first place. The next section develops this argument by examining how the aesthetic formation of poverty is deployed in geo-legal dynamics and can engender various politics of poverty.
Quantification and qualification: Outlining a legal geography of urban poverty

Without insinuating that poverty ought to be a fantasy with no material grounds, the argument presented in this article challenges the socioeconomic understanding of poverty, refuting explanations that turn poverty into a mere consequence of the accumulation and concentration of wealth. Such explanations, it's been argued, take poverty for its symptoms (i.e., they seek to quantify visible features such as physical traits, demographic factors, spatial distribution, class symbols, behavioural patterns) thus overlooking the internal processes by which material lack occurs in the first place. From a perspective of critical legal geography, however, the analytical emphasis here rests in the interplays between technical-scientific quantification and legal qualification that create such aesthetic traces of poverty.

To begin to notice these geo-legal processes, let us consider how legally supported racial categorizations and crime rates typically modulate populations and territories into the forms of poverty, generating severe consequences of social labelling, ghettoization, redlining, segregation and criminalization (Aalbers, 2005; Gilroy, 1982). In a self-fulfilling manner, over-representation of urban violence and crime incidence associated to certain groups or urban areas can have the effect of provoking increasingly higher rates of violence and crime precisely because of how they affect the visibility of such areas or groups – i.e., inciting more surveillance and policing. Hinton (2016) demonstrates this with how mass incarceration in the USA creates over-representation of racialized groups in the prison population and reproduces itself, whereby law enforcement reiteratively delineates the contours of the criminalized profiles by recording incidences. Thereafter, more data confirm empirically the criminal inclination of the black and poor urban populations, thus reinforcing the need for policing and spatial containment. This, in turn, results in escalating imprisonment and increasingly produces more records of the criminal and racial innateness, hence producing a continued increase in crime rates that circularly validate their legislative and policy grounds.

On the other hand, other forms of data-based and georeferenced indicators that are prominent in wealthier areas of the city – like human development, which relies on legally sanctioned relations of consumption, circulation, employment, education, health, etc. – are largely inexistant or deleterious in marginalized areas precisely because of a lack of or neglect from key devices (services, infrastructures, policies) that could manufacture these indicators in the first place and, consequently, end up confirming the unfavorability of such areas to relevant service providers, urban planners and policy makers. The contemporary digital mapping advancements bring further layers of complexity to such formations, e.g., with gaming applications directly affecting property law and real estate markets in neighbourhoods that are spatially digitized (Judge and Brown, 2018).

Relying on legal iterations, the growing cartographic and statistical records of poverty intersecting race and crime institute transitory truths, disseminating momentarily images that will be revised while new intervention and recording strategies remould them into other shapes and forms. Recalling Simmel (1965), again, poverty figures as an empty concept filled by different aesthetic components at different historical moments according to the prevailing ways of seeing and assisting to the poor. In that sense, sociospatial encodings endorse regimes of truth about poverty, working to essentialize poverty and its conditions of appearance in the city.

Moreover, as self-fulfilling scientific quantifications, the resulting images of poverty materialize in the world and confirm their own veracity. Here’s where the imaginal poor actualize as the working poor of welfare, the inventive poor of microfinance, the pity-worthy poor of philanthropy, the resourceful poor of cash transfers, among other visual repertoires.
of those who are made visible by their own framework of rescue (Elwood and Lawson, 2020). On the other hand, the imagery also affects residual existences that do not correspond to these aesthetic expectations and are further removed from the realm of visibility – suppressed as the work-shy, idle, dangerous, unbankable and other objectionable poor who, in turn, confirm the relevance of an entire industry to keep expanding itself in an increasingly more specialized way.

Backing up this suppression is law, historically validating the compliant and criminalizing those which must be concealed from sight: the vagrants, beggars, vagabonds, squatters, illicit traders, informal dwellers, fraudsters, benefit cheats, and many other profiles of the ‘crime-ridden poor’ (Garland, 2018; Wacquant, 2009). It is law that typifies distinctions between the good and the bad poor, the deserving and the undeserving poor, those who conform and those who do not adhere to the prevailing aesthetic forms of poverty (see also Katz, 1989). This legal qualification, hence, operates as quantified data become the measure against which perceptions of poverty occur, activating binary legal codes to ascribe that which is seeable and that which is not. Coming full circle, the normative and momentary truths of poverty also concretely activate trends of antipoverty practices to fix such imaginal problem (and continually reshape it).

In this light, law cooperates with devices of global governance that work aesthetically to shape poverty, deploying sociospatial encodings (maps and data) into geo-legal technologies. In each of the above imaginal models, legal operations and frameworks are actively participating in the materialization of good and bad ‘profiles’ by framing the world with lenses provided by the geo-legal devices whilst continually reshaping their scope of perceptibility. Thus, working as productive devices of documentation as well as world-making, cartography and statistics simultaneously co-create images of poverty and become functional of its spatial transformations. Not only the geographies of poverty but also its legal infrastructures of validation or criminalization are recurrently recast by these devices that operate technologically. From this conjunction of the legal and the urban, poverty becomes recognizable by its aesthetic features made visible in changing times: its quantified and qualified sites, people, cultures, dangers, miseries, deprivations, etc.

The nature of this legal and urban consociation is largely articulated by critical legal geographers in terms of the managing of urban disorder premised on knowledge practices that visualize the urban space (Blomley, 2010; Brighenti, 2010; Campbell, 2013; Valverde, 2011). Influential to this article’s argument, Braverman (2010) analyses how urban spatial design is taken for granted as static built environment but is, in fact, a fabric of technological devices acting through the visibility of physical space and making themselves invisible. As ‘geolegal sites’, then, the territories of poverty – slums, peripheries, outskirts, favelas – are subjected to a ‘dual project of seeing and concealing’, being at once pushed away, further to the margins of the urban landscapes, and being simultaneously highly surveilled and policed (Braverman, 2010: 174). Thereafter, it seems natural or inevitable that territories of poverty happen to be at the margins, or circumscribed as breaks in the urban grid, often covered up with walls or other devices of architectural hostility, and with different flows of people and conditions of circulation. They also ‘naturally’ present traces of socioeconomic, cultural, racial, gendered, spatial characteristics, the symptomatic factors of how poverty ‘appears’ in the world as we know it, despite a series of other unperceivable components.

It has been argued that, as an imaginal and aesthetic category, poverty becomes a visible or recognizable problem everywhere in the world, captured as a unified entity under the totalizing markers of ‘the poor’. It has also been sustained that law (legal practices and institutions) not only responds to but also participates in the creation of its own supporting images, and indeed of the factual realities that data and maps purportedly represent.
Perhaps more so today than ever before, as the administration of poverty rescues also becomes more and more globally unified. In the international landscape of the global industry, the global blueprints of poverty aid are clear and evidence-based, the imaginal comprehension of poverty as one and the same everywhere, requiring formulaic responses that work to transform cities all over the world.

Over decades, the changing global trends in poverty interventions by legal measures – such as slum clearances, land reform, urban development, welfare infrastructures, cash transfers programmes, private microcredit initiatives – are closely linked to processes of urban transformation – e.g., directly affecting the everyday manifestations of street vending, informal housing, shadow economies, alternative transport services, and other unregulated uses of the public space at large (Campbell, 2013). From this perspective, poverty is made into an aesthetic category that also becomes functional – i.e., productive of world-making material effects. But how does this play out in the concrete scenario presented in this article, where ambivalent mappings of the urban poor seem to prompt invisibility within a contemporary visual economy of ever-expanding poverty imageries and visualities?

**Geopolitics of invisibility: A state and corporate-forged impermanence of the urban poor**

The absence of favelas in the maps of Rio de Janeiro – whether in terms of their specific designation or in terms of the internal mapping of most favelas’ streets and alleyways – might seem, at first sight, to be in dissonance with the history of global monitoring and governance that targets the urban poor worldwide. However, considering the fact that favelas are generally subject to ostensive, often militarized control – and this is the case whether territorial control is held by the so-called ‘organized crime’ or the police and military forces (see Reyes Novaes, 2014; Wacquant, 2008) – that absence cannot be read as pure and simple oversight. Instead, I argue, the absence is more adequately construed as the proper inscription of a clear and historical geopolitics of invisibility (Motta, 2019; Reyes Novaes, 2014, see Brunn and Wilson’s (2013) ‘geographies of silences’ in the black township of Khayelitsha). The failure to count is itself data, i.e., information on a historically existent yet censored geopolitics. This section delves into the geo-legal dynamics on favelas prompting invisibilization or selective visibilization of the poor which, in turn, enable a pernicious politics of poverty predicated on criminalization and indeed elimination.

As argued earlier, there is a particularly aesthetic function at play in statistics and cartography that frames the heterogeneous, seemingly disordered manifestations of poverty into manageable or fixable forms and that determines the conditions of poverty’s own appearance in the city. This is a point where epistemology and ontology are mutually implicated, by way of geo-legal mechanisms that manufacture particular kinds of urban governances and urban life. The inconsistent registers of the presence of ‘the poor’ in the city’s official account of itself – in Rio’s geography and historiography (Motta, 2019; Reyes Novaes, 2014; Valladares, 2009) – lead to unmemorable existence of entire communities. At a micro-level of everyday life, thousands of people have no home address, do not receive mail, cannot open bank accounts, cannot access basic services or apply for jobs. At a macro-level, they literally do not make it into a map, which means their territorial occupation is rendered illicit and can be easily wiped away as if they never existed.

The Brazilian urbanist Raquel Rolnik (2019) explains that exclusions from maps have long proved to be a key element in Rio’s urban formation in terms of securing moral and legal authority for consistently evicting favela residents. Rolnik defines a ‘permanently
transient’ condition for the urban poor, particularly aggravated within a global pattern of evictions and housing policies fuelled by urban financialization. A permanently transient condition means that an occupied piece of land is a financial asset with settled futures and the threat of capture and removal is always imminent. Registering a transient community in the map is an all too decisive move for an imminent annihilation. ICTs’ digital encoding of hitherto uncharted territories might destabilize this but also immediately reconstitute new calculative spatialities into the same urban fragmentations, only this time with higher economic incorporation (and liquidity) into the global circuits of financial capital (Luque-Ayala and Maia, 2019).

As impermanent yet enduring settlements, some existing favelas have nonetheless been part of the landscapes of the city of Rio for over 100 years, whilst numerous others have vanished with no remaining evidence of their past existence. To construe this in terms of a geopolitics of invisibility acknowledges that encodings of poverty’s sociospatialities historically support convenient imageries to control poverty’s appearances. Notwithstanding its motivating agendas and ideologies, which are beyond the scope of this article, such imageries do work in the world (as technologies) and activate all sorts of antipoverty practices as ‘imaginal politics’ (Bottici, 2019). The accumulation of more and more data resulting from these practices, in turn, continue to inform and co-form the long-standing legal correlation between poverty and criminality – in the case of favelas, as will be seen next, in a way that is instrumental to the wider context of the war on drugs.

Certainly, it is important to distinguish what Google’s suppression represents and what omissions in official maps from local authorities stand for. This is a fundamental differentiation between the purpose of map-making by the state and by informational corporations in global capitalism. The distinction is important, though sometimes not so clear (see Luque-Ayala and Maia, 2019 on the entanglements of corporate governmentality and sovereign power in the digital making of territories). Elsewhere I have collaborated in an analysis of the contemporary models of urban development in Latin America by examining the practice of removals of the undesirable poor from city centres in terms of a ‘security-led growth’ and an ‘investment-led “pacification”’ (Cortes-Nieto and Rizzini Ansari, 2018: 47). In that work, it became clear how the ‘re-conquest’ of abandoned terrains occupied by certain social groups seen as dangerous plays a crucial role in ‘attuning the city to investors’ expectations due to their symbolic and material meaning in terms of images of sovereignty, security and prosperity’. The boundaries between state and market can be indistinct in a ‘entrepreneurial city’ such as Rio, where a developmental-military-financial urban administration explicitly advocates a political project of social cleansing to attract investments (Harvey, 1989; Rolnik, 2019). Currently new forms of so-called neoliberal alliances between public and private sectors reveal how militarized urban management and financialization are deeply connected (Aalbers, 2005; Roy, 2010; Wacquant, 2008). It is not always the case that neoliberal governance operates by means of soft forms of power and requires fewer state apparatuses of control, order and coercion (Ferreira da Silva, 2009; Rolnik, 2019).

Moreover, the aesthetic making of poverty is implicated in both public and private interventions vastly expanding the ‘infrastructural imperialism’ of the digital (Vaidhyanathan, 2011). The historically productive failure to count the urban poor work to shape the images of favelas as an impermanent, malleable, displaceable, and ultimately solvable problem – by inclusive frameworks of assimilation or punitive frameworks of elimination. The ambivalent character of Google’s suppression followed by active mapping of some favelas to satiate a foreign fascination, in the Olympic context, seem not to have deviated from the geopolitics of invisibility despite its claims of digital inclusion (Luque-Ayala and Maia, 2019). On the contrary, it intensified it (on this intensification
see Rizzini Ansari, 2020). In view of this, the lived experiences of favela residents are increasingly more impacted by an antipoverty framework, combining security and financial (public-private) interests, that is simultaneously problem-solver in its purported aims and deadly in its everyday manifestations.

**A deadly machinery of dispossession and disappearance**

The main point raised thus far is that a geopolitical invisibilization of poor populations and territories is consolidated in urban landscapes through a reliance upon cartographic and statistical encodings. This has been construed as a pattern inherent to geo-legal dynamics operating at a global scale and, as I argued, exacerbated in the case of Rio de Janeiro where local particularities such as unofficial segregation and state-sanctioned violence add up as complexities for poverty’s aesthetic production. What I aim to stress in this final section is how strikingly concrete and material the invisibility (or selective visibility) of urban poverty can be.

Again, it is crucial to keep Rio’s complexities in mind: a city where the urban poor are at the same time violently surveilled and permanently kept away from sight in a warlike dynamic notoriously characterized by systematic state violence – including abductions, torture, extrajudicial executions, mass slaughtering, and enforced disappearances against local residents (Ferreira da Silva, 2009). The ‘warlike’ atmosphere is deep-rooted in the prolonged war on drugs implanted in Brazil’s criminal system (Carvalho, 2006; Wacquant, 2008). It confronts an ‘internal enemy’, grounded in principles of national security inherited from the civil-military dictatorship in the 1960s–1980s, with foreign influence of the USA’s offensive against poverty, crime and drugs in ‘bad neighbour’ Latin American countries (Carpenter, 2003; Hinton, 2016; Sader, 2008). This so-called war requires and reproduces an urban landscape marked by segregation and extermination of the urban poor, whereby state security infrastructures are profitably and violently deployed through racial subjugation for territorial reappropriation (Ferreira da Silva, 2009) whilst favouring private-sector solutions to social problems (Roy, 2010).

However, this is a recent history and before the war on drugs there were other prohibitionist legal frameworks criminalizing impoverished and racialized groups in Brazil – e.g., gambling, samba, capoeira and other afro-Brazilian cultural expressions have been historically outlawed enabling continuous dispossession and disappearances – what has been referred to as the continuous legal re-instantiations of the correlation between poverty and criminality. There is a vast literature on the hegemonic international paradigm of prohibitionism and critical scholarships have exposed the criminalization of drugs as yet another ideological form of control based on race and class hierarchy that sustains persistent structures of poverty criminalization (Hinton, 2016; Provine, 2007).

The point is that regardless of the epochally criminalized activity, favelas remain historically stable as territories of crime with law enforcement practices continually creating evidence of their inherent criminality. In a circular reiteration, the empirical evidence mustered in crime statistics and maps of violence confirm the social concern motivating the containment of urban poverty and fuel further antipoverty politics. This circuit has been critically found in early positivist criminology, which upheld statistically grounded truth claims about the physical profiles of criminals, confirming eugenicist pathologizations and measures of ghettoization (Davis, 2006; Ferreira da Silva, 2009; Roy, 2019). It can also be found in the ways that the legal regulations of microfinance today draw on indicators from the ‘audit culture’ of corporate social responsibility standards (Elwood, 2015; Merry, 2011) and sustain the broader visual economy, at a global scale, splitting the Global South and Global
North (Mader, 2015; Roy, 2010). In both examples, the resulting images of poverty mobilize ambivalent affects and engender renewed antipoverty practices accordingly.

Demonstrating how this also plays out in the context of Rio’s favela, recent findings from Rio’s Public Defender’s Office (Haber, 2018) substantiate a well-known trend of poverty criminalization: in criminal court cases where a ‘suspect’ is arrested in a favela or is identified as connected to a favela controlled by drug trafficking groups, that very geolocation constitutes (in courts practices, not in legislation) an aggravating circumstance of culpability and will likely be the determinant factor for framing the alleged suspect for a supplementary offence of ‘association with the drug trafficking organizations’. In other words, one’s place of residence became incriminating evidence, empirically and statistically verified, an effective a priori attribute interpreted by legal institutions as a matter of fact: the poor (and criminal) are those who inhabit favelas. The favela geolocation is raised to the status of an objective factor by the justice system, drawing from aggregate crime data, without considering that the image of criminality attributed to favelas and their residents has been previously forged by the accumulated operations of this system.

From this ingenious aesthetic production of poverty in favelas, an entire city actualizes the war, with shared codes, territorial boundaries and security measures. Of course, the war on drugs is not a war in the typical international sense and it is also not a civil war. In fact, one of the main struggles of local social movements and human rights groups is precisely to refute the narrative of a war taking place at all. There is a discursive dispute over the very meaning of the deaths and disappearances in that setting, in order to oppose the indemnification of the violence perpetrated by the state which the discourse of war facilitates. This ‘war’ is rather, as Allen Feldman (2019) suggests, a regime of truth processed through accidentalization and falsified through quasi-legal categories – such as ‘resisting arrest’ or ‘threatening a police officer’ which mean that neutralized targets must have been part of the locally organized armed groups which then legitimizes their elimination – mustering circumstances that authorizes exceptional or martial punitive practices – what critical criminologists label ‘penal law of terror’ across Latin America (Carvalho, 2006). In the discursive dispute against this ‘war’, it is not uncommon for families, especially mothers, to have to come forward and contend that a particular corpse was not of a criminal – by showing to cameras the victim’s proof of employment.10 Worker and criminal are two main normative-aesthetic categories that distinguish the good and the bad poor in that context.

To put it concisely, there is no war but the militarization of social life is unquestionably a governing dynamic in these scenes of urban conflict. It is true that, in recent years, even the National Armed Forces were deployed to control certain areas,11 adding to the warlike atmosphere even more notably. As a result, only in 2018 there have been 1532 registered deaths resulting from security interventions in the city of Rio alone.12 In Brazil, an average of 14 people die at the hands of police officers every day.13 These are data disseminated by public and independent agencies based on official records, counting the retroactively acknowledged poor that have been ‘eliminated’. Other deaths remain unaccounted for and unmemorable as human rights group will frequently report.14

Regarding the aesthetic role of statistics and cartography, one should question what it might mean for public institutions to admit such high numbers of lethality within the above-described generalized failure to count the poor. Despite their disastrous proportions, these figures of violence often mobilize affects of fear or insecurity and can be worked to boost a sense of need for more military control of the situation. Indeed, as argued earlier in this article, images of poverty are both created by and mobilize ambivalent affects that enable various forms of antipoverty practices. It is no surprise that the 2018 elections in Brazil and the resulting change
of government have been marked by growing calls for military intervention\textsuperscript{15} for a regime that is already in place and, despite the bloodbath, remains seemingly invisible.

Moreover, failure to count and strategic mobilization of numbers work together giving aesthetic form to poverty and – by way of its inscriptive, propositional and normative functions explored earlier in this article – becoming functional of continuous spatial transformations (Luque-Ayala and Maia, 2019). Through such geo-legal modulations, renewed ways of seeing poverty are actualized and new conceptualizations are outlined leading to imageries of ‘the poor’ being applied and performed in everyday life. This ends up enacting further exclusionary dynamics in the concrete world. The images of poverty are as such created and continually creative, putting in place renewed configurations of poverty in the urban space and, thus, activating its normative world-making effects. Moreover, the visual economy of poverty operates the ‘disappearance of disappearances’ (Feldman, 2019) concealing this intricate mechanism with the tropes of war and finance.

A cross-sector criminal-financial exchange enables the global expansion of the war on drugs’ frameworks with intensive funding of law enforcement and foreign aid packages everywhere (Carpenter, 2003). Albeit essentially different, criminalization and financialization walk hand in hand as modes of poverty administration that assimilate entire populations and territories and refine long-standing legal patterns determining the conditions of possibility of poverty’s visibility in the first place (through data and maps), which then objectively confirm the relevance of such public-private antipoverty measures. Following a proper global mandate, as Ferreira da Silva (2009) termed it, the forces of finance and security are intricately combined in a deadly machinery of both dispossession and disappearance – be it by removals driven by urban renovation plans of an entrepreneurial city; or by police incursions that result in extrajudicial executions within a besieged city (both very much validated by legal institutions).

Conclusions

Year after year, this landscape of death, disappearance and removals is intensified, with more war apparatuses being deployed to intervene upon the populations and territories of poverty in Rio de Janeiro. As more and more data confirm the associations between the poor and the criminalized within the locus of favelas, the rate of various forms of (political, symbolic and corporeal) suppression becomes a celebrated indicator of success of a not-so-long-established fixation with knowing poverty in order to do away with it. Of course, the benevolent discourses of the global industry of poverty aid will take comfort in reproaching such an appalling ‘solution’, making sure to blame it on corrupt institutional cultures and state failure – which in turn, work to increase the value of its own mission and reconfirm the importance of expanding itself.

Although there is no clear causal line implied in this article’s argument, the contradictions between the ‘data revolution’ of our times and the ever-changing ways of seeing and responding to the world’s poor emerge clearly from the outlook of a financialized and militarized city. By theorizing on the aesthetic role of digital maps and data, the article outlined inconspicuous links between poverty knowledge, mapping practices, legal reforms and landscape composition. It explored how geo-legal technologies affect the visual economy and the lived experiences of urban poverty globally, specifically stressing how aesthetics plays out in continuous re-instantiations of the historical correlation between poverty and criminality.

By developing this argument with the lens of legal geography through the visual aesthetics of poverty, I sought to highlight the operative effects of scientific formulations (and
their interplays with legal qualifications) beyond the biased interference of political-ideological interests and dominant regimes which are most commonly evoked in this discussion. In doing so, the article offered insight into counterintuitive outcomes of a global framework of poverty remediation through maps and data in the favelas of Rio de Janeiro. Moreover, by exploring how digital technologies and ICT corporations like Google take up the stage, I stressed the entanglements of corporate governance and state power, financialization and militarization, and other such tropes of the private and the public which are often kept separated in critical appraisals albeit mostly indistinguishable in the realm of lived experiences. In the case of the pursuit of knowing and fixing poverty, they have been construed as co-creators of social problems, epistemically and ontologically, by conditioning their appearances and disappearances.

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Notes
1. ‘Google ‘removes word favela’ from Rio maps’ by Donna Bowater, The Telegraph, 9 April 2013. Available at: www.telegraph.co.uk/technology/google/9982153/Google-removes-word-favela-from-Rio-maps.html (accessed 8 October 2019).
2. It was reported in the media that this removal resulted from a campaign by Rio’s municipal administration. E.g., ‘Google to amend Rio maps over Brazil favela complaints’, BBC, 26 April 2011. Available at: www.bbc.co.uk/news/world-latin-america-13193503 (accessed 8 October 2019).
3. The 2010 census in Brazil (IBGE, 2011) indicated nearly 1.4 million leaving in Rio’s favelas and 11.4 million nationally. The challenges of collecting data about favelas, however, result in contested numbers. Local initiatives have started to develop alternative, community-based censuses. E.g.: ‘Mapping the Maré: a new census shows how a Brazilian favela really works’, The Economist, 30 May 2019. Available at: www.economist.com/the-americas/2019/05/30/a-new-census-shows-how-a-brazilian-favela-really-works (accessed 8 October 2019).
4. ‘How Google is putting Rio’s invisible favelas back on the map’ by Max Opray, The Guardian, 9 October 2016. Available at: www.theguardian.com/sustainable-business/2016/oct/09/invisible-favelas-brazil-rio-maps-erasing-poorer-parts-city (accessed 8 October 2019). Also: ‘The Importance and Challenges of Putting Favelas on the Map’ by Natalie Southwick, RioOnWatch, 11 October 2016. Available at: www.rioonwatch.org/?p=32519 (accessed 8 October 2019).
5. Part of an interactive online collection on Google Arts & Culture. Available at: https://beyondthemap.withgoogle.com/en-us/.
6. ‘Youth Forum Launches ‘Nós por Nós’ Application to Denounce Police Violence’ by Jody van Mastrigt and Stephanie Reist, RioOnWatch, 24 March 2016. Available at: www.rioonwatch.org/?p = 27670 (accessed 18 June 2019).
7. ‘In Rio, Mapping Gunshots Can Backfire’ by Raphael Garcia, *CityLab-Bloomberg*, 29 September 2020. Available at: www.bloomberg.com/news/articles/2020-09-29/the-apps-that-map-rio-s-gun-violence-can-backfire (accessed 21 December 2019).

8. As revealed in statement by Maria da Penha, resident of Vila Autódromo: ‘when they announced that the Olympic Games would be in Rio, we knew we were in trouble. [...] I always knew my home would be removed one day, but this moment was the worst in my fight’. Transcribed and translated by author from: www.youtube.com/watch?v=1W_zM7koJy8 (accessed 21 February 2018).

9. Examples of crime datasets kept by local authorities worldwide are abundant, such as the UK’s Metropolitan Police Crime Map available at www.police.uk/pu/your-area/metropolitan-police-service/junction/?tab=CrimeMap, the Chicago’s Gun Crimes Heat Map at https://data.cityofchicago.org/Public-Safety/Gun-Crimes-Heat-Map/iinq-m3rg. There are also various privately initiated datasets mapping violence globally ‘to change the world’, such as the ‘Our World in Data’ platform at https://ourworldindata.org/about. Finally, UNODC also keeps logs of violent crimes that work to substantiate the ‘drug control’ agenda worldwide, at: https://dataunodc.un.org/

10. E.g., in a news report about the killing of Rodrigo Serrano in 2018, resident of Chapéu Mangueira, his mother displays his work records ID covered in blood, stating: ‘I don’t want my son’s image to be stained. He was not a thief or a drug dealer. He was a worker and had his work ID with him when killed’. Rodrigo Serrano was executed by the military police for standing in a bus stop with an umbrella, which was allegedly mistaken for a firearm. “Executaram meu filho”, diz mãe, durante enterro de garçom morto no Chapéu Mangueira’ by Marcos Nunes, *O Globo*, 19 September 2018. Available at: https://oglobo.globo.com/rio/executaram-meufilho-diz-mae-durante-enterro-de-garcom-morto-no-chapeu-mangueira-23083858 (accessed 8 October 2019).

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13. ‘A devastating scenario: Brazil sets new record for homicides at 63,880 deaths’ by Don Phillips, *The Guardian*, 9 August 2018. Available at: www.theguardian.com/world/2018/aug/09/brazil-sets-new-record-for-homicides-63880-deaths (accessed 8 October 2019).

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