

Shawn W. Miller

## AUTOMOTIVE ENCLOSURES

### The ›Nature‹ of Rio de Janeiro's Streets and the Elite Domination of the Urban Commons, 1900–1960

On 7 September 1944, Brazil's Independence Day, President Getúlio Vargas inaugurated Vargas Avenue in Rio de Janeiro, the most visible legacy of his 15-year dictatorship. At 3 kilometers, there was nothing extraordinary about its length; Haussmann had built longer new avenues in Paris in the nineteenth century. At 80 meters in width, however, Vargas Avenue was the world's widest traffic thoroughfare, its 16 automotive lanes exceeding the lane capacity of almost every street, highway, and freeway built before the end of the century, even in the US. The two-year project required the demolition of more than 500 downtown buildings, including the town hall, a venerable school, and five colonial churches. Dozens of streets were consumed, including two of the city's former major thoroughfares. Tens of thousands of residents were displaced, and tenement dwellers, professionals, industrialists and artisans were all forced to relocate to other parts of the city. Most devastatingly for the city's urban poor, the new avenue obliterated Praça Onze, the public square on which the city's famous carnival had been celebrated with dancing and music. Praça Onze had long been the gathering place for the city's slaves, free blacks, and working and immigrant classes to gather in commerce, celebration, and, sometimes, conflict. After 1944, it was overrun with automobiles, and samba composers wrote lyrics in which they described the city's poor descending from the hills to gather again at Praça Onze, only to find that it was no longer there.<sup>1</sup>

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1 See, as one example, ›Laurindo‹ by Herivelto Martins, at Daniella Thompson, Praça Onze in Popular Song, Part 2, 17 June 2003, URL: <[http://daniellathompson.com/Texts/Praca\\_Onze/praca\\_onze\\_pt.2.htm](http://daniellathompson.com/Texts/Praca_Onze/praca_onze_pt.2.htm)>. ›E quando a escola de samba chegou / Na Praça Onze não encontrou / Mais ninguém / Não sambou.‹ (›When the samba school arrived, they did not find Praça Onze; and nobody ever danced again.‹) All translations are provided by the author.

The requirements of the city's growing traffic, or, more specifically, the political demands of a powerful, although minority, motoring class, insisted on the conversion of the city's commons, its public streets and squares, into near-exclusive automotive territory.<sup>2</sup>

Henri Lefebvre has argued for what can be characterized as a capitalist evolution of human spaces, a process by which raw space is transformed by human occupation and social hierarchies from a state of nature into rather pronounced manifestations of human culture. For him, spaces before human presence represent primal volumes with neither shape nor meaning. When humans arrive on the ground with the intent to settle, they begin to produce space: they shape it by containing it within walls, lines, and fences, and then make their spaces meaningful by performing in them, engaging in what Lefebvre refers to as spatial practice. Spatial practices, such as commerce, strolling, gossiping, executing criminals, bull fighting, celebrating festivals, courting, etc., give spaces purpose and meaning to those who use and reuse them daily, that is, they turn spaces into places. Then, in a final evolution that Lefebvre calls the domination of space, the more powerful social classes find the means to dominate spaces through various forms of exclusion, often with the help of evolving economic circumstances or the adoption of new technologies. Human spaces, many of which began as commons with communal resources, became private property, enclosed against the weak and now dispossessed, a process that could take a decade or many centuries.<sup>3</sup> In a recent book, Derek Wall has ambitiously documented this final phase, demonstrating that across much of the world, modernization has meant the demise of the commons – farms, fens, forests, and fisheries – moving them from the category of communal resources regulated for the benefit of the many to increasingly privatized spaces restricted for the benefit of a few. Wall argues against the idea that non-dominated spaces, the commons, were necessarily utopian and egalitarian, but contends that the transition has increased inequality of access and thus diminished the majority's access to resources and hence their social and political power.<sup>4</sup>

This article attempts to apply these concepts – the nature of space and the transformation of commons – to the urban arena, particularly to city streets. Streets are an unusual example of the commons in part because of their urbanity, but more importantly because throughout the process of modernization and even domination, streets have remained, with few exceptions, common property. Moreover, while nearly all commons have undergone a historical contraction since the early modern era, streets, by contrast, experienced an expansion beginning in the nineteenth century that intensified

2 On Vargas Avenue and the history of Praça Onze, see Evelyn F. Werneck Lima, *Avenida Presidente Vargas: Uma drástica cirurgia*, Rio de Janeiro 1990; Roberto Moura, *Tia Ciata e a Pequena África no Rio de Janeiro*, 2nd ed. Rio de Janeiro 2005; Samuel Malamud, *Recordando a Praça Onze*, Rio de Janeiro 1988, pp. 17-31; Bruno Carvalho, *Porous City. A Cultural History of Rio de Janeiro (from the 1810s onward)*, Liverpool 2013.

3 Henri Lefebvre, *The Production of Space*, Cambridge 1991, pp. 38-40, 164-165. See also Łukasz Stanek, *Methodologies and Situations of Urban Research. Re-reading Henri Lefebvre's 'The Production of Space'*, in: *Zeithistorische Forschungen/Studies in Contemporary History* 4 (2007), pp. 461-465.

4 Derek Wall, *The Commons in History*, Cambridge 2014, p. 84.



Avenida Presidente Vargas, nearly complete, c. 1944. Due to its width, the avenue's construction required the destruction of more than 500 buildings, suggesting the city's automotive priorities. (Album do Rio de Janeiro [binder's title, bound photos], vol. 2, no date, no publisher. Courtesy Harold B. Lee Library, Brigham Young University)

substantially in the twentieth. Nevertheless, despite the retention of their legal status as commons, they also became dominated by elite classes, and this is more strongly apparent in the developing world. Over time, what had been common space, a resource available to everyone and utilized in myriad ways with multiple meanings, became increasingly a near-exclusive space where movement was the dominant form of usage and where motorists, street users sheathed in the bodies of large, dangerous new technologies, reaped most of the benefits. The automobile enhanced the social power of motorists who, with the help of legislation and impersonal violence, came to dominate much of the urban commons and diminish many of the ways in which the street had formerly been utilized. This is an almost universal, if poorly understood, story affecting most of the world's modern cities, but it was particularly poignant in Brazil where motoring always remained a privilege of a relatively tiny class. Beginning in the 1920s, officials not only legislated in the automobile's favor but also denied the car's costs in

terms of fatalities and increased congestion. Despite these two costs, which were apparent to everyone else, officials ignored death and emphasized policies that they believed would prioritize automotive movement. Such policies only brought more cars, and hence more congestion and death. By engaging a diverse set of sources, such as daily newspapers, popular magazines, abundant legislation, and street photography, this paper hopes to offer a fine-grained understanding of the automobile's spatial revolution in the capital of a developing nation that saw the car as the primary symbol and evidence of its modernization.<sup>5</sup>

In Brazil, the construction of Vargas Avenue was an important milestone in the elite domination of the city's public spaces. It not only destroyed the city's quintessential space for carnival, it also prevented the return of streetcars to the corridor that had been their primary route, just as the motoring classes had previously banned oxcarts, handcarts, peddlers, and animal traction to speed up the automotive traffic in previous decades. A growing number of public buses vied for the Avenue's broad spaces, but they were inevitably trapped in the congestion created by too many private vehicles. Because the Avenue was in fact too large for the surrounding street network, within two decades portions of its many lanes were converted into the city's largest parking lot, where the storage of private vehicles on the public common prevented the use of much of the space even by public transport operators. The public street's benefits had been largely directed to the private interests of car owners. If for a few years into the 1950s the city permitted parading on a segment of Vargas Avenue for the three days of carnival, there would no longer be any dancing and singing there during the rest of the year, which was much lamented.<sup>6</sup>

## 1. The Nature of Public Space in the Pre-Automotive Era

For Cariocas, the residents of Rio de Janeiro, the pre-automotive street was a place of significant meanings that was utilized in manifold ways. Particularly for the poor who constituted the city's large majority, the street was more than a network for transportation; it was the shared commons, the urban, human habitat where much of the population spent their waking and working hours. In a tropical city in which most of the housing's stuffy rooms lacked windows, the street was a favored space. While the street had always been a place for flow, for the transpositional mobility of people and

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5 Joel Wolfe, *Autos and Progress. The Brazilian Search for Modernity*, New York 2010, argues that Brazilians placed the automobile, as tool and symbol, at the center of the nation's search for modernization and for acceptance by the developed nations that Brazil was trying to imitate.

6 Celso Franco, *Eu na contramão. Os bastidores do trânsito carioca nas memórias do seu ex diretor*, Rio de Janeiro 1997, p. 274; for the details of Vargas Avenue's construction, see Lima, *Avenida Presidente Vargas* (fn. 2), pp. 33-34, 38, 49-53.

goods, many of its movements and activities had nothing to do with getting from point A to point B. The street was above all simply a place to be, one of the only spaces on the nation's inequitable landscape where every human body belonged without having to pay rent or admission or offer labor in exchange for the right to occupy space. As a result, the street was a locus of intense diversity and spontaneous cultural invention: a place for funeral processions and carnival parades, children's play and impassioned protest, itinerant peddling and family parties, crime, courting, gossip, dancing, shopping, and fighting. In fact, with equal access for all, nearly everything could take its literal place on the street, despite the authorities' ceaseless attempts to regulate public behavior in civic spaces.<sup>7</sup>

Because urban spaces mattered, the Carioca had a large and ancient vocabulary to name them. What was in English a mere square was in Portuguese a *praça*, *rocio*, *largo*, *jardim*, *adro*, *passeio*, or *campo*, depending on its size, shape, location, and how it was used. Moreover, each street would be referred to distinctively as a *rua*, *viela*, *beco*, *boquieirão*, *praia*, *avenida*, *cais*, *ladeira*, *caminho*, *calçada*, *travessa* or other name. For example, a *largo* was an irregularly shaped square, often no more than a widened section of a street; a *boquieirão* was a street that was perpendicular to (and ended at) the shoreline; a *praia*, which is today translated as ›beach‹, was any street that ran along the shoreline; and a *ladeira* was an extremely steep street, sometimes with steps. Nearly all of these terms pre-dated the colonial era and were imported from Portugal's public spaces. A further linguistic indication of the significance of urban public space for the Portuguese was another old term, *logradouro*, that referred to all urban public spaces collectively. The *logradouro* included everything from squares, bridges, alleys and quays to the city's beaches, and it was seen as a single, connected public realm, a disheveled set of spaces that flowed seamlessly around the city's built elements. The term, used in municipal legislation and in everyday banter, literally meant ›a place to enjoy‹, and when used by residents expressed – often militantly – their right to occupy and use the city's public spaces.<sup>8</sup>

Importantly, before the *logradouro* would be reengineered for the car, Brazilians perceived the city's public spaces, despite their intense occupation and usage, as a natural rather than a manufactured – or, to use Henri Lefebvre's term, produced – space.<sup>9</sup> Despite the streets' ›production‹, by both its enclosure within the city's building walls

7 While the sources on the traditional street's spatial practices and meanings are diverse, the best single summation from the period is João do Rio, *A alma encantadora das ruas*, Rio de Janeiro 1995, originally published in 1908. See also Olavo Bilac, *As Ruas do Rio de Janeiro*, in: *Almanaque Brasileiro Garnier*, vol. 6, Rio de Janeiro 1908, pp. 244-246.

8 The verb *lograr* means to enjoy the use of something; *-douro* as suffix has the same meaning as ›-tory‹ in English, a place, as in ›laboratory‹. Hence, ›a place to enjoy‹. On street names and types in the nineteenth century, see ›Nova Planta da Cidade do Rio de Janeiro‹ (Rio de Janeiro: E. & H. Laemmert, 1867), Geography & Map Division, Library of Congress, Washington, DC; and ›Denominações dos logradouros públicos‹ (c. 1883), manuscript index, Arquivo Geral da Cidade do Rio de Janeiro (AGCRJ), código 120, 32-3-4, Rio de Janeiro.

9 Lefebvre, *Production of Space* (fn. 3), pp. 26, 38-40.



This map, produced for the Prince Regent in 1808, illustrates that the city's design was not structured around regular, straight, and rectilinear streets but on carefully plotted individual blocks. The streets, while somewhat disordered, do not exhibit the tumultuousness of Europe's medieval streets, but they are almost an afterthought, and their primary function was not movement but access to the built environment.

(T.A. Reis, *Planta da Cidade de São Sebastião, Rio de Janeiro levantada por ordem de Sua Alteza Real o Príncipe Regente no anno de 1808, Real Arsenal Militar, 1812*. Courtesy of the Museu Histórico Nacional, Rio de Janeiro)

and its meaningful, intense use, the idea of the street as nature persisted in the minds of its users, which begins to blur Lefebvre's characterization of rigid stages. Contrary to what Lewis Mumford suggested, namely that ›nature, except in a surviving landscape park, is scarcely to be found near the metropolis‹,<sup>10</sup> for Brazilians before the twentieth century, the line between nature and culture was not drawn where the hinterland began or along some line coterminous with the city walls; the street was the remnant of nature in the metropolis, and it began at the threshold of every door. The street, in spite of it all, remained raw and unimproved. Even if it was deeply regulated, the street itself was less ›manufactured‹ in a physical sense than were farms, orchards, waterways, or even some forests, all of which premodern societies had substantially and intentionally manipulated, but still liked to think of as ›natural.

10 Lewis Mumford, *The Culture of Cities*, New York 1938, p. 252.

The perception of the street as nature was expressed in many ways. In the construction of most premodern cities, streets were not designed elements but rather the minimal leftover space for circulation.<sup>11</sup> That is, when the Portuguese laid out their New World cities, they did not plan the streets first and then build their architecture; instead, they laid out the city blocks, usually in some kind of order, and built to the block's limits.<sup>12</sup> What was left over, unbuilt, was the street. In many early cities and towns, buildings and homes were plonked down haphazardly on the landscape – everything else was called the street. Streets were not entirely accidental, but other than being enclosed between façades, they were neither produced nor manufactured.<sup>13</sup> Their main purpose was not transportation but simple access, to give bodies, commodities, and information entrée to the built environment, and they emerged almost organically rather than having been conceived, designed, and constructed. In fact, not only in Rio de Janeiro, but also in New York, Boston, Lima, and Havana, streets, as they emerged between buildings, had no official names, and often would not have them for centuries. Residents, however, gave their streets popular designations that typically identified the specific activities for which they were used, such as soapmaking, pig butchering, tinsmithing, or incarceration, as examples in Rio show.<sup>14</sup> This was part of the streets' production – use was meaning.

Until about 1850, streets in Rio were rarely improved. They were raw, bare ground, from frontage to frontage. Even those few central streets that had been paved with cobbles from as early as the seventeenth century were described as being so full of soil, eroded from nearby hills, that they may as well not have been paved at all. Streets did not have curbs, although some had narrow flagstone walks, nor did streets or squares have trees, landscaping, fountains, or monuments. They were more typically full of vegetation and animals. The earliest photos of the city show the main streets and central squares choked with grass and scrub crisscrossed by rutted cart tracks and narrow foot trails.<sup>15</sup> Although authorities often organized work parties to remove vegetation and cart away built-up dirt, these organic materials had useful roles: dirt made the streets quieter, grass kept down the dust and prevented mud, and tougher plants that thrived in shallow, packed earth were used widely by laundresses for bleaching and drying. In an 1844 watercolor by the German painter Eduard Hildebrandt that depicts

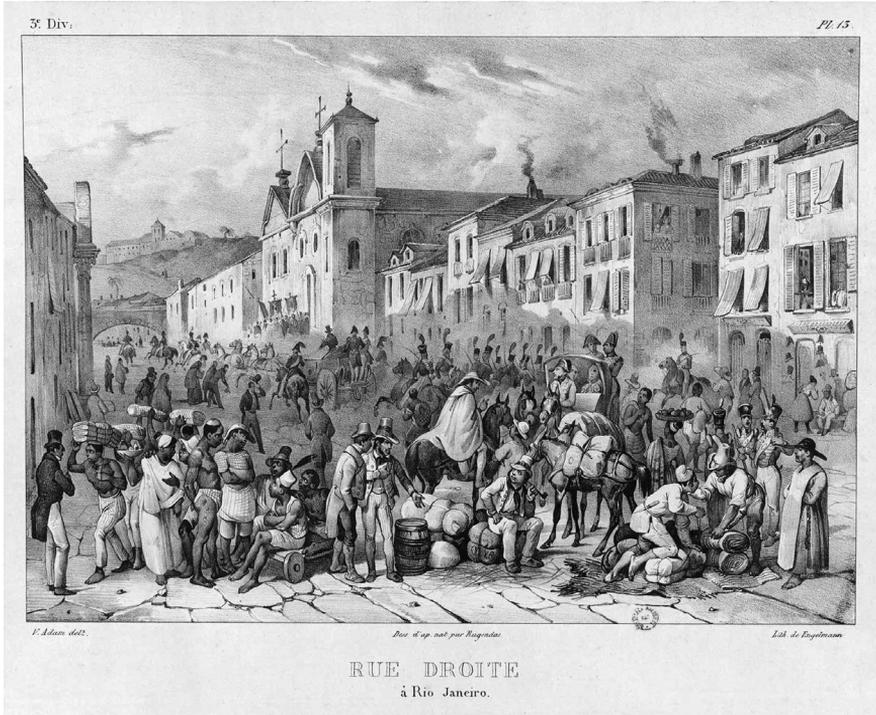
11 Paul Spreiregen, *Urban Design. The Architecture of Towns and Cities*, New York 1965, p. 3.

12 Roberta Delson, *New Towns for Colonial Brazil. Spatial and Social Planning in the Eighteenth Century*, Ann Arbor 1979, pp. 1-2; Preston E. James, Rio de Janeiro and São Paulo, in: *Geographical Review* 23 (1933), pp. 271-298, here pp. 283-284.

13 For an excellent summary of early city planning, see Maxwell G. Lay, *The Ways of the World. A History of the World's Roads and the Vehicles that used them*, New Brunswick 1992, pp. 12-17.

14 The use of popular, utilitarian names was common across many street cultures.

15 As examples, see the photographic work of Victor Frond and Juan Gutierrez reproduced in Charles Ribeyrolles, *Brazil pittoresco. Album de vistas, panoramas, paisagens, monumentos, costumes etc... photographiados por Victor Frond*, vol. 2, Paris 1861, and George Ermakoff, *Juan Gutierrez: Imagens do Rio de Janeiro, 1892-1896*, Rio de Janeiro 2001, pp. 80-81, all of whom, in addition to other subjects, took a particular interest in Rio's streets, street workers, and street life. For later street photography, see the extensive work of Augusto Malta, who was the city's official photographer from 1900 to 1930.



Johann Moritz Rugendas' depiction of Primeiro de Março Street in the early 1820s illustrates that even the city's busiest commercial streets were spaces utilized in multiple ways. (Johann Moritz Rugendas [Maurice Rugendas], *Voyage pittoresque dans le Brésil*, trans. M. Colbert, Paris 1853, section 3, plate 13)

Rio's main square and chief commercial street, if one were to ignore the surrounding architecture and just look at the surface of the street and what it contained, one could be fooled into thinking that the central public space of Brazil's capital was little more than an unkempt farmyard.<sup>16</sup> In addition to not being manufactured, the traditional street was not very mechanized. In fact, in Rio, as in much of Brazil in the early nineteenth century, visitors reported the almost complete absence of even civilization's most pervasive, simple machine, the wheel.<sup>17</sup> Bodies and commodities got around largely on foot and hoof.

16 Nestor Goulart Reis Filho, *Contribuição ao estudo da evolução urbana do Brasil, 1500–1720*, São Paulo 1968, p. 140; >Rua Direita, Rio de Janeiro, 1844<, in: Gilberto Ferrez, *The Brazil of Eduard Hildebrandt*, Rio de Janeiro 1989, p. 37.

17 Gilberto Freyre, *The Mansions and the Shanties*, New York 1963, pp. 310–313; Jean Baptiste Debret, *Viagem pitoresca e histórica do Brasil*, São Paulo 1978, pp. 317–318.

The almost featureless street's most distinguishing attribute for users was its common status, which was defended by residents and officials alike. Public spaces belonged to everyone, and everyone was welcome, even slaves and foreign citizens. Significantly, its unimproved aspect was an important indicator of its status as common. That the street remained raw ground – ungraded, unmarked, and un-zoned – identified it as a space for all and for nobody in particular. Still, the street was an unusual commons. The resource the street offered was space, and unlike most common resources, the street was eminently renewable. Forests could be felled and fisheries depleted, but the space of the street lost no value through use and could be taken up by the next user with no disadvantage. There was little chance of a tragedy of the commons. What space offered was difficult to degrade. Additionally, the urban commons, unlike some commons, was a peopled landscape, one which was not primarily for the extraction of resources (although this was done, too) but a space on which to practice commerce and build community based on the exchange of commodities and information. Streets were thus seen not as lines and dividers, but as three-dimensional spaces. Popular street names often changed every block or two because each space was seen as distinct, not as a long linear entity whose function was mere movement.

## 2. Manufacturing the Street

Besides some early paving, Rio's city officials began to manufacture the urban commons in limited ways about a half century before the arrival of the car. Likewise, it was in this period that the city began to impose official names on its streets that typically replaced names representing usage, such as Tinsmith street, with names, such as Constitution Street, that had modernization and state building as their goals.<sup>18</sup> There were various justifications for these modifications, including the need to order streets and manage increasing traffic, such as the new horse-drawn trolleys, and to improve the city's hygiene. Due to concerns about the role of dirt, mud, and organic matter in the production of disease, considerable efforts were made to pave and drain streets and keep them clean by employing contracted street workers. A few avenues were constructed to improve traffic flow to incipient suburbs. But the main motivation for remodeling the city's streets, old and new, seemed to be beautification and conspicuous modernization. That the street was ›nature‹ was something to be ashamed of. City officials now aspired to see the streets civilized and they patterned many of their reforms on precedents established in London, Paris, and Lisbon using various pavement types, installing curbs, and beautifying streets and squares with trees, landscaping,

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18 On the officialization of street names and squares, when they changed and when new ones were created in the period from 1863 to 1883, see ›Denominações dos logradouros públicos‹ (fn. 8).

furnishings, ornamental fountains, and sculpture. This was to manufacture the space, quite literally, but initially it only extended to a few streets. However, in 1903, Mayor Pereira Passos initiated the major project of the era when he tore a 33-meter-wide gash, one kilometer in length, right through the city's colonial center. Here was a street that was first conceived, designed, and laid out to very specific and regular measurements. And it was born with an official name, Central Avenue. Laborers covered the street with hygienic asphalt and paved the sidewalks with the city's first decorative black and white mosaics. Storm drains and sewers were installed, and decorative streetlights and ornamental trees were placed symmetrically along the length of the avenue.<sup>19</sup> Buildings were only secondary, and many were little more than façades: their function was to embellish the street, which was the focus of the designers' new attentions.

Although the car had arrived a few years before Central Avenue's construction, Central Avenue was not built for cars. The avenue's broad sidewalks consumed more space than the street bed. None yet foresaw the rapid rise of the car, and hence the avenue might be best characterized as an idealized traditional street with a modern veneer, a space of belle époque façades and fashionable shops which was, however, still used by pedestrians in the most common ways. Many of the same organic uses of the former streets moved here, including peddling, child's play, official celebrations, religious festivals, and carnival, all seeking better accommodations, old vintages in a new bottle, as it were. And this street still belonged to everyone and permitted nearly every activity formerly performed on the city streets. It remained common, accessible to all, and hence no one class or interest came to dominate the space.<sup>20</sup> Despite elite desires that the lowest classes would vacate the Avenue and leave it an exclusive elite pleasure ground, or that they would at least behave better on it, the unwashed, the noisy, the criminal, the hand carter, and the prostitute did not go away but behaved on the new avenue as they had in the old streets. When the first murder on the new avenue took place in 1906, one slum dweller shooting another, spilling the avenue's first blood, the elite were genuinely shocked, outraged that such a barbaric deed had been committed on their civilized and beautified avenue.<sup>21</sup> With Central Avenue, Lefebvre's production phase reached full maturation, but while the elite had hoped to exclude the lower classes, or improve their dress, discourse, and behavior on the new street, they still lacked the power, and more specifically the technology, to dominate the street's usage. This would change with the rise of the automobile.

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19 Jaime Larry Benchimol, *Pereira Passos: um Haussmann tropical. A renovação urbana da cidade do Rio de Janeiro no início do século XX*, Rio de Janeiro 1992, provides the fullest account of Central Avenue's construction.

20 Afonso Henriques de Lima Barreto, *Toda Crônica*, vol. 1, Rio de Janeiro 2004, p. 212.

21 *Jornal do Brasil*, 5 February 1906; *Revista da Semana*, 11 February 1906.

### 3. The Automobile Prioritizes Mechanical Movement

Until the middle of the century, the growth of automobiles in Brazil was erratic due to the effects of depressions, world wars, fluctuating exchange rates, and the price of coffee. In fact, between 1927 and 1938, the number of registered cars on Rio's streets actually declined by 18 percent.<sup>22</sup> And yet the combined aspirations of Brazil's small middle class and the state's support of increased motorization as evidence of modernization, implementing such policies as reduced tariffs on cars, auto parts, and gasoline, promoted the car's increasing presence on the capital's streets.<sup>23</sup> Until World War I, the majority of auto imports consisted of a limited number of luxury cars from Europe utilized by the city's wealthiest people and by municipal and federal officials who were assigned cars as a prerogative of their office. The president of Brazil got an official car in 1907, two years before the president of the United States would receive his. After World War I, the large majority of cars were imported from the US, most of them less expensive models manufactured by Ford, Chevrolet and Dodge, and a significant portion were employed as taxi cabs, at least part time; by 1927, taxis accounted for half the cars on the capital's streets.<sup>24</sup> Demand for cars in Brazil increased sufficiently for General Motors to begin to assemble passenger cars and trucks in Brazil in 1925, and Ford soon followed. However, statistics on actual car growth remain sparse and unreliable until the 1950s. One automotive magazine, desperate to know how Brazil was performing relative to other nations in the race to motorize, pleaded with readers in 1926 to count the number of cars in their cities so they could aggregate the data for a national automotive census. Noronha Santos reported that in 1927 there were 9,722 registered passenger cars in Rio with a total of 16,361 vehicles, including trucks. Yet still, in 1926, 1,052 passenger cars, more than 10 percent of the total, belonged to government agencies, perks for elite officials, and cars remained strongly associated with the official and elite classes.<sup>25</sup>

Compared to American cities, the number of cars in Rio's streets was modest. New York City had almost half a million vehicles by the beginning of the Depression. Still, even with its relatively small number of vehicles, automobiles in Rio had already made profound changes to the streets by 1920. Initially, the handful of new avenues were the only spaces amenable to the first cars, spaces with few obstacles and smooth pavements that could function as speedways. During rush hours or weekend shopping and touring excursions, the accessible streets were literally filled with machines. The

22 C.A. Sylvester, Adendo ao memorial apresentado pela The Rio de Janeiro Tramway, Light, and Power Co, in: *Comissão Transportes Coletivos*, 14 February 1939, Anexo 9, p. 379.

23 Tariffs, in fact, fluctuated, and during the 1930s, Brazil retaliated against US tariffs by imposing high import fees on cars. See *O automóvel no Brasil*, in *Observador Econômico e Financeiro*, May 1937, pp. 15-17.

24 Howard H. Tewksbury, *The Automotive Market in Brazil*, Washington 1930, pp. 57-58.

25 *Automobilismo: a revista prática do automóvel*, November 1926, p. 46, and November 1928, p. 47; *A Rua*, 8 October 1926, p. 1; Lima Barreto, *Automóveis Officiaes*, in: *Careta*, 26 February 1921. The most complete set of statistics for Rio's car numbers until 1927 is F.A. Noronha Santos, *Meios de transporte no Rio de Janeiro: história e legislação*, vol. 2, Rio de Janeiro 1934, pp. 107, 111.

implications were widely noted by the second decade of the century, and the problem intensified and spread to new streets and avenues. The costs to non-automotive uses of the street were also noted. Those who promoted the car as a form of modernity emphasized the car's power to move people, but for those without cars, the automobile's presence, in addition to displacing many of the street's traditional functions, caused an immediate decline in the non-motorists' mobility and speed.

When cars arrived on the scene, public transit consisted of a substantial and financially successful system of electric streetcars that ran on most of the city's downtown streets. In 1905, streetcars, which were known as *bondes* as they had initially been built with British bonds, had an annual ridership of 111 million, and by 1928 the city's residents rode the streetcars an average of 247 times each year.<sup>26</sup> By the second decade of the century, the system became increasingly mired in the growing number of cars, some of whose drivers had the audacity to stop and even park on the streetcar lines. When buses arrived in some numbers by the late 1920s, they too found movement difficult in the sea of rush-hour cars. Ironically, almost from the beginning drivers blamed streetcar and later bus drivers for the street's growing congestion despite the reality that a single streetcar, which could carry more than 100 people, only occupied the space of two automobiles, which typically carried only one occupant each. And despite much evidence to the contrary, motorists also blamed streetcars and buses for most of the city's street accidents and deaths. In 1930, the urban planner Alfred Agache repeated a refrain that was already common among the driving classes, namely that the streetcars and their tracks ought to be eliminated entirely so that automotive traffic could move more effectively.<sup>27</sup> No significant action was taken until the 1940s, but by 1964, despite the fact that in the same year the streetcars had moved 244 million people, rail traffic on the city's streets had disappeared except on the route in Santa Tereza.<sup>28</sup> Similar evidence for the class domination of the city's streets was when, in the 1960s and 1970s, the city government made various proposals to reduce the number of downtown buses, in fact reducing the number of bus lines operating on Vargas Avenue from 31 to 18, and even to remove downtown bus stops and bus stations, forcing buses to stop at the outskirts while still permitting private cars to both drive and park their private vehicles on the downtown streets.<sup>29</sup>

26 Noronha Santos, *Meios de transporte* (fn. 25), vol. 1, p. 330; Alfred Agache, *Cidade do Rio de Janeiro*, Paris 1930, p. 147. There had been growing antipathy toward the streetcar, and it was in fact banned from Central Avenue, but not for the sake of traffic. It was considered a noisy, plebeian, and unhygienic contraption that had no place on a grand public space.

27 Agache, *Cidade do Rio de Janeiro* (fn. 26), p. 140. Agache at least considered imposing taxes on automobiles as well to reduce traffic, a suggestion city officials ignored. As other examples, see *Revista da Semana*, 21 May 1927; *Revista Municipal de Engenharia*, July 1932, pp. 19-20.

28 José Carlos Mello, *Planejamento dos Transportes Urbanos*, São Paulo 1975, p. 11.

29 Américo Freire, *Guerra de posições na metrópole. A prefeitura e as empresas de ônibus no Rio de Janeiro (1906-1948)*, Rio de Janeiro 2001, p. 53. The same policies were being passed even earlier in São Paulo, in the 1950s; see Álvaro Altieri, *Variações sobre o trânsito paulistano*, São Paulo 1953, p. 67, who condemns the wealthy driving classes for forcing streetcar lines out of the downtown, and *Veja*, 7 April 1971, p. 39.

Pedestrians, who made up the large majority of street traffic, also complained from as early as the second decade of the century that the car was inhibiting their own ability to move efficiently.<sup>30</sup> Drivers, as elsewhere, complained that pedestrians were obstacles to their own velocity, but the new reality for the majority was that simple walking became fraught with mechanical impediments. Pedestrians visibly resisted displacement, walking in the streets and risking their lives to move in the patterns they had been accustomed to, but the car effectively pushed most pedestrian and street activity to the sidewalks, which now became congested with walkers and were, over the decades, progressively narrowed in parts of the city in order to make room for more car lanes. The new street bed, increasingly paved in smooth and what city officials considered hygienic asphalt, formed a continuous space for cars, but the sidewalks became interrupted. Some residents complained that now, every time a pedestrian had to cross from one sidewalk to another at intersections, the wait to safely cross was long, a reality that was largely unprecedented in the streets of Rio, which had seen only intermittent wheeled vehicles before the car. Police were stationed at the busiest intersections to enforce traffic laws, but without them to stop cars it was noted that some, particularly children and the elderly, might never be able to cross the street during rush hour. As early as 1912, one pedestrian complained that ›with all these drivers, there is no way to circulate any longer‹. The following year during a two-day taxi strike, another observer rejoiced at the emptied streets: ›We returned to a day when we walked un-terrorized through our streets without the constant preoccupation of fleeing the rapid fury of the automobile. [...] Our nerves relaxed in a period of repose, and our attention rested from its relentless worry as we crossed streets without danger [...] at the pace we used to walk, in our former attitude of tranquility.‹<sup>31</sup>

However, by 1915, the sidewalks themselves, burdened with more bodies banished from the streets, became so congested that the city looked to regiment and regulate walking itself. After removing various forms of street furniture and kiosks to make more room, city officials insisted that the sidewalks too were to be dedicated exclusively to movement. Loitering, conversation, child's play, flirting, peddling, singing, dancing, even window shopping – any traditional street activity that did not consist of ordered movement – was progressively banned. In fact, the elite betrayed their true motives when they argued that the main point of keeping pedestrians moving was not movement at all but to finally eliminate on the sidewalk vulgar and undesirable activities. In one case, a resident complained that ›many camp out in the same space every day [...] driving us crazy. In front of our very office it is like martyrdom. There is a well-known seller of pomades for the removal of callouses who needs to be told to move along. In such cases, circulation is the solution.‹<sup>32</sup> Even prostitution was to be resolved

30 *Si Cette Histoire*, in: *Fon Fon*, 17 May 1913.

31 *Fon Fon*, 13 April 1912; *Diário das Ruas*, in: *Fon Fon*, 4 April 1913.

32 *A Gazeta de Notícias*, 18 November 1911, p. 2. See also *A Gazeta de Notícias*, 26 December 1910, p. 3; *Fon Fon*, 25 July 1914.

by ›sending it walking‹.<sup>33</sup> Again, street users resisted, and such proscriptions were difficult to enforce, but many former street and sidewalk uses diminished, and some disappeared, in the compression and noise created by the car's growing presence on the street. In one confrontation that demonstrated the growing sense of a spatial and existential crisis, a policeman ordered two individuals in conversation to keep moving, to which one of them responded in all sincerity: ›then, where can we be?‹<sup>34</sup> Over time, cars came to occupy even the spaces that seemed to belong to the pedestrian and non-motorized street users. In a practice that began in the late 1920s and intensified after the number of cars increased after World War II, motorists occupied the city's venerable public squares as veritable parking lots, a reality that would not be effectively challenged until the 1970s. For more than half a century, the city's quintessential public spaces were devoted largely to car storage.<sup>35</sup>

And by the late 1950s, sidewalks themselves would be significantly occupied by parked cars. In 1954, the city had 82,705 passenger cars. In 1955, two years after Volkswagen had introduced its first automotive assembly factory in São Paulo, Brazil launched its own national industry. Initially, because Brazil shut off all foreign imports, automotive growth declined, but by 1960, growth became sustained. Soon, Volkswagen's economical and popular Beetle would become the city's dominant mechanical presence. By 1965, Rio was adding tens of thousands of new vehicles to its streets every year. In both the downtown and wealthier residential areas of the city, there was insufficient space to store the city's growing number of automobiles, so motorists took to the public sidewalks for the private storage of their cars, leaving pedestrians few places to be or move at all. A single upper-class neighborhood, Copacabana, accounted for 22 percent of the city's passenger cars, and parking there was in crisis. On-sidewalk parking was illegal, but by the 1960s the city's transit directors did not enforce it, and one of them, Celso Franco, in fact promoted its legalization in residential areas.<sup>36</sup>

Evidence of the motorist's social domination can be derived from an ever-growing body of legislation that favored the street's mechanization. When this legislation was codified nationally in 1941, while its stated intent was to regulate the car and reduce accidents, it also served to legitimize the car's presence, and it legally defined the street as a thoroughfare for cars, no longer a public space.<sup>37</sup> The number and size of the

33 Pequenas Notas, in: *Fon Fon*, 9 August 1913.

34 *O Pirralho*, September 1917 (first of the two bimonthly issues).

35 Rio – uma cidade entupida, in: *Revista da Semana*, 10 January 1949; *Revista de Automóveis*, June 1954; *Manchete*, 22 January 1955, p. 24.

36 *Revista de Automóveis*, May 1954, pp. 20-22; *Jornal do Brasil*, 3 December 1966, p. 6. Statistics for the city in this period, as in previous ones, can be conflicting. Doxiadas Associates, *Guanabara. A Plan for Development*, Athens 1965, p. 96, makes the most detailed estimates for the period. He claims that in 1957 there were only 64,000 private cars in the city with little growth until 1959, but then an average rate of 12 percent growth per annum until 1964. In 1963 alone, the number of cars grew by 40 percent.

37 República dos Estados Unidos do Brasil, *Coleção das leis de 1941, vol. 5: Atos do poder executivo, decretos-leis de Julho a Setembro*, Rio de Janeiro 1941, pp. 335-405.



US companies assembled automobiles in Brazil from the 1920s. However, Brazil's move toward import substitution in the mid-1950s brought full manufacturing plants. Volkswagen, which began assembling cars in 1953 (the year of this photo), fully manufactured them at São Bernardo do Campo from 1959. Its Beetle became the nation's most popular car, a status it would maintain for decades. (Volkswagen Aktiengesellschaft)

administrative and policing units tasked with traffic had grown substantially after 1910. Rio had long had vehicle inspectors, but with the car's arrival, their responsibilities quickly grew beyond their expertise and resources. The city established the Inspectorate of Vehicles, with an independent director, in 1907, and by 1911, the city began to specifically train police to regulate traffic. Things became so chaotic by 1914 that the chief of police empowered the military Civil Guard to help out. But it was a losing battle: uniformed, pedestrian, lower-class policemen attempted to impose rules and order on upper-class motorists who they could neither stop nor chase without cars of their own. Again, the enforcing agencies were reformed under the Directory of Transit in the early 1920s, Traffic Guards were formed in the 1930s, there were even civilian

volunteer units in the 1940s, but as the number of cars grew, so did the chaos.<sup>38</sup> From the late 1920s, the press suggested bringing in foreign expertise to solve the problems of accidents and congestion. However, those who did finally come after World War II, from Europe and the US, were accused of having no more effective impact than the daily crackpot suggestions one read in letters to the editor.<sup>39</sup> Also from the late 1920s, the city installed signals and then later signs and lines to regulate vehicles. Nearly every attempt at regulating automobiles legitimized their place on the public commons and usually favored motorists over pedestrians. Speed limits were established in São Paulo as early as 1903, months before New York City, but every decade they were raised, and in a few cases eliminated, for the benefit of motorists.<sup>40</sup> Traffic-related signage lagged some decades behind, but soon traffic signs littered the streetscape, becoming its most pronounced visual objects, and the painting of the commons with lane lines, stop lines, crosswalks, arrows, and lettered directions proliferated, making of the street surface a regulatory mural.<sup>41</sup>

#### 4. A Violent Occupation

City officials had tried to regulate street behavior with law and policing for decades before the car, without – by their own admission – much success. Rules and prohibitions were a boon to the car, but at the center of the car’s success in capturing the common street and breaking down the resistance of non-motorists was its power to both project and practice violence. Pedestrians had been able to successfully compete with the minimal wheeled traffic in Rio’s nineteenth century context, but the car, due to its speed, mass, size, and growing numbers, not only displaced non-motorized

38 *Jornal do Brasil*, 11 January 1907, p. 3; >Inspectoria..., 18 April 1914, GIF1 6c520, Arquivo Nacional do Rio de Janeiro (ANRJ); >Amaro José Caetano to Secretary of the Police, 31 January 1914, GIF1 6c520, ANRJ; *Correio da Manhã*, 6 March 1920; *Última Hora*, 18 November 1929; Problemas de Tráfego no Rio de Janeiro: O Tráfego da Avenida Rio Branco, in: *Revista Municipal de Engenharia*, July 1937, p. 238.

39 *Revista da Semana*, 21 May 1927; *Correio da Manhã*, 25 December 1949, p. 2. In 1951, Rio’s mayor suggested creating scholarships to send young Brazilian traffic engineers to study traffic in major US and European cities, but apparently nothing came of it. See Mayor Francisco Negrão de Lima to João Neves de Fontoura, Minister of Foreign Relations, 18 June 1951, ANRJ BR.AN.RIO, VV.0.JTA, CMJ.3334, Serviço de Comunicação da Ministério de Justiça e Negócios Interiores, Arquivo Nacional do Rio de Janeiro.

40 *O Estado de São Paulo*, 1 March 1903. Some of Rio’s first codified legislation for cars was established in 1907; see Regulamento de veículos, 1907, AGCRJ, código 375, 58-1-22, folha 246. Automotive legislation remained within city jurisdictions until 1941 when Vargas nationalized vehicular law.

41 The two best collections of traffic regulations, which condensed the state of traffic law and the state of signalization and signs for their respective periods, are Gregório Garcia Seabra, Jr., *Accidentes de automóveis. Delictos profissionais dos automobilistas, doutrina, jurisprudência, legislação*, Rio de Janeiro 1918; and República dos Estados Unidos do Brasil, *Coleção das leis de 1941*, vol. 5 (fn. 37), pp. 335-405.

street activities, but literally dislocated the human body, often with a violence that maimed and killed. Under the streetcar regime, there were accidents, but they were few and typically minor. Streetcars were relatively slow, and they ran on predictable trajectories. The large majority of accidents were the result of passengers falling when they boarded or alighted from the streetcars, and the results were usually minor contusions. With the car, this changed, as was noted from an early date. A 1907 cartoon starkly illustrated the new reality: a man's body flies through the air, his face contorted with pain, but he cries out in hope: ›If I don't fall beneath the wheels, I am saved.‹ But the illustrator disabused the victim and his readers of any such optimism in a caption that asserted: ›Now, things are different in our new age, and with automobiles! [...] a honking in your ears, gasoline smoke in your eyes, a bludgeoning from above, and the wheels may follow.‹<sup>42</sup> In fact, accidents became of such concern that the city founded one of the first free urban ambulance and first aid services in 1907. Cesídio da Gama e Silva defended the creation of the city's new emergency services by explaining that the city had succumbed ›to a series of extraordinary accidents in its diverse systems of transportation, the crimes and disasters that are now the spectacle of all bustling cities.‹<sup>43</sup>

Historically, individuals have resisted the elite's monopolization of the commons, and it has typically required violence to exclude them. In Rio, motorists engaged in violence on the street on a daily basis, a reality that was exacerbated by the motorist's tendency to place the pedestrian in the category of the other, a mere obstacle to his movement, and to drive as if all the responsibility for street safety fell on the pedestrian. The novelist Monteiro Lobato captured the attitude in a character who had made the transition from pedestrian to motorist: ›To me, the pedestrian became an odious creature, an obstacle to my right to speed and the straight line. [...] I had acquired the mentality of the motorist, coming to despise pedestrians as vile things, less worthy of life.‹ Monteiro Lobato suggested that the car's horn was both a class expression of one's public status on the street and an unmistakable message – ›Make way, scum‹ – to the non-motorist.<sup>44</sup> The evidence of these attitudes and the resulting violence was available for all to see both on the streets and in the newspapers, and the consequences of too much pedestrian assertiveness or too little caution were tragic. Of course, motorists killed and maimed each other, but for a city in which the large majority would still get around on foot, pedestrians made up by far the largest set of victims. If motorists were almost exclusively deemed at fault for pedestrian injuries and deaths in the car's earliest years, by 1920, lawyers were successfully pinning some of the blame on pedestrians, and by the 1930s, the city's Traffic Director asserted that nearly

42 *Fon Fon*, 20 April 1907.

43 Cited in Paulo Ernani Gadelha Vieira, *Assistência médica no Rio de Janeiro (1920–1937): Reformas institucionais e transformações da prática médica*, vol. 2, master's thesis, Universidade do Estado do Rio de Janeiro 1982, p. 235.

44 José Bento Monteiro Lobato, *O choque das raças: ou, o Presidente negro. Romance americano do anno de 2228*, Rio de Janeiro 1926, pp. 15, 132–134.

all accidents involving pedestrians were their own fault.<sup>45</sup> There were a few initiatives for traffic education, but other than private driving schools, official efforts to educate motorists, pedestrians, and children appeared late, mostly after the 1950s, and were at best intermittent and with little reach or visibility until the 1970s.

In the early 1920s, the newspapers were reporting multiple pedestrian accidents per day and a few deaths every week, and they largely restricted their concerns to Rio's central, downtown streets. Newspaper reports were remarkably consistent, and what they did report is reliable, but they undercounted and can only be used to indicate the lower limit of the scale of the tragedy. Between 1928 and 1935, they reported an average of 44 accidents and 4 deaths per week, 87 percent of which involved pedestrians. Pedestrians accounted for 83 percent of the dead. Official statistics collected by the police also undercounted the number of incidents and, more significantly, were concealed and suppressed, and are therefore of little use.<sup>46</sup> During one short eleven-week period in 1921, a local crime magazine was given brief access to the city's criminal statistics, which it tabulated, showing that automobiles, which killed 40 people in that period, were already more lethal than murder and suicide combined. But then the police shut off access to their archive.<sup>47</sup> The newspapers, which sent reporters daily to the central free first aid station and to the city's main charity hospital to document the day's injuries, also missed much in the counting, especially minor accidents which were treated in local pharmacies, serious ones in which the victims died on the street, and also those victims who were treated or died in private hospitals. They also largely ignored the city's sprawling suburbs. However, they counted many cases missed by the police and often suffixed their reports with the phrase ›the police remain ignorant of this case‹. Until at least 1935, children between the ages of 10 and 19 made up the largest bracket of victims, accounting for 26 percent of all automotive tragedies. If you add those under the age of 10, children accounted for 40 percent of all accidents and deaths.<sup>48</sup> During the carnival celebrations of 1914 alone, the city's newspapers reported 18 children killed by automobiles on the downtown streets.<sup>49</sup>

During the Depression and war years, automotive traffic and accidents seem to have declined, but still, one magazine reported in 1946 that 30,000 pedestrians had been run down in the city in the last decade, and that in a single downtown hospital, half of the patients being treated were victims of car accidents and 60 percent of x-rays were taken for the same class of victims.<sup>50</sup> But officials continued to hide or ignore the

45 Seabra, *Accidentes de automoveis* (fn. 41), p. viii. Um dos grandes problemas da cidade: o congestionamento da Avenida e os onibus, in: *Correio da Manhã*, 22 June 1933, p. 8.

46 Frutuoso Moniz Barreto de Aragão, *Delictos do automovel e outros carros (sentenças)*, Rio de Janeiro 1924, p. 10. Altieri, *Variações sobre o trânsito paulistano* (fn. 29), pp. 111-112, repeatedly makes the accusation that Brazil's police withhold automotive accident and death statistics for political reasons.

47 See the ›Boletim seminal‹ tables published weekly in *Arquivo Vermelho* beginning on 2 February 1921.

48 Many of the statistical claims above are based on a 10-percent time sample (five random weeks per year) taken every seven years from 1907 to 1935. They include more than 700 accident reports taken from Rio's largest newspapers, including the *Jornal do Brasil*, *Correio da Manhã*, *A Noite*, and *O Paiz*.

49 Os Mata-Crianças: uma Hecatombe em Seis Dias, in: *Fon Fon*, 7 March 1914.

50 30,000 Atropelados em Dez Anos!, in: *Revista da Semana*, 23 November 1946, pp. 6-11.

reality of the catastrophe. Edgar Estrella, who would serve for some two decades as the Director of Transit for the city, expressed the official view, which was that automotive accidents and pedestrian deaths were of no great consequence, and that Rio's drivers were both skilled and careful. By hiding official statistics, the state could attempt to engage in plausible deniability and claim that the city's ›coefficient of accidents is minimal‹, despite the fact that on the same day in 1933, and on the same page on which Estrella made his claims, the same newspaper reported five auto-pedestrian accidents that included broken legs, a skull fracture, and one death. Another paper, the same day, reported an additional four accidents and one additional death.<sup>51</sup>

Unlike most violence associated with enclosing the commons, automotive violence was neither intentional nor planned, but it was real, visible, widely reported, and hence consequential to the creation of the motorist's dominant position on the city's streets. Kurt Möser describes the automobile's role in building our dominant notions of modern violence and accurately notes that historians have yet to plumb the car's darker ideological and mortal aspects.<sup>52</sup> Failure to comprehend the scale and cultural impact of the car's violence also hampers our understanding of streets and the twentieth-century city itself. If the car's violence was largely unintentional, it was, in a sense, institutionalized by the fact that the state denied or downplayed the car's daily tragedies. Considering the character of Rio's street regulations, which mostly favored vehicles, and the fact that most automotive law was poorly enforced, criminal automotive behavior could be engaged in with impunity. For most of the century, the large majority of drivers fled the scenes of their accidents. Even ambulance drivers involved in accidents would flee, so that another ambulance had to be sent out to assist the victim.<sup>53</sup> For those drivers who were caught, the penalties for their violence, which often produced injuries and deaths, amounted to small fines and the loss of a license, if penalties were imposed at all. Almost none were held liable, and few carried insurance. For dangerous moving violations that might lead to accidents, such as speeding, running lights and stop signs, and going the wrong way up one-way streets, impunity was widespread. Over time, due to inflation, monetary penalties, when imposed, amounted to token fines. Speeding tickets that might have cost the equivalent of a few dollars in 1941 when the first national traffic code was promulgated, were, by the late 1950s, the equivalent of mere pennies, and the city had a tendency to offer amnesty to all unpaid moving violations every few years, just to clear out the bureaucratic backlog. And corruption was widespread. When the employee bathrooms at the transit office were remodeled in the 1960s, plumbers discovered that the drains were clogged with

51 Um dos grandes problemas da cidade: o congestionamento da Avenida e os onibus, in: *Correio da Manhã*, 22 June 1933, p. 8; *Jornal do Brasil*, 22 June 1933.

52 Kurt Möser, The Dark Side of ›Automobilism‹, 1900–30. Violence, War and the Motor Car, in: *Journal of Transport History* 24 (2003), pp. 238–258, here pp. 238–239, 254; the author wisely replaces the culturally charged terms ›automobile‹ and ›car‹ with the term ›mobility machine‹.

53 For two early examples, see *Jornal do Brasil*, 6 October 1909, p. 12, and *Correio da Manhã*, 5 April 1914. The magazine *Diretrizes*, December 1938, pp. 14–15, noted that flight remained the default response for drivers involved in accidents and yet, remarkably, blamed it on laws it considered too harsh.

the evidence of infractions that had been conveniently flushed away for the price of a small bribe.<sup>54</sup> As one observer asked rhetorically in 1952: ›Can the Carioca one day dream of living in a city that respects the integrity of the human body [...] without the worry that we will be tossed ludicrous distances like used matchsticks, pinned against sign posts, and crushed under rubber tires?‹ He concluded that the city had descended into barbarism, becoming ›a true jungle in which the strongest dominate because the law guarantees their impunity.‹<sup>55</sup>

## 5. Conclusion

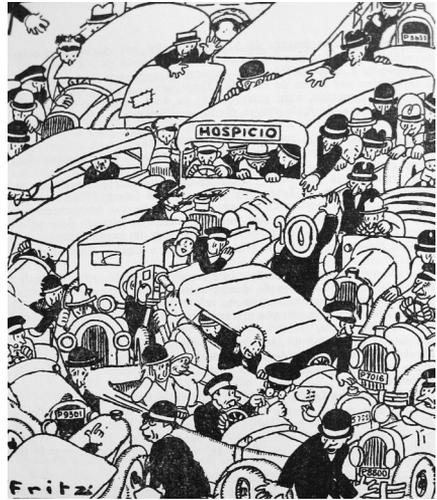
The result of the growing number of cars and their violence was the transformation of the city's streets from places of almost universal access and multiple uses to spaces of a single use, movement, that introduced lethality, pollution, noise, and, ultimately, chaos. The elite mechanical domination of the street, despite ponderous legislation, proliferating signals and signage, and the consultation of scores of foreign experts, resulted in neither fast movement nor ordered streets. The car transformed the *logradouro* from a functional, multi-use place to a single-use, frequently non-functional space. By mid-century, the citizens of Rio already ranked traffic congestion, the non-flow of people and goods, as the city's most pressing problem. The automobile, many noted, had failed to deliver on its advocates' most basic promise.<sup>56</sup> What the automobile delivered, to those who could afford it, was social status and physical separation from the city's teeming majority, who many of the elite considered ill-bred and criminal. Unlike in the days of the streetcar where all classes commuted together, the elite captured most of the street and gained a long-desired social separation. That they had not solved the problem of movement was of significant concern, and over the course of the twentieth century, increasing the road stock, that is, creating more space for cars, was often one of the largest expenditures in city budgets. A large portion of civic resources was thus dedicated to the motoring classes. But the problem of congestion typically only worsened due to overinvestment by the elite and middle classes, who continued to aspire to motordom on the city's free, public streets. To Rio's motorists, the automobile offered privileges that often had little to do with easy and rapid movement.

54 O drama das multas, in: *Revista de Automóveis*, June 1954, pp. 6-9; *Revista de Automóveis*, January 1955, p. 15; *Quatro Rodas*, September 1961, p. 34.

55 A Cidade dos Loucos, in: *Folha Carioca*, 17 November 1952, clipping in: Serviço de Comunicação, Ministério de Justiça, SECOM, 27,799, BR.AN.RIO, VV.O.JTA,CMJ.3,334, ANRJ.

56 *A Noite*, 4 September 1952, p. 2; Rio – uma cidade entupida, in: *Revista da Semana*, 10 January 1949, n.p.; Cidade estrangulada, in: *Revista da Semana*, 22 June 1957, pp. 38-42.

The substantial social gap that emerged between motorists and pedestrians in Rio de Janeiro requires a comparative look at other developing world cities. Compared to North America, where by 1925 there was one car per household, class division in Rio was characterized by inequality, impunity, and a form of violence that some considered a perpetuation of the abuse of power that persisted from the time of slavery, which had ended only a handful of years before the car's arrival.<sup>57</sup> Was this social division and violence similarly expressed in other developing cities in Latin America or elsewhere? In addition to this evident social divide, Rio's experience also refutes a common assumption that the automobile's impact on the developing city only came in the latter half of the twentieth century. In reality, many of the problems associated with the car – noise and air pollution, injury and death, congestion and the decline of traditional street uses – were starkly apparent by the second decade of the century, even in a city where car ownership was a tiny fraction of what it was in First World cities of the West. Even parking faced a crisis by the late 1920s. Relatively few cars had a rather outsized impact on the city and its functions. Once the city embraced the car with favorable legislation, cars, due to both their size and speed, consumed a disproportionate share of the city's public spaces.



By the 1920s, residents were already describing their city streets in terms of a tragedy of the commons. This illustration partakes of an early and sustained critique of how the car had come to dominate the street, and yet popular criticism did little to challenge elite preferences. (cartoon by Fritz [Anísio Oscar da Mota], in: *O Globo*, Rio de Janeiro, 24 January 1927)

Rio continued to follow the pattern set down in the nineteenth century by turning over collective transit to private firms. By the late 1920s, private bus companies joined the streetcars in a system that proved highly inefficient as routes overlapped. By mid-century, thousands of private vehicles of various capacities, from large passenger cars to small buses, known as *lotações*, prowled the streets, mostly empty, looking for fares. Without public transit or central planning, the result was chaos. But the primary problem was again one of favoring the private automobile, whose growing numbers clogged the streets and whose parking occupied sometimes three or more usable traffic lanes. In a sense, if the automobile helped eliminate many of the former street uses,

57 Nicolau Sevcenko, *Orfeu extático na metrópole. São Paulo, sociedade e cultura nos frementes anos 20*, São Paulo 1992, p. 74.

movement itself was poorly regulated, and the city treated the streets as an open access resource that anyone with a machine was welcome to try to use. The authorities refused to regulate and limit the street's new dominant users, motorists, and this resulted in congestion for everyone, a tragedy of the commons that occurred daily. By the 1950s, it was already being asserted that «the greatest labor of the Carioca is just getting to work», and by the late 1960s, four-hour round-trip commutes were not uncommon for workers in the city's northern zone.

On the other hand, due to the somewhat slower automotive conquest we see in this developing city and the survival of traditional street uses on the city's narrowest colonial streets, in its poor suburbs, and the scores of car-free slums, the favelas, in the hills, not to mention the persistence of street carnival, Rio's citizens have a stronger sense of what traditional streets are, and what has been lost. They are truly nostalgic for the non-automotive street, something often depicted in national literature, television, and film. In recent years, street carnival has begun to make something of a local comeback, with all the energy and spontaneity that it had last century. In times of political upheaval, too, Cariocas are not shy about taking the streets back, but they understand as well as any culture that in their day-to-day lives, the car has taken away some of the conviviality and communal spontaneity they see as an essential part of their culture.

The street's historical transformation in Rio follows Lefebvre's paradigm of the capitalist evolution of space, albeit in a process that was protracted and often with overlapping phases. Despite being shaped and produced from the time of settlement, the street's association with raw, untamed spaces persisted for many centuries. In fact, residents associated its unimproved condition with its status as common. Likewise, despite elite efforts to dominate the streets through the use of legislation and new technologies, popular uses also persisted and residents resisted the street's domination by the motoring classes. Lefebvre himself posits the same thing. However, over time, as he also suggests, the street became a resource whose benefits were increasingly steered toward a minority elite who could afford the possession of a new technology. The street's transformation in Rio, then, should not be characterized as just another tragedy of the commons, a case where the unrestricted overuse of a resource results in its destruction, degradation or, in the street's context, congestion.<sup>58</sup> The street's transformation follows a more typical pattern whereby modern states give priority of access to dominant social classes because the state prefers the street's

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58 Garrett Hardin, *The Tragedy of the Commons*, in: *Science* 162 (1968), pp. 1243-1248, mischaracterizes the nature of most early commons. Elinor Ostrom's work has shown that in many examples, communities found means to equitably regulate common resources over long periods, and this rarely ended in resource tragedies. Her work, although it does not address the street, can be applied to advantage to city streets before the car. Rio's central streets had long been congested and highly regulated, but they functioned as successful, regulated commons for centuries. See Elinor Ostrom, *Governing the Commons. The Evolution of Institutions for Collective Action*, Cambridge 1990, in particular chapter 3.

modernizing functions over all other users and uses, which were deemed backward or outdated and hence excluded. As in modern forest commons, for example, the state decided that the forest's traditional users – hunters, firewood gatherers, pitch producers, tanners, pastoralists whose cattle and pigs grazed the forest floor, among others – were wasteful and inefficient. Forest service bureaucracies and other state institutions were therefore established to regulate forest uses. Over time, this excluded the forest's traditional users in favor of logging companies (and thus lumber consumers) and later recreationists. Sometimes the prized resources, in this case trees, were conserved sustainably, and sometimes they were not, but the central reality was that poor and indigenous peoples lost direct access to the resource and its associated employments.<sup>59</sup> Streets in Rio fit a similar pattern. The transition exhibited stops and starts, resistance, and setbacks, but the trend was unmistakably in favor of the technologically enhanced elite.

A number of scholars, including John R. McNeill, have argued that the automobile may be the twentieth century's most transformative technology.<sup>60</sup> In shaping the urban landscape and its expansion, it has no peer, and it has played a central role in the growing problems of noise pollution, air pollution, greenhouse gas emissions, and in human mortality figures – the World Health Organization estimates that the automobile has killed some 1.2 million people annually in recent years.<sup>61</sup> However, the car's simple spatial reality has often been neglected. As a personal object that occupies as much space on the ground as an elephant, it has become the proverbial elephant in the room, so ubiquitous in our cities that urban residents fail to see its outsized impact. The car was built to move people. In Rio, it has been a particular failure on that count. But the car's primary impact on Rio has been spatial. Even without the violence that has been inherent in the automobile's use, the car has simply occupied human spaces and displaced human activities, cutting off various avenues for the evolution of the street as a cultural space. Because the car had been given priority of place in Rio de Janeiro, its streets were no longer the quintessential *logradouro*, a place to freely use and enjoy, a place in which Brazilians invented and reinvented some of their most characteristic and dynamic cultural expressions, such as samba and soccer, to name just two that went on to international fame. A spatial approach to the car lays bare how limited many of our contemporary solutions to the problem of the car are. Electric and self-driven vehicles, like the more fuel-efficient cars with better safety features that

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59 For an excellent set of case studies of this process in the US, see Karl Jacoby, *Crimes against Nature. Squatters, Poachers, Thieves, and the Hidden History of American Conservation*, Berkeley 2014.

60 See John R. McNeill, *Something New under the Sun. An Environmental History of the Twentieth-Century World*, New York 2000, p. 310; Jan-Bart Gewald/Sabine Luning/Klaas van Walraven, *Motor Vehicles and People in Africa: An Introduction*, in: *The Speed of Change. Motor Vehicles and People in Africa, 1890–2000*, Leiden 2009, pp. 1–18, here p. 1.

61 World Health Organization, *Global Status Report on Road Safety 2015*, Geneva 2015, pp. 2, 100, 264–265. According to the EPA, private cars and trucks account for one fifth of greenhouse gas emissions in the US.

came before them, may continue to reduce pollution and deaths per vehicle, but in the end they too multiply and occupy ever more space, leaving less for the city's quintessential functions of celebration, protest, and the building of community.

In more recent decades, following patterns set down in Europe from the late 1960s, Cariocas have begun to reclaim at least part of their city's streets: 18 pedestrianized blocks in the SAARA district, and a number of major thoroughfares elsewhere in the city that are shut down for non-automotive uses on weekends. They have reopened the commons by excluding the car, seeking uses and possibilities that can only thrive in the absence or diminishment of the machine in demarcated urban public spaces. After many decades of powerlessness against the territorial advances of the car, officials and residents have, if only in small ways, pushed back against the automobile's universal and near-exclusive claim to all of the city's public spaces.

**Prof. Shawn W. Miller, Ph.D.**

Brigham Young University | College of Family, Home, and Social Sciences

Department of History

2130 Joseph F. Smith Building | Provo, UT 84602 | USA

E-mail: shawn\_miller@byu.edu