Artl@s Bulletin

Volume 12
Issue 1 *Europe and its Images*

Article 10

2023

Mediatization of the Early Automobile: A Visual Analysis of the Illustrated Press in the late 19th and Early 20th century

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Abstract

The paper presents a digital analysis of automobile imagery in the early 20th-century press, examining the mediatization of the anti-car movement and the role images played in conveying and furthering the activist discourse. To investigate the phenomenon, the author compiled and analyzed over 5,000 images from in 185 journals published in 45 cities between 1891 and 1950. The analysis revealed a preponderance of positive representations of the automobile in the press, whilst evidence of negative sentiment towards the automobile, such as protests and accidents, was conspicuously absent, with the exception of satirical publications.

Résumé

L'article présente une analyse numérique des images d'automobiles dans la presse du début du 20e siècle, examinant la médiatisation des mouvements anti-voiture et le rôle des images dans la transmission et la promotion de leurs messages. Pour étudier ce phénomène, l'auteur a compilé et analysé plus de 5000 images extraites de 185 revues publiées dans 45 villes entre 1891 et 1950. Il en ressort que si les images positives étaient nombreuses, les images négatives représentant des manifestations anti-voitures ou des accidents étaient quasiment absentes des médias, à l'exception des magazines satiriques.

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Introduction

> "*It began by being a scientific experiment, went on to become the instrument of the adventurous, then became the toy of the rich, then the ambition of the poor, and finally the servant of everyone. . . . From being the play thing of society it has come to dominate society. It is now our tyrant, so that at last we have turned in revolt against it, and begun to protest against its arrogant ways.*"
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> "The Hooting Nuisance" *The Living Age*, no. 3502 (19 Aug. 1911): 508-9

At the beginning of the 20th century, pictures of cars were ubiquitous in the press. Advertising a novel invention, a new symbol of progress that would seduce intellectuals and bureaucrats alike, the automobile represented the future. Each car was portrayed as a machine ready to lead you ahead, helping you experience the thrill of speed, discover new worlds, and face new adventures.

Although many were enthusiastic and eager to discover the automotive world, many others reacted critically to the introduction of this new machine. Indeed, the automobile, in its early history, encountered considerable resistance, especially in Europe and the US. The introduction of the car in a pedestrian environment called for the redesign of the city. Legislators had to reorganize the urban space. They established new guidelines for controlling traffic and, most importantly, forbade people from walking on the road. Before the introduction of cars, streets were, in fact, a mixed space where people, streetcars, and bicycles could move freely. The automobile revolutionized this environment, but the transition from a world without cars to one dominated by cars was not smooth. In Europe, in particular, the initial coexistence of citizens and automobiles resulted in numerous fatalities. The many deaths of pedestrians, mostly children, caused by motorists enraged the public and sparked protests and fierce opposition to the automobile.

Widespread acceptance of the car in Europe did not begin until the postwar period, especially in the 1950s. While critiques against motorists continued through the 1950s, by 1945, cars started to be regarded as a sign of prosperity, and the early resentment towards the automobile slowly became an aspiration of ownership. As the years passed, more and more people became acquainted with the presence of vehicles in the city. With the sharp increase in production, the car ceased to be an object of marvel. It lost its exclusive and captivating qualities, becoming a familiar part of the cityscape.[1] After 1945, cars were no longer alien but accepted inhabitants of the urban space. During these years, as a consequence of the large economic expansion, the automobile became an integral part of our society.[2] The rapid increase in car ownership in Europe was led by Great Britain and France but quickly followed by West Germany, Italy, and later by Spain, Portugal, and Greece.[3]

An in-depth analysis of the antagonism experienced by early motorists has been conducted primarily through written sources. Using texts, scholars have reported on the protests and described the public outrage, as well as the anger and resentment against the motorists. The study of these sources, however, relegates the visual to an illustrative appendage. This article seeks to amend that by addressing the production and dissemination of images as part of the collective elaboration of meaning.[4] Specifically, we will focus on the mediatization process and the role of images in the activist discourse.[5] By applying digital analytical methods to examine the circulation of images of cars in the illustrated press, the study will

[1] Mathieu Flonneau, "D'une Automobile En Majesté À Une Automobile Évitée," *Sociétés & représentations* 1 (2004).
[2] Frank Schipper, *Driving Europe: Building Europe on Roads in the Twentieth Century* (Amsterdam: Amsterdam University Press, 2008), 159.
[3] Brian Ladd, *Autophobia: Love and Hate in the Automotive Age* (University of Chicago Press, 2008), 49. More information on car ownership, car density, and automotive production can also be seen in many other texts. Relevant examples are Gijs Mom, *Atlantic Automobilism: Emergence and Persistence of the Car, 1895-1940* (New York: Berghahn Books, 2014), 287-313. (interwar period and Atlantic perspective), but also in James J. Flink, *The Automobile Age* (Cambridge: MIT, 1990)., Abel Chatelain, "L'Industrie Automobile Française," *Revue de géographie jointe au Bulletin de la Société de géographie de Lyon et de la région lyonnaise* 25, no. 2 (1950)., Robert Paul Thomas, *An Analysis of the Pattern of Growth of the Automobile Industry: 1895-1929* (New York City: Arno Press, 1977)., Sophie Roux, Jimmy Armoogum, and Jean-Loup Madre, "Dynamic of Car Ownership and Commuting in France Since the 1960s," 12th World Conference on Transport Research (2010). and Federico Paolini, and Federico Paolini, "Un Paese a Quattro Ruote: Automobili E Società in Italia / Federico Paolini," (2005)., Rudi Volti, *Cars and Culture: The Life Story of a Technology* (Baltimore: John Hopkins University Press, 2006)., and Jean-Pierre Bardou, *et al.*, *La Révolution Automobile* (Paris: A. Michel, 1977). but many are available on this subject.
[4] Irit Rogoff, "Studying Visual Culture," in *The Visual Culture Reader* London, 1998).
[5] Nicole Doerr, Alice Mattoni, and Simon Teune, "Visuals in Social Movements," in *The Oxford Handbook of Social Movements* (Oxford: Oxford University Press, 2015).

showcase the impact (if any) of the publishing business in conveying and framing the dissent towards motorists and cars.

The remainder of the article is organised as follows. A brief introduction presents the historical context in which hostility to the early automobile occurred. Literature on the subject is used to familiarise the reader with the introduction of the car (and its corresponding consequences) in the urban environment. The following section details the corpus and the digital visual analysis method used in the study. The results are then examined and a number of hypotheses, that might explain the lack of visual circulation of negative automobile imagery, are put forward.

The Context: Automobiles and Urban Space

From the introduction of car prototypes in the late 19th century to their widespread use in the 1950s, cars have transformed the way we move and what we consider attainable.[6] They changed the way we see the countryside, they drove a structural transformation of the urban space, and they grew to be a critical component of the way we frame mobility (hence the term automobility). The car became a "*liberating, individuating, revivifying, equalizing*" phenomenon[7] in the global North and a technological colonization tool that served to demonstrate superiority and inspire desire and admiration in the eyes of the colonized.[8] As noted before, the advent of motor vehicles in urban areas was met with some skepticism and antagonism. The root of this hostility stemmed from the control of the road.

In our present society, the road is viewed as an area primarily used by automobiles. People are confined to the sidewalk, and any invasion of the road by pedestrians, if not into demarcated zones, is considered an illegal and punishable act that can lead to incidents or disrupt traffic. Children learn at an early age the important difference between the sidewalk, which is synonymous with safety, and the street, which is a hazard, a place where caution is required. The division of the road into two distinct spaces, one for pedestrians and one for vehicles, came about a few years following the introduction of the automobile. It is important to remember that, from the point of view of its time, the car was the obvious intruder, a disruptive factor that deprived people of their public space.[9]

Until the introduction of the automobile, and for a few years afterward,[10] streets were considered a mixed environment shared by streetcars, pedestrians, horse-drawn carriages, and bicycles. There was no special part of the street dedicated to its crossing (these would be introduced later due to cars), and there was no clear distinction between zones designated for the passage of pedestrians and those forbidden to them. The streets were partially free spaces. In their midst, one could see children playing as well as people walking or standing. The only occupied part of the street was the one designated for the passage of streetcars, which, unlike cars or bicycles, ran on fixed tracks. Trains could also cross the city, but only slowly and with an advance warning from a person signaling their presence.[11] The general urban environment was designed for pedestrians, and even bicycles were initially considered alien and dangerous, as exemplified at the turn of the century for Turin.[12] Cities were not prepared for the introduction of the car, and its sudden presence was tantamount to a revolution, as it

[6] Steven Parissien, *The Life of the Automobile: The Complete History of the Motor Car* (London: Atlantic Books, 2013). The prototype of Karl Benz in 1885 needs to be framed within a long list of technological attempts to create various types of motorized vehicles, including works by Nicolas-Jules Raffard, Charles Jeantaud, Edouard Delamare-Debouteville and many others who shaped the early technological advancements until the emergence of a standardize propulsion system.

[7] Cotten Seiler, *Republic of Drivers: A Cultural History of Automobility in America* (Chicago: University of Chicago Press, 2008); Mathieu Flonneau, "Read Tocqueville, or Drive? A European Perspective on Us 'Automobilization,'" *History and Technology* 26, no. 4 (2010).

[8] Lindsey B Green-Simms, *Postcolonial Automobility: Car Culture in West Africa* (Minneapolis: University of Minnesota Press, 2017).

[9] Peter D Norton, *Fighting Traffic: The Dawn of the Motor Age in the American City* (Cambridge, Massachusetts: Mit Press, 2011).

[10] A great example of this mixed nature of the urban environment can be found in Mathieu Flonneau, "Paris Au Cœur De La Révolution Des Usages De L'Automobile 1884-1908," *Histoire, Économie & Société* 26e année, no. 2 (2007). who report that despite the large number of vehicles on the main roads, Paris in 1900 maintained its status as a city of pedestrians, and the passing of a single carriage through many of its streets was enough to draw attention.

[11] Ladd, *Autophobia*.

[12] Massimo Moraglio, "Knights of Death: Introducing Bicycles and Motor Vehicles to Turin, 1890–1907," *Technology and culture* (2015).

subverted the significance of the streets, transforming them from shared places to unsafe spaces.

The presence of cars in the cities grew slowly over the years. At first, only the wealthiest part of the population to own a vehicle. This was not only due to the cost associated with its purchase. Owning a vehicle meant, initially, to pay for a new employee, a person who was responsible for driving and taking care of the car: the chauffeur. It also meant having the space to store (and repair) the car. For this reason, many of the initial buyers were aristocrats. In France, for example, the *Automobile Club de France* was founded in 1895 by de Zuylen, Récopé, de Dion, and Meyan, who were respectively a baron, a count, a count, and a journalist. Many years later, in 1926, the same club still counted 26% of its members belonging to the new and old nobility.[13] The strong appeal of the car in France was also evident in its early success. Paris and the Côte d'Azur were the first places where the car became fashionable, and the French influence is also proved by the widespread use of French terms, such as "*garage*" or "*chauffeur*," in modern times.[14]

Automobiles were originally used as adventure machines (and would remain so until the airplane made its appearance).[15] Initially, cars were geared toward racing and not touring. The character of the vehicle was perfectly suited for such a function. The initial technology favored constant high-speed driving instead of start-and-stop, which would have been a more useful feature for driving in cities.[16] Speed was not merely a material function of the car but was one of its most popular features. Early motorist accounts highlight the beauty of speed, underlying how dependent on it a person can become. The early accounts are also full of juxtaposition between speed as the new and slowness as the old. It was a belief shared by many and made famous by a few artists, especially futurists, who ascribed attributes of power, modernity, and dynamism to the automobile.[17] Manufacturers and sellers of cars had long recognized the subversive thrill of speed and promoted fast and aggressive driving in addition to sponsoring car races. In this environment, many referred to driving as a kind of disease, a devil that takes over the body with the result of losing control and aiming for nothing else but pure speed.[18]

Speed was not the only sought-after characteristic of a car. Automobility opened up novel opportunities and connections with the countryside, and many drivers jumped at the possibility of quickly escaping the city. In search of fresh air, nature, and a healthier environment, many motorists preferred to drive away from the insalubrious atmosphere of the metropolis towards more bucolic landscapes. While tourism was a pre-existing phenomenon, the car expanded the horizon of possibilities, creating an entirely new transportation geography. Using the automobile, it was possible to cross a country but also to slowly savor the journey and its encounters. With such intent in mind, new roads started to be built, pathways that allowed motorists to visit previously inaccessible areas such as forests, gorges, and mountains (especially the Alps). Freed from the time constraints of trains, motorists were able to explore new spaces, discovering unknown (for them) and dazzling beauties hidden far away from the train networks that crossed each country. The reach of motorists was limited only by the initial technical limitations of the car and by the lack of services along the routes.[19] As a result, the roar of car engines became a regular in the countryside, frightening residents and animals alike. Motorists ruined the rural silence with a cacophony of honking and roaring, filling the air with exhaust fumes.[20] Initially, the phenomenon was limited due to the high prices of automobiles, but with the expansion of the car market, automobiles quickly became part of the rural landscape. In the United States, the car market became a mass market in 1908

[13] Monique de Saint-Martin, "Des Activités « Désintéressées ». Un Style De Vie," in *L'Espace De La Noblesse* (Paris: Éditions Métailié, 1993).
[14] Ladd, *Autophobia*, 15.
[15] Gijs Mom, "Civilized Adventure as a Remedy for Nervous Times: Early Automobilism and Fin De Siècle Culture," *History of Technology* 23 (2001).
[16] Mom, *Atlantic Automobilism*, 73.
[17] While generally we may think about Marinetti's Manifesto in 1909, other artists, Futurist and not, saw automobiles as the embodiment of the future Peter Wollen Joe Kerr, *Autopia: Cars and Culture* (Reaktion Books, 2002), 25-28.
[18] Ladd, *Autophobia*, 32-34.
[19] Catherine Bertho-Lavenir, *La Roue Et Le Stylo : Comment Nous Sommes Devenus Touristes* (Paris: O. Jacob, 1999), 217-19.
[20] Ladd, *Autophobia*, 17.

with the introduction of the Ford Model T. Europe saw a surge in car sales after the 1910s, which was halted by World War I. Before 1914, in France, owning a car remained the privilege of noble families, the urban bourgeoisie, or professionals who used their cars as tools (e.g., doctors).[21] While European rural motorization began only after World War I, in the United States, Midwestern farmers became the main purchasers of American automobiles in the 1910s. They used the car primarily to take their produce to market, to visit acquaintances in town, or as an aid in farming operations.[22] The market growth of the automobile in this decade was due to the introduction of new and cheaper manufacturing technologies, driven by the saturation of the elite market and the need to diversify production toward commercial vehicles as well as automobiles for the middle class.[23]

The rapid expansion of the automative market led to an increase in the number of motorists in the cities of Europe and the United States, prompting legislators to impose greater controls on the urban environment. This need was triggered primarily by the numerous incidents between pedestrians and automobiles. Due to the high number of fatalities, motorists were branded as "joy riders," "road hogs," or "speed demons." Their machines were "juggernauts," "death cars," or "the modern Moloch."[24] Most of the urban victims were pedestrians, especially children. Early reports rarely blamed the victims, but "city newspaper headlines, editorials, letters, and cartoons depicted the automobile as a destructive juggernaut."[25] Citizens and communities organized public ceremonies to commemorate the victims and urged their legislators to restrict the use of cars, limit their speed, and keep their drivers in check. Newspapers wrote articles about the many child deaths and referred to the vehicles as killing machines.[26] The issue was not restricted to urban environments; the countryside saw its fair share of automotive-related fatalities involving, in this instance, both people and animals.[27]

The large number of incidents led to an increase in hostility toward cars and motorists. Vigilante groups punctured tires in New York City, and ropes were installed to prevent cars from circulating. As a result of such measures, a couple was beheaded in Berlin in 1913.[28] In France, a local judge had to be convinced that shooting at cars to scare travelers was a crime.[29] Street gutters were used to trap cars (and their drivers).[30] Stone-throwing against motorists was quite common. German drivers were advised to carry weapons for their defense.[31] Incidents involving cars often resulted in violent mob attacks on the motorist, which convinced many that it was better to flee rather than inquire about possible victims.[32] A 1909 German law even allowed motorists to do so, as long as they reported to the police the next day.[33] This was probably due to the hostile attitude of a large part of the population toward motorists, an attitude that was confirmed by politicians and journalists.[34]

The public resentment against motorists resulted in a demand to ban cars altogether. Sunday driving bans were enforced in Germany and Switzerland. The canton of Graubünden completely banned cars in 1900, a measure that was lifted in 1925 and only after repeated referendums.[35] In the 1910s and 1920s, safety campaigns were launched in many American cities, promoted by the auto industry, concerned parents, and insurance companies. Safety Weeks, events promoting traffic safety, became popular in the United States.[36] During these events or during demonstrations against cars organized within the frame of safety councils, drivers (or cars) were portrayed as Satan or the Grim Reaper.

[21] Catherine Bertho Lavenir, "How the Motor Car Conquered the Road," in *Cultures of Control* (London: Routledge, 2005).
[22] Mom, *Atlantic Automobilism*, 104.
[23] Mom, Atlantic Automobilism, 100.
[24] Norton, *Fighting Traffic*, 3.
[25] Norton, Fighting Traffic, 3.
[26] Norton, Fighting Traffic, 24-28.
[27] Ladd, *Autophobia*, 20-22.
[28] Mom, Atlantic Automobilism, 74.
[29] Lavenir, "How the Motor Car."
[30] Ronald Kline, and Trevor Pinch, "Users as Agents of Technological Change: The Social Construction of the Automobile in the Rural United States," *Technology and culture* 37, no. 4 (1996).
[31] Uwe Fraunholz, *Motorphobia: Anti-Automobiler Protest in Kaiserreich Und Weimarer Republik* (Göttingen: Vandenhoeck & Ruprecht, 2002).
[32] Tom McCarthy, *Auto Mania: Cars, Consumers, and the Environment* (New Haven: Yale University Press, 2007), 9.
[33] Ladd, *Autophobia*, 25.
[34] Mom, *Atlantic Automobilism*, 74.
[35] Ladd, *Autophobia*, 27.
[36] Norton, *Fighting Traffic*, 32-38.

Posters for Safety Week featured mothers holding their slain sons, a skeleton standing on a mountain of skulls, or similar figures. The iconography used was macabre and hinted at the many deaths the car was responsible for.[37]

Motorists and the motordom industry had a different view of the problem and blamed pedestrians and cyclists for their lack of attention and reluctance to adapt to the novel technologies. They called for better and emptier roads dedicated only to cars and opposed any initiative to control speed. The general view of the motorists was that cars were the inevitable progress and those who stopped them were merely people attached to a disappearing past[38].

At the end of the 1910s and the beginning of the 1920s in the United States,[39] motorist organizations supported by the automobile industry began to flip the narrative by organizing campaigns against pedestrians guilty of endangering their lives and causing traffic accidents. Specifically in the United States, advertising campaigns popularized the term "jaywalker" to describe those who cross the street without regard for their safety or traffic.[40] The term became popular very quickly, thanks to safety organizations and safety parades, which reuse the term to shift the blame from the cars to the pedestrians. The latter, before victims, become the new. Before 1920, the term "jaywalker" was rare and controversial. It first appeared in a standard American dictionary in 1924. While many continued to cross the street without adhering to the very new traffic regulations, by 1930, most agreed that these people were "jaywalkers." By the late 1920s, roads in the United States were dedicated to automobiles. Europe would follow shortly thereafter.[41] After this rocky beginning, the automobile was finally fully accepted by the masses and became, albeit in different ways, an integral part of the lives of many families in the United States and Europe. Car production boomed in the post-war period, helping the economy recover from the war. Production and use were led by the United States, which manufactured 82 percent of the world's automobiles in 1950 and counted, in the same year, twenty-six cars per hundred people. Europe quickly reached a similar level, albeit not until 1970. The automobile had triumphed, a victory that was even crowned by its transformation into an art object, thanks to the MoMA exhibition *Eight Automobiles*, curated by Arthur Drexel in 1951.[42]

Visual Analysis

The introduction of the automobile into the urban and rural landscape revolutionized possibilities and desires. Automobiles became a means of transportation but also a prime example of design. They transcended their material attributes to symbolize freedom but also economic means. They became associated with national characteristics or, in the case of some models, with specific occupations, and they were capable of both entertaining (e.g., car racing) and spurring domestic economic growth. A complex interweaving of roles reflecting the multiple uses of the automobile, from luxury to commercial vehicle, from collective transportation (e.g., autobus) to military device, from racing car to commuter vehicle.[43]

The initial introduction of the automobile into the cityscape has dazzled many but also led to a confrontational relationship between early motorists and groups of concerned citizens. The latter did not begin to organize into safety councils until the 1910s and 1920s,[44] initially focused on putting a stop to the many deaths caused by automobiles. Club for motorists started to appear earlier. As soon as 1895, the Automobile Club de France was founded in Paris, and three automobile clubs were created in London, while the New York Automobile

[37] Norton, Fighting Traffic, 39.
[38] Ladd, *Autophobia*, 23.
[39] Earliest recorded attempts (documented in Norton, *Fighting Traffic*, 73-79.) were a 1918 safety campaign in St. Louis. Other early attempts included 1919 Cleveland, San Francisco in 1920, Grand Rapids, Michigan in 1921, and Detroit in 1922.
[40] Ladd, *Autophobia*, 74.
[41] Norton, *Fighting Traffic*, 72-29.
[42] Parissien, *The Life of the Automobile.*
[43] Mathieu Flonneau, *Les Cultures Du Volant: Essai Sur Les Mondes De L'Automobilisme, Xxe-Xxie Siècles* (Paris: Autrement, 2008).
[44] The safety councils were formed by the Chamber of Commerce, local business interests but also by schools and safety reformers, specifically parents. Funding was provided by membership Norton, *Fighting Traffic*, 36.

Club was founded in 1899.[45] These councils and clubs used forms of mediatization to promote their discourse and their cause. On the one hand, the automobile clubs, the touring clubs, and the motordom promoted and defended the use of cars, advocated for better infrastructure, and published guidebooks for motorists. In contrast, the citizen/victim/safety associations sought to limit the dangers of the automobile, and they wished for the restoration of what had been a shared public space. In mediatizing the protest, both sides used magazine articles, posters, and flyers to promote their cause and educate their fellow citizens about the possibilities and dangers of the automobile. But what role, if any, did images play in such a movement? Which images reached the public, and which were used to promote a particular position? What influence did images have in defining a new form of mobility?

Illustrated Periodical as a Visual Source

The analysis of images in historical studies is challenged by scale. This is especially true if we look at images as a collection and an expression of a cultural phenomenon. In this instance, the study of images requires us, first and foremost, to have a large, global (at least for the Global North) contextualized corpus, which can be studied both as a collection of individual parts and as a macro-organism that evolves in space and time. The construction of the corpus is particularly challenging because the question of the impact of images requires us to collect and document pictures across a large spectrum of sources. The breadth of the corpus reflects the possible diversifications and developments that a complex phenomenon, such as the one examined, can embrace.

An important testimony of the progress of the visuality of cars and the depiction of automobiles in everyday life is found in the illustrated press. Illustrated journalism constituted at the beginning of 1900 one of the largest markets in the leisure industry counting, according to Jobling and Crowley, 2,328 journals in circulation in the United Kingdom and over 1,300 in Paris alone.[46] The large number of revues in circulation is easily understood if we consider two important factors: education and income. Crucial educational reforms in Europe in the second half of the 19th century increased adult literacy. By the early 20th century, the United States and much of Western Europe (with the exception of southern Italy) had achieved universal literacy. A gap between the genders remained but was finally closed in 1914.[47] The other important factor to keep in mind is the increase in disposable income within the working class. In France and the United Kingdom, disposable income rose above 70% by the 1880s, leading to an increase in funds devoted to leisure activities.[48]

As for the motordom industry, illustrated magazines appeared as early as the end of the 19th century. In 1895, *The Horseless Age* was founded; by 1900, the daily paper *L'auto* appeared; August 1903 saw the beginning of the *La Vie Automobile,*[49] and in 1905, *De Auto* was founded.[50] Large newspapers were so enthusiastic about the spectacle of cars and car competitions that they began to organize such events themselves.[51] The range of publishers, publications, and images of cars in the illustrated press make it the perfect research ground for studying the mediatization of the automobile.

Digital Viewing Using the Corpus of the Project *Visual Contagions*

Given these premises, the phenomenon was analyzed with the aid of the Visual Contagion (https://visualcontagions.unige.ch, SNSF, University of Geneva, CH) corpus and tools.

[45] Bruce Prideaux, "The Role of Automobile Associations and Clubs," in *Drive Tourism* (London: Routledge, 2010).

[46] Paul Jobling, and David Crowley, *Graphic Design: Reproduction and Representation Since 1800* (Manchester: Manchester University Press, 1996).

[47] Frits van Holthoon, "Literacy, Modernization, the Intellectual Community, and Civil Society in the Western World," in *The Cambridge Handbook of Literacy* (Cambridge: Cambridge University Press, 2009); Richard L Venezky, "The Development of Literacy in the Industrialized Nations of the West," in *2* (Mahwah, New Jersey: Lawrence Erlbaum Associates, 1996).

[48] Jobling, and Crowley, *Graphic Design*, 22.

[49] J Bouvier, "L'Automobile Et Les Transports," *Journal de la société française de statistique* 74 (1933).

[50] For a longer list see Mom, *Atlantic Automobilism*, 660.

[51] Lavenir, "How the Motor Car."

The Visual Contagions[52] (VC) project collects, documents, and reuses openly accessible digital collections of twentieth-century illustrated periodicals published between the 1890s and 1990s. The collected corpus is used to investigate the global circulation of images, to examine visual patterns and trends, and to analyze transnational circulation, seeking to determine the virality of images/images-type and the reasons for it.[53]

The Visual Contagions corpus includes, at the time of this writing, several thousand illustrated periodicals from forty-two countries, including Germany, France, Switzerland, Poland, Italy, Spain, and the United States. The content covered is very diverse and includes periodicals from 83 different subject areas, including art, architecture, cinema, culture, feminism, humor, news, automobile magazines, and others. The wide distribution of the corpus in terms of subjects and locations is ideal for the study of visual mediatization. The VC corpus was analyzed using a combination of different computer vision algorithms that extract images from each periodic page. The images were further analyzed, grouped, and displayed according to similarity. Using these techniques, the project collected a global image corpus of nearly seven million images.[54] The public version of the Visual Contagions corpus is hosted on a free-to-use platform, *Explore*, where it is possible to browse, search, organize, and export selected images.[55]

Using the visual similarity features of *Explore*, a dataset of more than 5,000 images depicting cars with the corresponding metadata (including the corresponding journal/type of journal and date and place of publication) was extracted from the platform. The resulting corpus was computationally analyzed. This exploratory examination based on metadata information was designed to uncover large patterns that may be difficult to detect by closely viewing the data and by studying each individual image.[56]

This initial analysis confirmed that the geographic coverage of the corpus is primarily North Atlantic and contains images originating, for the most part, in Europe and the United States published between 1891 and 1950 (Fig. 1). In particular, the corpus contains images circulating between European cities such as Berlin, Munich, and Paris and the East Coast of the United States, mainly Pittsburgh, Chicago, and New York (Fig. 2). The analysis evidences a visual exchange between North Atlantic countries, largely driven by advertising, confirming the role of the early automobile as a means of globalization.

A scan of the corpus revealed that fewer than fifty images, out of more than 5,000 pictures, contained depictions of incidents or were related to traffic safety. The resulting images were distributed over the first twenty years of the 20th century (Fig. 3) and appeared mostly in satirical magazines.[57] The content of the images perfectly illustrates the social struggle triggered by the introduction of the automobile, but the number of images presenting depictions of incidents is particularly small. It is stunning to see that a phenomenon of such magnitude and with so many ramifications is not mediatized. Particularly surprising is that the presence of satirical images in the press should be a sign that the phenomenon itself is fairly comprehensible to all readers. There can be no satire about cars and incidents without a shared understanding of the relevance and impact of the car accidents themselves.

It is important to emphasize that while the images of car accidents found in the corpus generally come from the satirical press, they can also be found in other periodicals such as Automobile (*La Pratique automobile vulgarisée*), Culture/Leisure (*Je sais tout*), Children (*La Jeunesse illustrée*), Politics

[52] The project has been funded by the Excellence Jean Monnet Center Imago (École normale supérieure, Paris) between 2019 and 2022. It is currently funded by the Swiss National Fund for Research SNFS at the University of Geneva (FNS 192821, 2021-2024).

[53] Beatrice Joyeux-Prunel, and Nicola Carboni, "Plotting the Geopolitics of 20th-C. Modern and Avant-Garde Illustrated Periodicals. Distant and Close Viewing and the Issue of Centres and Peripheries," *Journal of European Periodical Studies* (2023), Forthcoming.

[54] For a presentation of the project, see the article Nicola Carboni, Marie Barras, and Béatrice Joyeux-Prunel, "Pister Des Circulations Visuelles À L'Échelle Mondiale," *Humanistica 2023* Humanistica 2023 (2023).

[55] https://visualcontagions.unige.ch/explore/

[56] Taylor Arnold, and Lauren Tilton, "Distant Viewing: Analyzing Large Visual Corpora," *Digital Scholarship in the Humanities* 34, no. Supplement_1 (2019).

[57] The list of journals that published the retrieved images are: *Lustige Blätter (DE), Le Pêle-mêle (FR), La Pratique automobile vulgarisée (FR), La Gazette de la Capitale (FR), La Jeunesse illustrée (FR), Le rire rouge (FR), Meggendorfer-Blätter (DE), Je sais tout (FR), L'Illustré national (FR), Les Faits-divers illustrés (FR), Almanach socialiste illustré pour…* (FR).

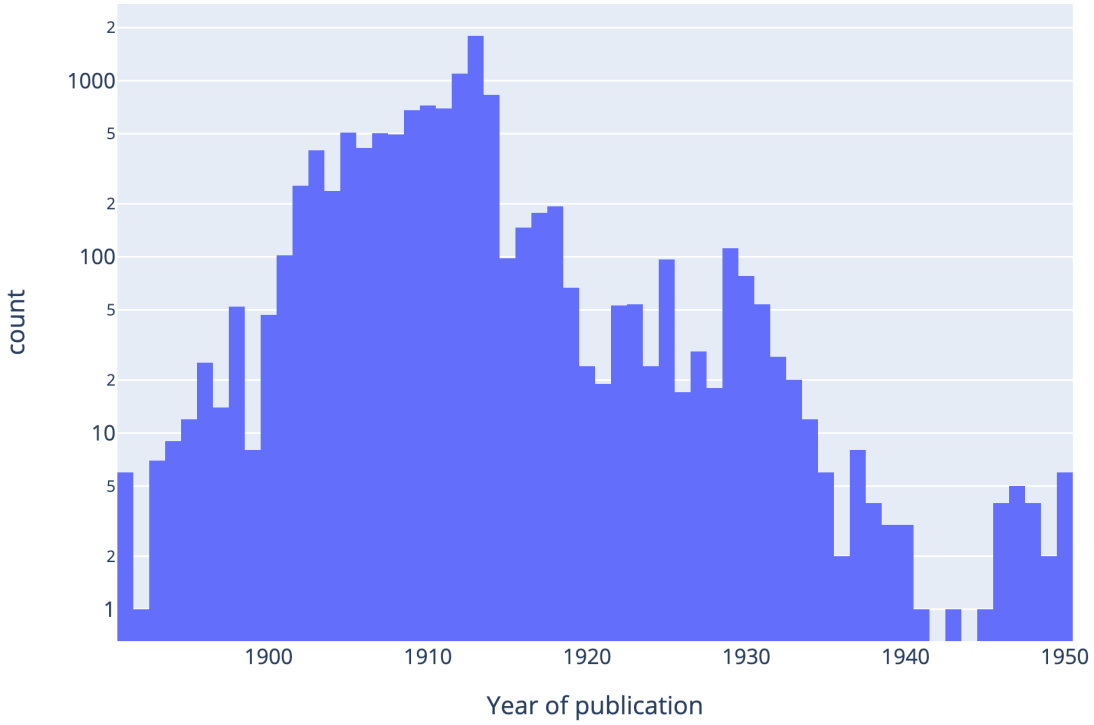

Figure 1. Automobile Image corpus: picture distribution 1891-1950. The data visualization uses a logarithmic scale to expose the differences in the number of images retrieved.

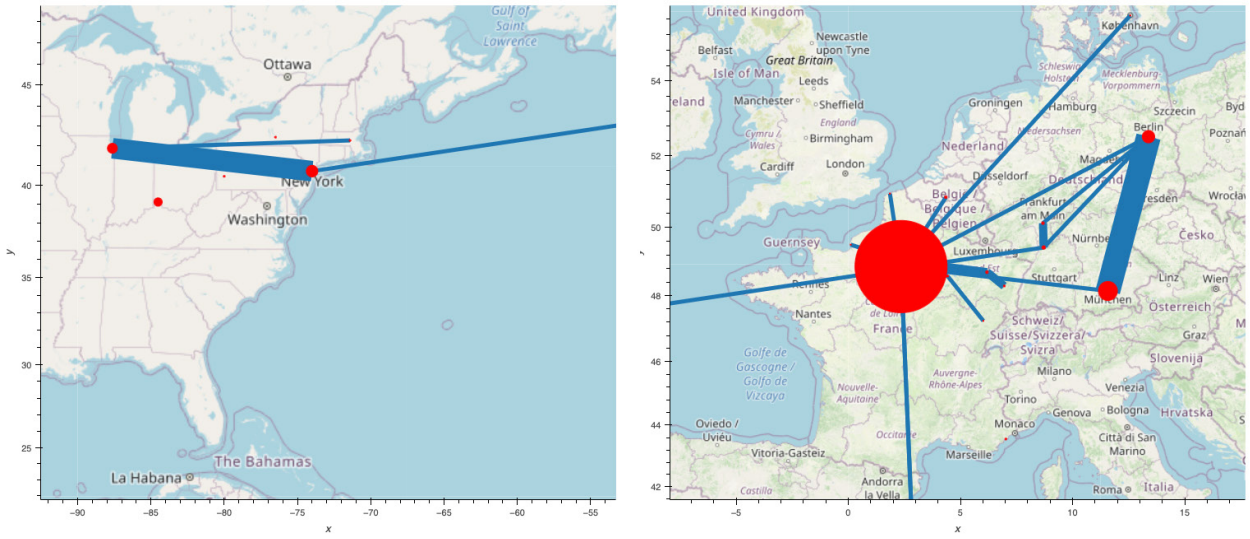

Figure 2. Automobile Images: map of the visual exchange between Europe and the United States. Each line represents two cities (visualized as points) exchanging visual material. The thicker the line, the stronger the exchange. The bigger the point, the more material originated or was received in a city. The visual exchanges are computed using only algorithmic results of Visual Contagions and without any human filtering/reasoning. Each trajectory represents a set of images that the machine considers similar by one or multiple computational dimensions. While the results are not as accurate as manually filtering the corpus, they showcase trends of exchange in the publishing industry.

(*Almanach socialiste illustré*), and News (*Les Faits-divers illustrés*). In these magazines, the images have been used for (i) an educational purpose, as in the case of *La Jeunesse illustrée*, (ii) or with an illustrative function, as in the case of *Je sais tout,* where they complement a story in the paper. A specific case may be found in Automobile magazines, where the images have an (iii) explanatory function and indicate the risks a motorist may face when driving in an urban area.

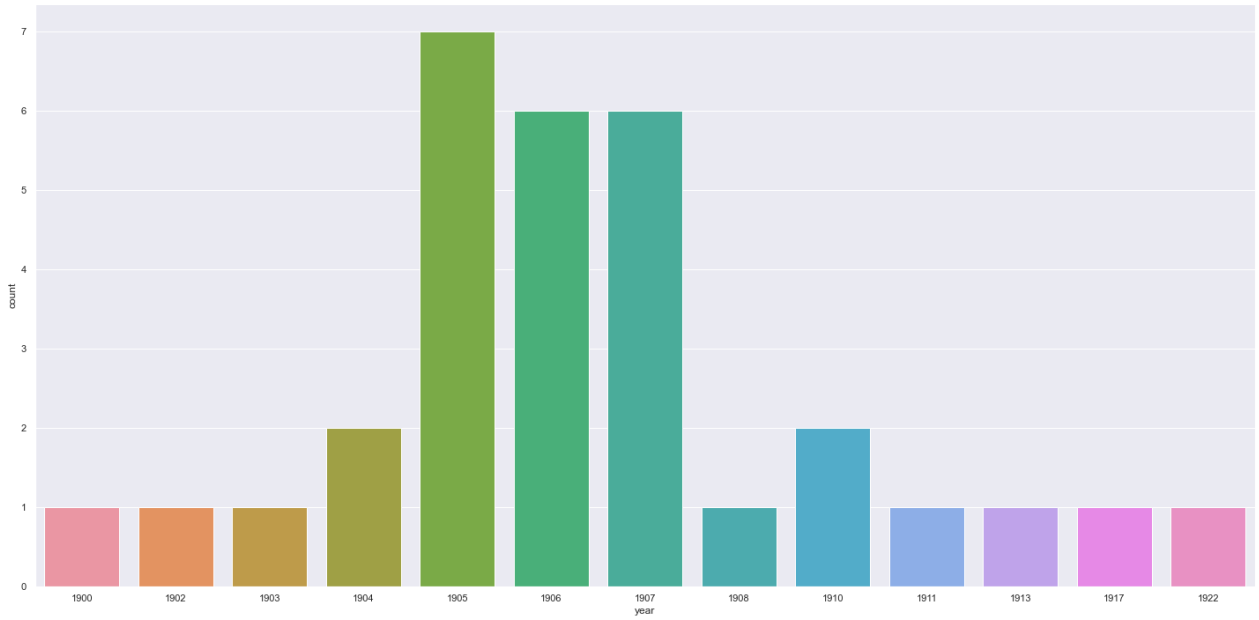

Figure 3. Temporal distribution of images depicting incidents in the illustrated press.

To confirm that the lack of findings was not due to limitations from the initial corpus, a further analysis was performed across a large dataset of United States newspapers. Thanks to the project *Chronicling America*[58] by the Library of Congress (LOC), it is possible to search across a representative corpus (a newspaper for each county in the USA) of digitized newspapers. By using the Newspaper Navigator function[59] of the website, we can search for visually similar images published in Chronicling America, filtering them based on textual and visual cues. Very few photos of incidents were found in American newspapers in the period 1900-1950. The research was further repeated by importing the LOC dataset into Visual Contagions. The Visual Contagions corpus was, thus, enriched with the collection of images extracted from the Chronicle America project, which were later automatically analyzed using novel visual similarity metrics. When searching the corpus using the Explore platform, the number of retrieved pictures depicting incidents was particularly low (less than twenty), confirming the initial findings.

The lack of circulation of images of car accidents could be attributed to the lack of interest by some segments of the press. To disprove this hypothesis, an additional analysis was conducted to evaluate the representativeness of the magazines in the corpus, exploring which type of audience (journal type) the publications were targeted at. The analysis of image distribution by journal type revealed that the corpus extracted from VC contained images published across forty different journal types (e.g., humor, leisure, art history, photography, cinema, sports, and others), making it quite representative of a mediatization investigation, and not biased toward a specific journal category. Furthermore, this study shows that automobile images circulated almost exclusively in satirical magazines until 1900.

Following this initial period, pictures of automobiles circulated in numerous types of magazines, especially those that focused on sports, children, fashion, culture, and news. Shortly before 1920 and until 1937/38, traditional art, modern art, and avant-garde magazines became prominent venues used to advertise automobiles. During the late 1930s, automobiles began to be depicted more often in regional news, suggesting a growing integration of the automobile into everyday life.

[58] https://chroniclingamerica.loc.gov consulted on 06/05/2023.
[59] https://labs.loc.gov/work/experiments/newspaper-navigator/ consulted on 06/05/2023.

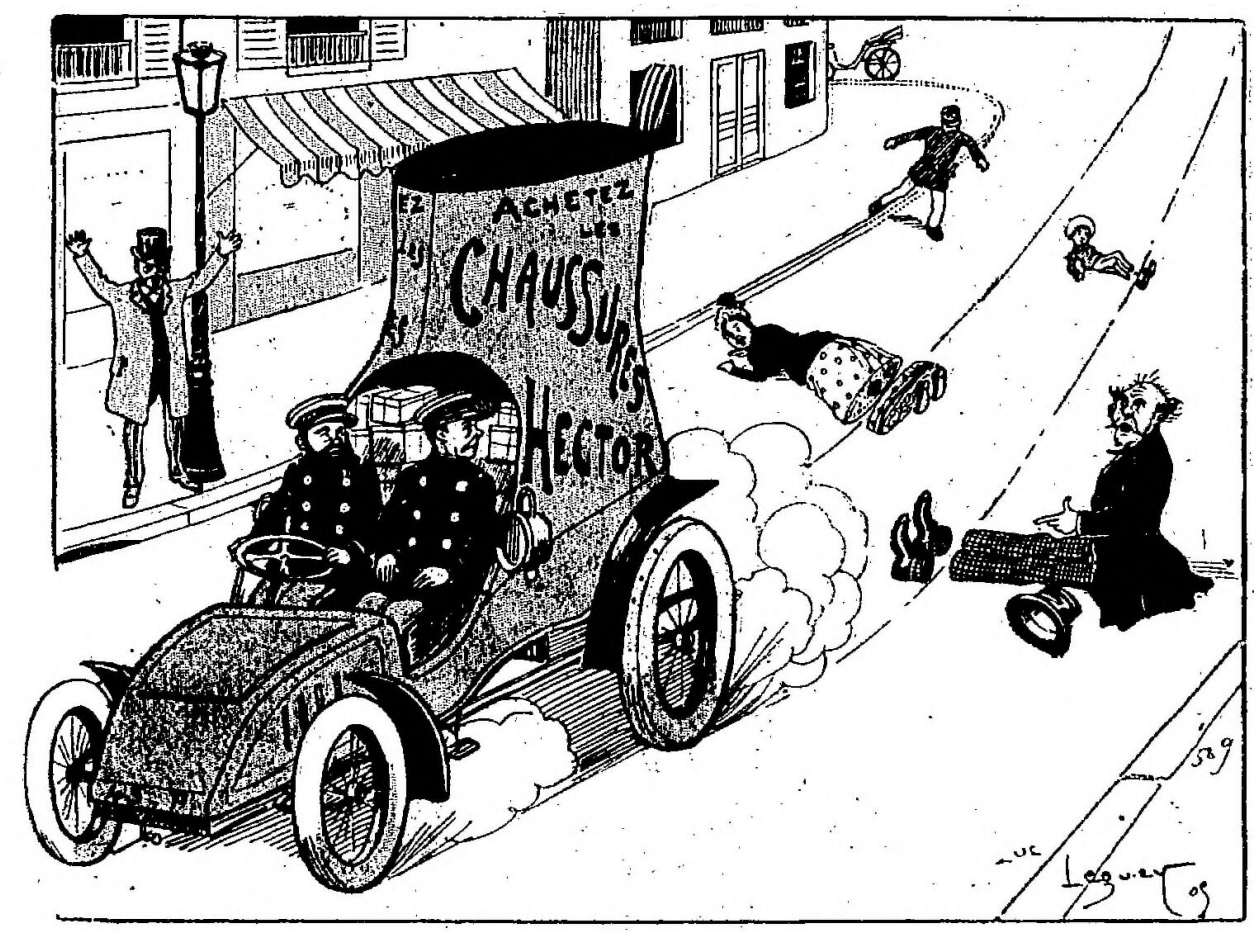

Figure 4. Image published on July 16, 1905, in *Le Pêle-mêle*, a humoristic Parisian weekly periodical. Source: Bibliothèque nationale de France - Gallica https://gallica.bnf.fr/ark:/12148/bpt6k5517413n

The mediatization of the protest against the automobile seems to have failed. The illustrated magazines did not convey the activist discourse. The visual message, in the form of posters, used by the protesters did not find a meaningful place in the illustrated press. Despite the abundance of accounts of car collisions, the most communicative means of disseminating information, the photograph, was not used to illustrate the consequence brought by the introduction of cars in the urban environment.

No Images

It is essential to comprehend why the circulation of visual material depicting the animosity towards the first automobile was so restricted. An aspect to consider is visual etiquette. Journals' editorial lines were inclined to satisfy the curiosity of the readers but only without causing too much distress. In the late 19th century, depictions of wars, as well as poverty, were generally embellished or reduced to the depiction of generic types (the poor person, not a poor person) in an attempt to remove the readers from dwelling too much on earthly misfortunes. Readers appeared to be more interested in the glittering bourgeois life, either because they belonged to the middle class or because they followed such a life vicariously. Different were the editorial policies of the satirical press. These journals were more than happy to publish counter-perspectives, relying not on dramatization but on ridicule.[60] It is indeed in the satirical press that we find most visual representations of the disruption caused by the automobile. Vehicles were portrayed as butchering machines, while

[60] Jobling, and Crowley, *Graphic Design*, 32-35.

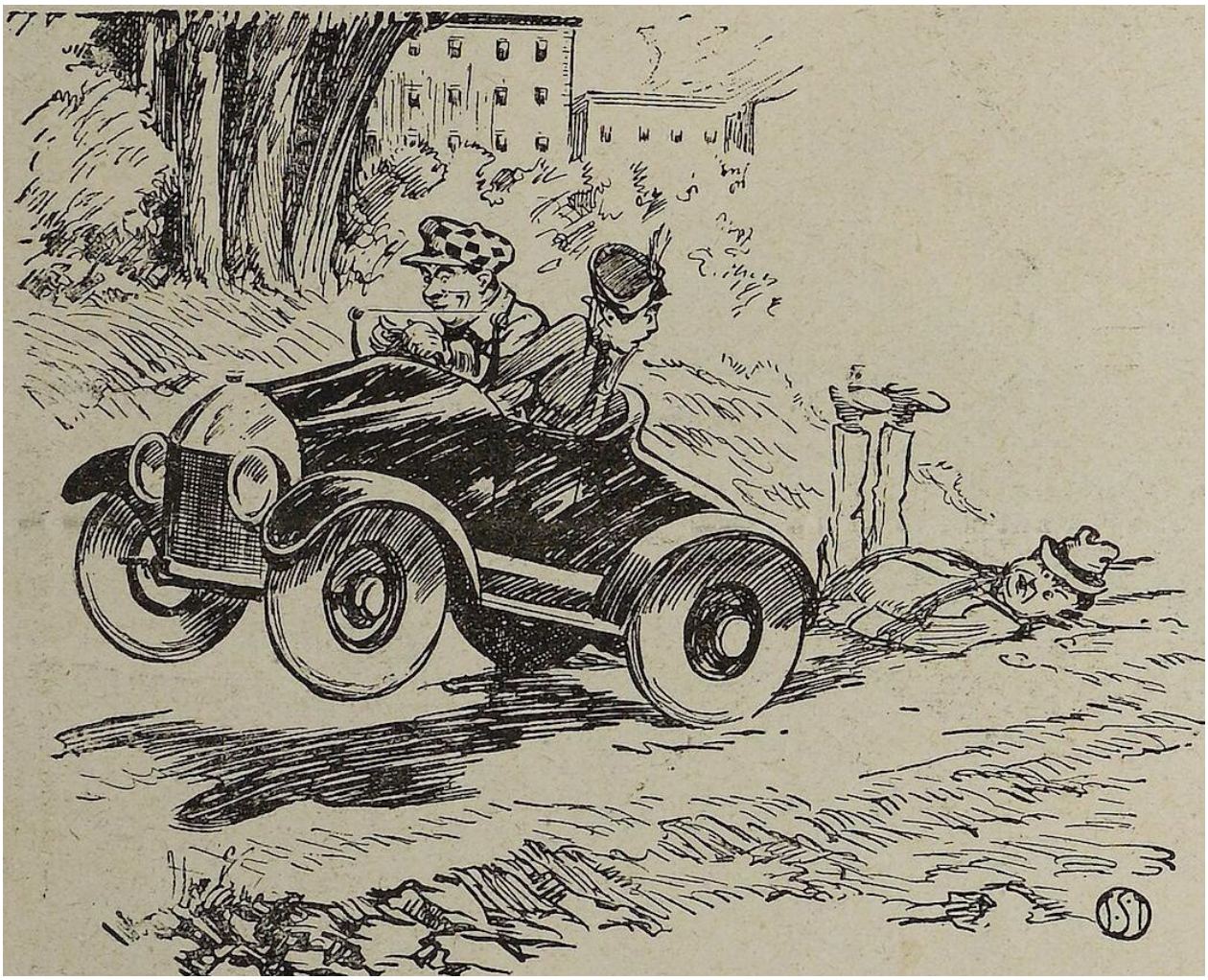

Figure 5. Image from *Le rire rouge*, published in 1915 in Paris, France. The image was originally published in LIFE, New York. Source: Heidelberg University Library https://doi.org/10.11588/diglit.25444#0540

drivers were cruel or callous individuals, unsympathetic towards the pedestrians or any other form of life around them (example in Fig. 4 and Fig. 5).

While this is a crucial aspect to consider, it cannot be the only one. Certainly, it is important to reflect upon who published what in the illustrated press and what connections he may have had with the automotive sector. As we have already mentioned, a large proportion of automobile owners in the early 20th century were aristocrats or belonged to the upper middle class. A milieu shared by some publishers and magazine executives who, perhaps for this reason, were less inclined to criticize the automobile, a dazzling new object they may already own. Some publishers and publications were also responsible for organizing car races. *Le Petit Journal* famously sponsored the first motoring competition, the "Paris–Rouen" in 1894.[61] In 1895, the first automobile racing competition, the "Paris-Bordeaux-Paris," was sponsored by the Comte de Dion and organized together with political officials, journalists, sportsmen, engineers, and men of wealth.[62] Between the organizers, it is crucial to cite Paul Meyan, a journalist at *Le Figaro,* editor of the newsletter *La France Automobile,* and founder of the *Automobile Club de France* (together with the Comte de Dion). A significant section of the financial backing for the race was supplied by James

[61] Christophe Studeny, *L'Invention De La Vitesse: France, Xviiie-Xxe Siècle* (Paris: Editions Gallimard, 1995).
[62] Jacques Ickx, "The Great Automobile Race of 1895," *Scientific American* 226, no. 5 (1972).

Gordon Bennett Jr., the famed publisher of the *New York Herald* and the *Paris Herald*, who went on to found the Gordon Bennett Cup, a predecessor of the Grand Prix.[63] These are merely a few examples of the connections between the publishing and automotive industries. More rigorous studies are required in order to confirm the sway some publishers had in furthering the automobile.

Ultimately, despite some publishers' possible eagerness to promote the car, others were restricted in their coverage of it simply due to the temporal constraints of the publishing process. On account of tight deadlines, news stories were rarely illustrated. Events were portrayed using schematic figures that bore little resemblance to the people depicted. Even after the introduction of the halftone, which sped up photographic reproduction, some visual content continued to be produced using wood engraving until after World War I, slowing down the publication process.[64] For such reason, visual representations of specific incidents were more difficult to publish.

There may be other reasons for the lack of presence of images of car accidents. It is certainly important to note that in an era of social and technological change, many magazines tended to celebrate progress itself[65]. The fascination with technological innovations may have contributed to the decision to devote more space to images of the object automobile, leaving aside images of the dangers and consequences of its introduction into the human sphere. The automobile was portrayed only as the epitome of progress, a scientific machine that helped us all overcome the limitations of nature and master the environment around us.

In the late 19th century, a new economic model for the publishing industry emerged in the United States. To compete with each other, many publishers decided to sell magazines below production costs and make profits from advertising revenue[66]. While the result was higher circulation and a larger audience, it also meant greater dependence on the industry and advertising agencies that became essential to the survival of magazines. There is no real evidence that such an economic model may have influenced the publication of images depicting the dangers of the automobile, as advertisers do not have direct control of editorial content. However, it is important to underline that advertising transformed the magazine business from a provider of reading material to a provider of consumer groups. With the rise of national advertising, publishers sold a selected homogeneous audience of consumers to advertising agencies and used that money to make a profit.[67] Consequently, for a publisher, a shift in editorial policy could lead to a different audience and different interests, with the risk that this alteration may be reflected by a decrease in profit.

Another possible reason for the lack of circulation of images presenting content against the early automobile is material. Circulation did occur, however, not in the illustrated press but only along the city walls. At the start of the century, posters filled the urban space.[68] Posters were used for advertising products or promoting events and associations. However, above all, posters, from the second half of the 19th century onward, were a medium for the dissemination of radical content.[69] They were used by protesters and by political parties to rally people behind a cause, contributing to the identity-creation mechanism behind each political struggle.[70] Posters were the medium of choice, as they were easier to distribute and not subject to editorial control. While posters were considered generally expensive, the safety council could use

[63] Éamon Ó Cofaigh, "The Origins of Motor Sport in France: Sites of Racing Memory," in *The History and Politics of Motor Racing: Lives in the Fast Lane* Springer, 2023).
[64] Michele H Bogart, *Artists, Advertising, and the Borders of Art* (Chicago: University of Chicago Press, 1995), 175. The process appears to be mediated not by technological advancements but by the function of the image, the cost, and the depicted subject matter (Susan Lambert, *The Image Multiplied: Five Centuries of Printed Reproductions of Paintings and Drawings* (London: Trefoil Publications, 1987), 118). Indeed, because of the lack of tonal contrast and the emotional appeal of the halftone (Richard Malin Ohmann, *Selling Culture: Magazines, Markets, and Class At the Turn of the Century* (London: Verso, 1996), 185), the image would have had to be retouched to increase the contrast, which in turn would have driven up the overall cost of the publication (Bogart, *Artists, Advertising, and the Borders of Art*, 175).
[65] Matthew Schneirov, *The Dream of a New Social Order: Popular Magazines in America, 1893–1914* (New York: Columbia University Press, 1994), 162.
[66] Schneirov, *The Dream of a New Social Order: Popular Magazines in America, 1893–1914*, 75-78.
[67] Theodore Peterson, *Magazines in the Twentieth Century* (Urbana: 1956), 64-66.
[68] Elizabeth Guffey E., *Posters: A Global History* (London: Reaktion Books, 2015), 8.
[69] John DH Downing, *Radical Media: Rebellious Communication and Social Movements* (Thousand Oaks, California: Sage, 2000), 170.
[70] James Thompson, "'Pictorial Lies'? — Posters and Politics in Britain C.1880–1914," *Past and Present* 197, no. 1 (2007), 209.

their membership funding as well as money from their sponsors (chamber of commerce) to produce them[71]. Moreover, they reuse for their visual material grassroots designs, organizing contests among their members to choose the best visual message to promote their cause. Following this reasoning, the process of mediatization happened, though on poster only. The absence of the illustrated press may be the symptom of the indifference towards social movements at the beginning of the century or, as it is most probable, can be indicative of how diverse visual meanings appear in different media. The poster, less controlled, cheap, more mobile, easier to display, direct, and more ephemeral, may have been the visual medium of choice for the circulation of more radical content.

The limited representational possibilities of the still image might also be a factor in its brief circulation. Indeed, the violent and destructive character of the car was well represented in another medium, the cinema.[72] The speed of the incident and its violent and destructive dimensions best fit the representational possibilities of film, a medium that can bring speed and its destructive power to life. The difficulty of depicting the complexity of the moving car, as well as its inherent possibilities for destruction, were perhaps the key to moving these representations to the cinema, where the motif of the car has had enormous success.

Conclusion

The article examined the role of the illustrated press in the mediatization of the social confrontations around the introduction of the automobile in the urban environment. Using digital analytical methods, a large corpus of illustrations was examined, showing the impact of the publishing world in framing dissent. Despite the use of images to illustrate the anti-automobile movements in the current historical literature on the subject, the research revealed that very few images were actually circulating in the illustrated press at the time. The visual discourse surrounding the automobile in the illustrated press aimed to promote the vehicle (via advertising)[73] instead of exhibiting the dissent of certain sectors of society against it. Whether for social, temporal, or material reasons, or perhaps a combination of the three, the result is clear: the press left very few visual traces of the public disputes that arose after the introduction of cars.

Were the role and effect of the images ineffective? Not at all. The car left a powerful cross-cultural visual presence. Images of cars shaped our perception of reality. By seeing countless images of cars, we created symbolic associations that have shaped, and continue to shape, our relationship with the automobile. Only by studying the presence and dissemination of these images can we understand the extent to which these early representations of cars embodied themes and symbols that motorists still cherish in car imagery today: speed, adventure, discovery, and freedom. In contrast, images that capture and illustrate the hostility towards cars, as much as the shortcomings of automobiles and their drivers, are missing. It is precisely through this absence that the triumph of the automobile has been legitimized. The mediatization has proclaimed a symbolic winner, the car as the future. Other perspectives had to bow to the technological forward-looking regime that sustained the machine. It is not the intention of this article to reduce the success of the automobile to a single factor, for that is not the case, and the automobilization of our society would have taken place even if there had been more images of incidents in the illustrated press. The success of the automobile is a rather complex and multi-faceted phenomenon that has had many positive consequences as well as negative ones. Nevertheless, more images of accidents

[71] Norton, *Fighting Traffic*, 46-52.. It is noteworthy that due to a technological crisis in the engraving market, the cost of wood-engraving productions at the turn of the century was notably lower compared to just a few years prior. Gerry Beegan, *The Mass Image: A Social History of Photomechanical Reproduction in Victorian London* (Houndmills, Basingstoke, United Kingdom: Palgrave Macmillan, 2008), 70-71.

[72] Dorit Müller, "Transfers Between Media and Mobility," *Transfers* 1, no. 1 (2011).

[73] It is crucial to underline that the role of advertisements in the automobile industry steadily grew in the 1910s and 1920s. The spending of auto manufacturers in the United States from 1910 to 1916 increased by 800%, and if four million dollars were spent on advertising in 1920, more than double (ten million) were spent in 1925. While some companies spent more on advertisement than others, commercial promotion in the illustrated press was an important factor in the promotion of the automobile. Martha L Olney, *Buy Now, Pay Later: Advertising, Credit, and Consumer Durables in the 1920s* (Chapel Hill: The University of North Carolina Press, 1991), 157-58.

in the press would have helped stimulate greater debate. More depictions of accidents would have encouraged the introduction of stricter restrictions on the use of cars in urban areas. The mediatization of dissent, however, was quickly scared away by the appeal and easiness of the automobile. Some of the reasons for the absence of images in the press are still unclear. Some possibilities have been outlined above, but a longer investigation might reveal more about it. However, one fact remains clear: the role of the dissent images in the press was secondary at best, and its impact dubious.

What the research has brought to light is the role of satirical publications, which were more capable than others of capturing the zeitgeist and ridiculing it, and the possible role of other media in conveying messages of dissent, specifically focusing on posters and cinema. This is where further research on this topic should commence by assembling a large cross-media corpus that can offer additional insight into the mediatization of car imagery in the early 20th century.