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► **To cite this version:**

Nathalie Roseau. Mobile cultures and the Anthropocene. *Journal of Transport History*, 2022, 43 (3), pp.354-367. 10.1177/00225266221122919 . hal-03763146

**HAL Id: hal-03763146**

**<https://hal.science/hal-03763146>**

Submitted on 21 Jul 2024

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## Mobile cultures and the Anthropocene

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### Abstract

Research on mobility has shown considerable interest in promoting an interdisciplinary approach to history in order to renew knowledge of transport. Among the issues brought to light by these perspectives, the question of the environment is central. Because transport affects the territories we inhabit, because it reflects the way societies are driven by technology, the mobilisation of history and its long-term perspectives shed light on the footprints it has left on the Earth. By initiating a dialogue between the objects of transport history and the issues of the Anthropocene, the retrospective perspective we propose involves understanding the interdependencies of the scales and boundaries that affect our environments. Reciprocally, adopting this point of view commits us to renewing our understanding of mobile cultures, identifying their hidden faces, exploring their margins and reopening potentialities. This article introduces a new section for the *Journal of Transport History*, entitled “Mobile cultures and the Anthropocene”.

### Keywords

Mobility, transport, Anthropocene, environment, interdisciplinarity

The world has grown smaller, since a man can now go around it ten times more quickly than a hundred years ago.

(Jules Verne, *Around the world in eighty days*, 1872)

Because human activities have also grown to become significant geological forces, through land use changes, deforestation and fossil fuel burning for example, it is justified to assign the term « Anthropocene » to the current geological epoch. This epoch may be deemed to have started about two centuries ago, coinciding with James Watt’s design of the steam engine in 1784. (Paul Crutzen, « The ‘Anthropocene’ », 2006)

The history of mobility has illustrated the benefit of promoting questions about and deepening our knowledge of transport, as well as its techniques, representations, uses and institutions. This cultural turning point, which has now been underway for several decades, has highlighted the multiple dimensions of the trajectories taken over the long term: political, economic, social, ecological and architectural.<sup>2</sup> However, the existence of these significant works has not prevented a persistent relative compartmentalization of historical reflections that rarely venture into the controversies of the present,

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<sup>2</sup> See, in particular among the many works attesting to this assumed "turn", Mathieu Flonneau and Vincent Guigueno (eds), *De l’histoire des transports à l’histoire de la mobilité ?*, Foreword by Bruno Latour (Presses Universitaires de Rennes, 2009).

and works in the social sciences whose contemporary preoccupations have little to say about history. The same impermeability is apparent in political debates, which willingly forget the mobilities of the past and their lessons in order to promote those of the future as “radical solutions” to the “problems” of the city, testifying to a tendency to be “dazzled” by the future, as highlighted by David Edgerton:

This obliteration of even very recent history and the present is continuous and systematic. It makes us ignorant even of the very recent past, and in doing so presents an entirely false claim for the novelty of new technology. New technology appears thus to challenge humanity in ever new ways, such that we suffer from a continuous ‘cultural lag’.<sup>3</sup>

## The need for a retrospective perspective

Forging a link between history and the present over the long term, contextualizing the contemporary by shifting the frameworks of enunciation, analyzing the relationship with the future that these historical objects maintain : our present – marked by environmental and climate concerns - would benefit from being enlightened by many of the approaches used in the historicity of transport. Because of its political scope, there are pitfalls involved in such a scientific project. Militant criticism may counterbalance the temptation to glorify or the propensity to revisit history in the light of a legitimate emergency that blinds us to its origins. However, historical research as a social actor cannot be absent from our ecological present because it is capable of providing answers to the problems that trouble our present. A "problematic" history, to use the words of Lucien Febvre, which "poses problems to the past according to the present needs of Humanity"<sup>4</sup> would thus allow us to better understand the current events of which we are both actors and spectators.

The *Journal of Transport History* is proposing a new section entitled "Mobile cultures and the Anthropocene". Describing the impact of humans on the Earth and the alteration of the biosphere by their actions, the term Anthropocene was reintroduced in 2002 by Paul Crutzen, Nobel Prize in Chemistry, when he published an article with important repercussions, "Geology of mankind: the Anthropocene"<sup>5</sup> in the journal *Nature*. While the Anthropocene designates a new geological era resulting from human activities with dramatic consequences on the climate and the atmosphere, the term and its definitions remain debated and disputed, whether it is a question of its origins - the agricultural revolution, the industrial revolution or the "great acceleration" of the Post-War period - or of its anthropocentric perspective - overvaluing the role of man at the expense of nature. In the same way, proposals for a change of ecological direction range from energy “de-growth” to frugal sobriety or confidence in technological renewal, whose answers sometimes consist of solutions similar to those that created the problems in the first place. But as Dennis Meadows, author of the Club of Rome report "Limits to growth" (1972) pointed out, the "solutions" that aim to solve the problems only *displace* them: "It is crucial to understand that these are not problems but symptoms. [...] In reality, if you solve the problem in one place, the pressure will shift elsewhere".<sup>6</sup>

One of the many debates in the Anthropocene controversy concerns the assumption that we have only recently "understood" the effects of human actions on the Earth. But as historians Christophe Bonneuil and Jean-Baptiste Fressoz show in *The Shock of the Anthropocene*, which highlights the long duration of environmental upheavals and their causes, the history of industrial and technological "progress" cannot be understood without analyzing the parallel existence of a historical awareness of the effects of technology on the environment. Thus, Saint-Simon was aware that exploiting the Earth transforms it,

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<sup>3</sup> David Edgerton, “From innovation to use: ten eclectic theses of the historiography of technique”, *History and technology*, 16:2 (1999), 20. David Edgerton, *The Shock of the Old. Technology and global history since 1900* (London: Profile Book, 2006).

<sup>4</sup> Lucien Febvre, « Face au vent : manifeste des *Annales* nouvelles. À nos lecteurs, à nos amis. » *Annales. Économies, sociétés, civilisations*. 1:1 (1946), 7.

<sup>5</sup> Paul Crutzen, « Geology of Mankind: The Anthropocene », *Nature*, 415, 2002, 23. Paul Crutzen, “The ‘Anthropocene’”, *Earth System Science in the Anthropocene* (Springer, 2006), 13-18.

<sup>6</sup> Dennis Meadows, « Nous n’avons pas mis fin à la croissance, la nature va s’en charger », Interview *Terraeco.net* 29 May 2012, <https://www.terraeco.net/Dennis-Meadows-Nous-n-avons-pas-44114.html> (consulted on 27 July 2022).

and Charles Fourier noted the material deterioration of the planet during his lifetime by writing "the decline of the health of the Globe". Bonneuil and Fressoz develop several perspectives to understand the trajectories involved in this evolution. *Thermocene*, the result of energy choices, *Thanatocene* with massive possibilities of destruction, and *Phagocene* authorizing the exploitation of resources, are opposed to *Phronocene*, the age of prudence and sensitivity to the environment dating from the beginning of the Industrial Revolution, and *Polemocene* structured by social and political challenges to modernizing projects that have not ceased to make their voices heard.<sup>7</sup>

We could add a new term – *Kinecene* – to this spectrum. Because transport *affects* the territories we inhabit, because it *reflects* the way societies are nurtured by technology, mobilising history and its long-term perspectives sheds light on how mobile cultures became anchored in our societies and the imprints they left on the Earth. By "mobile cultures", we mean the social significations generated through a diversity of mediations and powers, that set of uses and representations that gradually shaped the relations between the techniques of travel and environments. The adventure of the "words" of mobility themselves must be scrutinized – the words that forge in all languages, an imaginary of nomadism and fluidity whereas these practices have never ceased "ploughing their furrow" over centuries by creating paths of dependency.<sup>8</sup> From prototype to industry, from elite practice to mass transportation, from infrastructure to superstructure, inventions related to the transportation of people, materials, and information have emerged as essential technological systems, with considerable global economic heft and an equally considerable environmental impact.

The history of these innovations has been non-linear, with accelerations and delays, forks in the road and reversals. They have emerged as a result of a series of discoveries, opportunities, and contexts. But, as Marc Bloch explained, "Invention is not everything. Society must accept and propagate it. Here, more than ever, technology ceases to be the master of its own destiny."<sup>9</sup> Practices, frontiers, narratives, perceptions, spatialities : these questions have shaped the way in which movement techniques relate to their environment. Mobile inventions have thus deployed a broad range of narratives, from the heroism of the conquest and massification of transport, to mastery of action and confrontation of risk, to the freedom of emancipation and trivialization of dependence. The possibilities of travel in space and time have also challenged the symbolic and material representations of the territory and the related notion of the frontier, especially in a political sense. A number of narratives have been forged around the frontiers of technological possibility and its effects that – between optimism and criticism of technical progress – have formed a legacy whose cultural and material dimension has played a role in publicizing inventions. The perceptions of the movement have also been modified, stimulating and transforming the sensory, visual and spatial experiences. It is the issue of space that the mobility ultimately embraces and reshapes, at the same time as it transforms conditions of habitability.

The retrospective perspective we propose in this new section aims to initiate a dialogue between the fields of transport history and the spectrum of Anthropocene-related issues using a cultural approach. Indeed, we hypothesize that the mobilization of history actually reveals the footprints that our mobility patterns have left on the Earth. Their material impact, reflected in the interweaving of the technical, social and entrepreneurial infrastructures they have constituted over the long term; the change in representations - of movement, space and living patterns - that they have initiated. In so doing, history can highlight the interdependencies of scales and frontiers that affect our environment – "how large and small" it is as Charles and Ray Eames stated in 1977 in the introduction to their luminous film "Powers of Ten":

Particularly in the past fifty years the world has gradually been finding out something that architects have always known, that is, that *everything* is architecture. The problems of environment have

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<sup>7</sup> Christophe Bonneuil and Jean-Baptiste Fressoz, *The Shock of Anthropocene* (London: Verso Books, 2016).

<sup>8</sup> In the same way that the "words" of the city have been scrutinized in the research project initiated by Christian Topalov at the EHESS. See Christian Topalov, Laurent Coudroy de Lille, Jean-Charles Depaule, Brigitte Marin (eds), *L'aventure des mots de la ville, À travers le temps, les langues, les sociétés* (Paris : Collection Bouquins, 2010).

<sup>9</sup> Marc Bloch, "Technique et évolution sociale : réflexions d'un historien", *Europe* (1938), in *Mélanges historiques II* (Paris : Sevpen, 1963), 837-838.

become more and more interrelated. This is a sketch for a film that shows something of how large – and small – our environment is.<sup>10</sup>

Reciprocally, adopting a perspective that places mobile cultures in the time of the Anthropocene on which we are focused, forces us to renew our understanding of the disciplinary and historiographic fields through which we analyze mobile cultures, to explore their margins, identify their hidden faces, and reopen their potentialities. By showing what our pasts have achieved, it ultimately provides a reflection on our relationship to the future.

### **Clusters of paradoxes. The example of aerial culture**

The question is all the more legitimate as transportation has been chronically bound up with a vision of future modernity. The cultural history of aeronautics, traced by Emmanuel Chadeau (*Le rêve et la puissance*), Joseph Corn (*The winged gospel*) or Robert Wohl (*A passion for wings*), reveals the existence of a futuristic engine - articulated around the notions of "pioneer", "progress", and "conquest" - which operates and renews itself over a period of several centuries.<sup>11</sup> The origins of air transport are anchored in the experiments of the Montgolfier brothers at the end of the 18th century, the first stratum of a considerable heritage of experience and knowledge that has continued to evolve up to the recent solar airplane. This history also allows us to understand the profound reasons that nurtured the invention of technology. Thus, the birth of mechanical aviation was not only the result of cycles of global scientific progress - meteorological investigation, understanding of fluid mechanics, properties of metals and materials - which were initiated and experimented with over several decades and culminated in the first flights of Orville and Wilbur Wright in December 1903 on a beach in North Carolina. It also occurred against a backdrop of competition and emulation between the great Western powers and could not have been achieved without the momentum provided by scientific circles, political support, social expectations or industrial or military demands for which the Great War marked a decisive turning point.

Far from being new, the environmental question has traversed the history of aeronautics since the origin of human flight. The first aeronauts discovered the magnificent view of the "wild theater of nature", followed by Gaston Tissandier who exclaimed: "I would pity anyone whose soul would not be set ablaze at the hearth of this sublime poetry of natural spectacles" (1887). « Free, calm, as if devoured by the silent immensity of space, welcoming and beneficial, where no human power, no force of evil, can reach him »: in his memoirs, Nadar would evoke the "prestigious impressions" that he experienced in 1858 during his balloon ride in the skies over Paris. Here, the aeronaut-photographer freed himself from the world to rediscover it, in a sort of inverted perspective, and capture it with the photographic camera.

Underneath us, as if to honor us by accompanying our step, the earth unfolds into an immense carpet without borders, without beginning or end, in varying colors of which green is dominant, in all its accents and in all its combinations. [...] The invitation to the lens was in this case more than formal, imperative, and, so intense [...].<sup>12</sup>

To head off into the unknown to free oneself from earthly contingencies, to explore new horizons that enhance exploration possibilities: the "impressions" of Nadar embrace the vector dimension of the aerial imagination developed by Gaston Bachelard in his *Essai sur l'imagination du mouvement*, published in 1943 under the title *L'air et les songes*. Transcendence, dematerialization, rationalization, narcissism: the philosopher analyzed four specific functions of the aerial psyche, as it manifests itself in dreams of

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<sup>10</sup> Library of Congress, Washington, D.C, Manuscript Division, Charles and Ray Eames Papers, Container I, box 217, folder 11, Charles Eames, "Notes on 'Powers of ten', 1977".

<sup>11</sup> Joseph Corn, *The winged gospel: America's romance with aviation, 1900-1950* (Oxford University Press, 1983). Emmanuel Chadeau, *Le rêve et la puissance, L'avion et son siècle* (Paris : Fayard, 1996). Robert Wohl, *A passion for wings. Aviation and the Western Imagination, 1908-1918* (New Haven: Yale University Press, 1994) and Robert Wohl, *The spectacle of flight. Aviation and the Western Imagination, 1920-1950* (New Haven: Yale University Press, 2007).

<sup>12</sup> Felix Nadar, "The first attempt at aerostatic photography", *When I was a photographer* [First original edition in French, 1900], (Cambridge: MIT Press, 2015), 57-73.

flight.<sup>13</sup> By clarifying the field of representations, a panorama through the imaginary reveals the reality that it encases. Unlike phantasmagoria or wanderings that should be consigned to the dustbin of history or to the register of anecdotes, the imaginaries of mobility need to be taken seriously. Beliefs, ideas, myths, utopias and ideologies provide a critical, reflexive and narrative distance; they bring together apparently contradictory issues; they permeate representations, discourses and decisions. In so doing, they impact reality. Their clarification sheds light on the paradoxes at work over the long term in the relationship of mobile cultures to the environment. Let us now use our aeronautical example to characterize them.

A first set of paradoxes stems from this renewed aspiration to free oneself from earthly contingencies in order to dominate, this instinct to master that subsequently turns against itself. Thus, the quest for the globe as an object, whether for its knowledge or its accessibility, is the driving force behind the long history of aerial advances, intercontinental or perilous crossings, accelerating the dynamics of shrinking the world that Jules Verne prophesied, pushing back and reducing in the meantime the limits of our world.<sup>14</sup> It can be read through the challenges of exploring spaces or "virgin" distances faced by the aeronauts: Lindbergh or Costes and Bellonte crossing the Atlantic; Mermoz and Latécoère's *Aéropostale* flying from Toulouse to Dakar, and then crossing the Andes; Riiser-Larsen and Amundsen exploring the polar regions and mapping the Antarctic and Arctic lands that independent Norway would claim. The cruel reverse side of global warming to which the aviation economy contributes is that melting ice in the Arctic would offer new opportunities for fossil extraction and strategic shortcuts for freight transportation and data flows.<sup>15</sup>

In these numerous attempts, risk was omnipresent, since the first dead aeronaut Pilâtre de Rozier, who inaugurated a religious and subsequently warlike mythology. The pilot was sacred as a demigod or sometimes a martyr, tackling alone in the face of the elements previously impossible journeys, following in the footsteps of Christopher Columbus and Magellan to trace aerial "routes". Exploits, challenges and records were celebrated in a culture of overcoming terrific obstacles and colonization where man's heroic relationship with the elements was matched by the power of destruction that his mastery brought. Destroying the hopes for world peace that were held out by the aerial progress of aviation before its use as a murder weapon in Guernica, Hiroshima and Nagasaki. These collective disasters added a new dialectic of war and peace to that of sacrifice and prowess. From now on, the threat came from the sky and exposed the ground, which could be targeted everywhere by aerial attacks.

A second set of paradoxes relates to the reversal of representations of mobile cultures, spectacular, from celebration to stigmatization, or more discreet, from the new to the routine. The existence of a historical awareness of the effects of technology, underlined by Bonneuil and Fressoz, should not allow us to forget the importance of the collective enthusiasm of which invention cycles are the object. Thus, the aeronauts who were ecstatic about the spectacle of nature as seen from above, did not imagine what deep imprints the conquest of the air would leave on the Earth. Since then, a monumental and planetary infrastructure has developed, with its formidable ups and downs, which has grown all the more as flight has aspired to shake off the material and terrestrial constraints of time and distance. In the same way, when the advocates of aeronautical progress made world peace a recurring motto of their discourse, they did not understand the potential for massive destruction that air-borne weapons would have. As a tool for assessing human impacts on the Earth, the atmosphere and the stratosphere, aircraft have become a formidable vector of control and surveillance, of which drones are the latest instruments.

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<sup>13</sup> Gaston Bachelard, *L'air et les songes, Essai sur l'imagination du mouvement*, (Paris : Éditions José Corti, 1943).

<sup>14</sup> Sebastian Vincent Grevsmühl, *La Terre vue d'en haut, L'invention de l'environnement global* (Paris : Seuil, 2014). Mark Dorrian. « On Google Earth », in Mark Dorrian, Frédéric Pousin (eds), *Seeing from above. The aerial view in visual culture* (London: IB Tauris, 2013), 290-308.

<sup>15</sup> « Ice silk road, Genèse et périmètre de la route de la soie polaire » in Mikaa Mered, *Les mondes polaires* (Paris : Presses Universitaires de France, 2019), 55-88. « Polar Worlds » is also the name of a Swiss commercial website offering expensive expeditions to the remotest places, similar to the interstellar journeys initiated by the super-rich. This appropriation translates the cruel paradox of the absolute necessity of the preservation of the Arctic and Antarctic spaces, while their vitality is increasingly being threatened by human covetousness and curiosity.

A third set of paradoxes stems from the fact that this tragic positivity of the aerial imagination, anchored in the myth of Icarus, feeds routines that are still at work despite failures and reversals. However, many discordant voices have already been raised in the past. In the 1960s, local nuisances (noise, breathing, space) led people living near Paris-Orly airport to demonstrate to regain the tranquility of their domestic life. Stimulated by the aeronautical macro-economy - formed by aircraft manufacturers, airlines and airport infrastructure, - the massification of air transport does not seem to be deviating from its trajectory, even though divergences in the acceptance of the status quo are becoming increasingly clear. The useful transport and bearable externality dialectic does not manage to overcome the well-known trap of counter-productivity, as illustrated by the chronic incoherence of the air transport economy - that of machines, infrastructures and traffic.<sup>16</sup> It is true that the COVID-19 pandemic - the rapid globalization of which is the result of the globalization of flows driven by aeronautics - has led to the abandoning of disproportionate expansion projects, such as Terminal 4 at Paris-Roissy Airport for example. Nicknamed "Space Invader" because of its size and appearance, this project was intended to increase the airport's capacity considerably. However, neither the current pandemic nor climate or ecological issues have altered the aeronautical agenda, whose future could have been challenged by these global crises.<sup>17</sup> The denial or hemiplegia that hinders the search for truly alternative courses of action must be scrutinized as such in order to understand the persistence of routines and clarify the reasons that hinder the search for such courses of action.

### **What can history do? Research focuses**

What seems today to be a dead end for some, a problem for others, and calls for a break or adaptation, questions the role of history as a body of knowledge, as a discipline for analysis and as a fitting research perspective for understanding the long term relations of interference between mobile cultures and our environment. The mobilization of history makes it possible to tackle these notions of 'pioneer', 'winner', 'advance' and 'competition', so often used in discourse promoting the 'progress' of transport. It shows that, far from being a substitution, new techniques have an aggregate effect, simultaneously modifying and reinforcing the structures that support them. By highlighting the past criticisms of contemporaries, it grasps the causes and effects of reversals in the representation of mobile cultures. By shedding light on hidden or unknown parts of history, it deconstructs myths and narratives and makes it possible to debate the related controversies.

In the same way that history provides the observation of the present with precious hindsight, revisiting contemporary problems sharpens the historical imagination. By observing the ways in which history is made, by gathering and comparing works, historiography can clarify the gaps and indicate alternative avenues of research. A diachronic approach can identify the objects that structure the long history of transport and the anthropization of the processes at work: public enthusiasm, creativity of prototypes, ideals of movement, the extraterrestrial dimension, or the persistence of certain figures (the pilot, the artist, the scientist). Finally, historicity lends depth to the debates of our time, too often dominated by the urgency of the present.

Restoring, like an archaeologist, the visible and invisible traces by which man, through his mobilities, has constituted a geological agent, leads to the identification of hidden or salient subjects and to the establishment of genealogies with interweaving temporalities that inform the perception we may have of the questions that concern us. This is the approach chosen by Wolfgang Schivelbusch, Christophe Studeney, Christoph Asendorf and Marc Desportes in their historical panoramas on "train travel", "the invention of speed", "aeronautics and art", and "landscapes in motion", in order to place the techniques of displacement in an anthropological and cultural perspective.<sup>18</sup> Re-interpreting the representations of

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<sup>16</sup> Ivan Illich, *Énergie et équité* (Paris : Seuil, 1973). In particular, Illich develops the concept of generalized speed of transport that has been widely discussed since. See also the postface to Jean-Pierre Dupuy, *À la recherche du temps gagné*, 1975, appended to Illich Ivan, *Énergie et équité*, republished in *Œuvres complètes I* (Paris: Fayard, 2003), 433-440.

<sup>17</sup> Anonymous reference.

<sup>18</sup> Wolfgang Schivelbusch, *The railway journey: the industrialization of time and space in the nineteenth century* (Berkeley: University of California Press, 1986) [First original edition in German, Verlag Hanser, 1977]. Christophe Studeney,

our ancestors through new questions and corpuses also adopts transversal points of view that challenge our research processes and renew our perspectives. These shifts – whether panoramic or lateral – can act as levers for opening up alternative future trajectories.

Identifying the traces left over time by the development of transport techniques and practices: this is a first focus of research that consists in rendering their imprints visible in time and space. This perspective was developed by Carola Hein in the research she conducted on what she calls the "Global Petroleumscape", revealing the productive, distributive, and derivative places and practices, objects and devices, that have underpinned the planetary dominance of petroleum technology over the past 150 years. Fanny Lopez has also endeavored to explain what she terms the "electrical order" by studying the electricity networks that fuel societies, while for more than a century, their strong growth, crises and transformations have produced an even more diverse complexity. More recently, exploring the electrical matrix that feeds the digital infrastructure - from data centers to the Internet of Things, and from global cables to multinationals - she has endeavored to highlight the global impacts - spatial, urban and territorial - of this resource-predatory digital materiality.<sup>19</sup>

Like oil, to which its development is closely linked, aeronautics has left its mark on our environment. This "hold of flight" has created a whole series of earthly, technical and physical, political and spatial, sensory and cultural imprints, which are simultaneously ample and diffuse.<sup>20</sup> The technical macro-system that has resulted from the long advent of global air mobility cannot be reduced to the aeronautical industry, airport superstructure, and mass transportation triptych.<sup>21</sup> It is part of the close links with other technical macro-systems (energy, automobile...) and, because of its major international dimension, it brings geopolitical powers into play on a planetary scale. Besides, by developing the means of its survival and growth, the system has created in its wake an entire economy of products and ideas that are part of a long process of globalization. It has ultimately modified our relationship to distance, challenging the meaning of "displacement without travel" to use the expression of the French writer Jean Echenoz.

The paradoxes of mobile cultures can be explained by the fact that the technological optimism that shapes representations of transport has constantly drawn on a fiction that seems perpetually doomed to be caught and then passed out. Fueled by stories and images, celebrated in the media by exploits and events, this optimism is translated into heroic records, overachievement and powers displayed through the spectacle of events. These representations participate in the diffusion of an imaginary of conquest that masks a certain number of blind spots. Revealing the imprints of technology and their reversibility also means identifying the hidden sides of which it has been the object, in order to question presuppositions, envisage other trajectories, and open up the space of the thinkable. This is a second focus of research.

This is the case with dependence on the machine, where man appears to be both owner and instrument, underlining another apparent paradox, whereby the independence and freedom that auto-mobility provides, freeing its subject from space and temporal constraints, is accompanied by new dependencies that circumscribe users and non-users in a new constrained *modus operandi*. Similarly, the automation of driving and the standardization of procedures - imposed on pilots, operators and passengers - which confuse the term 'autonomy' (applied to the vehicle and not to the human being) have contributed to nuancing the values of freedom and control that the image of the pilot at the controls of the machine

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*L'invention de la vitesse, France, XVIIIè-XXè siècles* (Paris : Gallimard, 1995). Christoph Asendorf, *Super-Constellation – Flugzeug und Raumrevolution die Wirkung der Luftfahrt auf Kunst und Kultur der Moderne* (Wien: Springer, 1997). Marc Desportes, *Paysages en mouvement. Transports et perception de l'espace, XVIIIè-XXè siècles* (Paris : Gallimard, 2005).

<sup>19</sup> Carola Hein, "Oil Spaces: the global Petroleumscape in the Rotterdam/The Hague area", *Journal of Urban History*, 44:5 (2018), 887-929. Fanny Lopez, *L'ordre électrique, Infrastructures énergétiques et territoire* (Genève : MetisPresses, 2019). Fanny Lopez, *À bout de flux* (Paris : Éditions Divergences, 2022).

<sup>20</sup> Anonymous references.

<sup>21</sup> Alain Gras and Sophie Poirot-Delpech, *Grandeur et dépendance, Sociologie des macro-systèmes techniques* (Paris : Presses Universitaires de France, 1991).



conveys.<sup>22</sup> They do not prevent genuine examples of such autonomy however, such as the 2009 episode of the New York plane whose engines were hindered by birds and whose passengers were saved by the pilots. These were faced with the dilemma of either returning to La Guardia airport, which is what the air traffic control center told them to do, or landing the aircraft on the Hudson River. They successfully made the latter choice - in other words, human recovery of the aircraft.

Let us also consider the importance of the “winners” unshackling themselves from contingencies through speed and power. But what about the perplexed, those who try to resist or the “losers”? The ones who have to put up with the disturbance, who want to recover the sense of duration and distance, who suffer from globalization without benefiting from it? Nuisances – both local and global – are an essential part of mobility's interference with the environment. A history of controversies, contestations and struggles highlights the muted voices of minorities, the defeated and critics. The territorial conflicts surrounding mega-airport projects are an example, from New York in the early 1960s in the midst of the debate over a fourth airport worthy of the Jet Age, to Tôkyô in the mid-1970s, where the resistance of Japanese farmers whose land was expropriated for the construction of the future Narita airport ended dramatically in a bloodbath.<sup>23</sup>

Another way of approaching the hidden face of mobility is to observe the importance of models of masculinity where women often remain in the background, rarely in the driving seat, confined to playing a service role (from the air hostess to the receptionist at the car show, or even to the codes deployed in advertising). Figures, professions, uses, behavior: analyzing the role of women thus makes it possible to identify places in which they are relatively emancipated, by underlining the reasons for these assignments of roles. As Sheryl Kroen analyzed in her study of rail travel in interwar England, the presence or relative absence of female models was a precious marker for understanding the historical periods of mobility, with its regressive or progressive moments.<sup>24</sup>

We could also question other hidden facets. The recurring focus on "beginnings", for example, with the concealment of routinization and the reverse-effects of invention; the fall as the flip-side of heroism, routine as the reverse side of invention; the chronic obstacles encountered in the race for hyper-speed, a dominant value while immobility and waiting are denigrated; or the ambiguous notions of progress, delay, and race that Jean-Jacques Salomon had already criticized in 1967 when he wondered about the "technological delay of Europe"<sup>25</sup> in the review *Esprit*.

A history of the relationship between abstract thought and the transformation of the material world finally sheds light on the way in which futures have been envisaged - the futures projected by contemporaries as well as those conceived by the ancients - and the place occupied by the imaginaries of mobility. “Making” the history of the future means deploying a third research focus that allows us to question the effectiveness of past futures in order to pose the future as a problem in the era of the Anthropocene – which variously projects it as uncertain, apocalyptic, mystical and progressive.

## Conclusion

The present affects historiography and invites us to reformulate research perspectives. To question the hold of mobile cultures and the way they have modified the notions of space, frontier and territory; to question the hidden faces of technology and the powers and dependencies that structure its deployment; to understand the futuristic credo by taking imaginaries and utopias, narratives and images seriously in order to deconstruct them and evaluate their effectiveness. These are the questions we propose to explore

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<sup>22</sup> Caroline Moricot, “Voler ou piloter ? Les pratiques professionnelles à l’épreuve de l’automatisation » in anonymous reference. The episode of the 2009 New York accident gave rise to a film by Clint Eastwood, *Sully* (2016).

<sup>23</sup> The resistance was put down, killing more than ten people in the process.

<sup>24</sup> Sheryl Kroen, « A political history of the consumer », *The Historical Journal*, 47:3 (2004), 709-736.

<sup>25</sup> Jean-Jacques Salomon (under the pseudonym Sorel), « Le retard technologique de l’Europe, I et II », *Esprit*, 11-12 (1967)755-775 ; 902-919.

in this new section of the *Journal of Transport History*, thus confirming the longevity of a field of research whose output has highlighted the different angles and perspectives through which its objects may be observed.

While mobile cultures show us the extent to which transport techniques have shaped our environment, they also tell us that recounting their history can only be done by being not only permeable to other disciplines and their contemporary concerns, but also by bringing together approaches that are often fragmented but nonetheless essential for understanding the history of transport. In inaugurating this new scholarly forum for dialogue, the new section "Mobile cultures and the Anthropocene", which this essay introduces, opens up an interdisciplinarity of history by encouraging dialogue between different disciplinary fields and historiographic segments. Favoring situated research, at the juncture of theoretical discussion and empirical research, it grounds its debates in the perspectives of transnational and global history; it encourages shifting the focus to the "margins" or the "periphery", and repositioning the centrality of key questions. It links up with the reviews section to highlight current works, exhibitions and media representations, thus contributing to the discussion about the relations between art, science and society.

### **Declaration of conflicting interests**

The author declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

### **Funding**

The author received no financial support for the research, authorship, and/or publication of this article.

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