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## French Air Power through the lenses of speculative fiction (1783-1930)

*De l'imaginaire à la réalité : la puissance aérienne française vue par la fiction spéculative, 1783-1930.*

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# French Air Power through the lenses of speculative fiction (1783-1930)

*De l'imaginaire à la réalité : la puissance aérienne française vue par la fiction spéculative, 1783-1930.*

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  - 1.2. Debating and orchestrating optimism under the Second Empire (1851-1870)
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Now that the [French] people have risen to the dignity of Man [...], now that all of Europe's stupid, ferocious and barbarian men are rallying and arming to bring the people back into the chains of the aristocracy [...] it would be wise and prudent for the people to exploit the newfound ability to rise and fly above the enemies. The French People could effortlessly be the master of the world and the savior of all

peoples if the French are the first to set up an ascending fleet<sup>1</sup>

- 1 wrote François-Joseph L'Ange in *A cure for everything or Invulnerable Constitution for Public Felicity* in 1793. A revolutionary judge awaiting execution, he was writing ten years after the first manned balloon flights. He expected the first *montgolfières* to be perfected into mass-produced dirigible air-ships that would allow the ideals of the French Revolution to spread across the world.
- 2 One hundred and twenty-seven years later, Louis Baudry de Saunier (1865-1938) wrote "Aviation will make the first to harness it into masters of the world" in his 1921 novella *Comment Paris a été détruite en six heures, le jour de Pâques 1924*.<sup>2</sup> Dedicated to General Duval, head of the successful *Division Aérienne* established during the Great War, this work of speculative fiction urged its French readers to recognise the vital importance of having a strong national air force in the aftermath of the First World War. Baudry de Saunier invoked the horrifying spectacle of a German surprise attack on Paris that would decapitate France as a *fait accompli*.<sup>3</sup> The fictional victors ironically thanked France for inventing aviation, "which created the means of its own destruction", and reaped the enormous benefits of air supremacy. Although better known for his books on traffic regulations, bicycles, driving and sex education, Louis Baudry de Saunier was one of a handful of writers who, in the 1920s and 1930s, used speculative fiction as a means of advocating for the renewal of the aerial mobilization efforts of the First World War. Writers, journalists, politicians, military officers, and industrialists were among those who staged apocalyptic representations of a conquered France, as if the "*danger aérochimique*" were an imminent threat.<sup>4</sup> Although performative and hyperbolic, these aeronautical fictions conveyed very concrete political, military and industrial concerns about the ability of the French air forces to maintain the dominance achieved in 1918.
- 3 This research aims at surveying the connections between fictional literary works and the technological and social changes that brought French air forces from dream to reality. In what follows, I track the emergence of a socio-technical imaginary of French air power and its

further evolutions following the First World War through French speculative fiction.<sup>5</sup> Several authors wrote fictions based on rational, technological or temporal premises, using a variety of terms to describe what was not yet fully identified as a genre: *fiction spéculative*, *roman scientifique*, *merveilleux-scientifique*. Although it was not until after World War II that the genre became more recognizable, these earlier works shared several important traits.<sup>6</sup> As such, I use the umbrella term of speculative fiction and define it in the broadest sense as a place of *rational narrative conjecture*, adding but one proposition to many existing uses.<sup>7</sup> That is to say that the texts I read here depict potential futures laid on technoscientific extrapolations and speculations in which France and/or the French deploy weaponized aerial devices. The purpose of depicting such futures can be of mere entertainment, public information and science popularization. It can also be intended as digressive developments of social and political discourses.

- 4 The era encompassed in this study was also the age in which European empires brought the power of their technologies to bear on vast areas of the globe through military and economic conquest. This technological advantage was deepened in the interwar period by the use of aviation in imperial and colonial contexts, allowing the exhausted French and British empires to maintain a firm grip on their colonies despite the losses of the First World War. The late 19th and early 20th centuries were eras of unprecedented technological mutations that were bound up in the profound social and cultural shifts of modernity. The expansion of the spatial horizon made possible by new means of transportation and communication was accompanied by an expansion of the temporal horizon as well. A new awareness of the future dawned<sup>8</sup> from the ever-shifting horizon of expectation.<sup>9</sup> The intertwining of material changes and its social dimension thus took the form of a dialectical process. As such, the hopes invested in aviation constituted a dreamscape of modernity which is both the result and the keystone of a technological endeavor, which should be considered in all its dimensions as a social co-production.<sup>10</sup>
- 5 Rational speculative literature is therefore a material of choice for historians in the investigating of this dreamscape: this literary material is a cultural field that carries both a (supposedly) rational understanding of the changes at stake and an aim to evoke a sense of won-

der that compels it to espouse the mentalities and horizons of its audience. It is also often the site of the first appearance of a new socio-technical discursive object, like social media, instant communication, or environmental protection, before the object acquires a material reality shaped by the expectations and representations into which it is born. A rich corpus of written and visual material is available thanks to the efforts of French public programs for the mass digitization of past literary and visual material. A Hundred and seven works of French speculative fiction written and/or drawn before 1945 have been identified that refer to the themes of French air power. These 107 works have been selected from a wider ensemble of more than 1 100 pieces of French aeronautical speculative fictions from 1780 to 1940 that I focus on in my doctoral research.<sup>11</sup> Several factors divide the material (press or single issues, written and/or drawn, informative or satirical...). In many cases, it borders on other literary corpus related to aeronautics, such as scientific popularization (1860s-80s), travel and adventure novels (1880s-1910s) and aeronautical propaganda (1910s-1930s).

- 6 Last but not least, we want to go beyond a mere juxtaposition of technical and cultural chronologies. The continuities and ruptures suggested by the panorama of sources should be questioned. For example, our analysis should not ignore the exponential growth of printed productions and media during the years of our study, and we should clearly identify the logics that govern the evolution of our corpus beyond the mere editorial drive to find new subjects and follow the latest fashions.
- 7 More specifically, is aeronautical speculative fiction a pre-existing literary space transformed into a site of techno-political debate by newcomers inspired by its transformative potential? Or is it born as a by-product of an aeronautical interest that is initially marginal and then gains increasing traction as a result of major events?
- 8 As early as the 1790s, several rational fictions had explored the possibilities of the newly invented air and hydrogen balloons, sometimes by staging future usages of these devices. Among those usages would be military resort to balloons, an idea made all the more desirable by the French Revolutionary Wars. Attempts were made, most notably at the Battle of Fleurus (1794) but the inability to control the direction of

balloons in the air kept their military use to a minimum. The first air-men regiment, *Compagnie d'aérostiers*, was disbanded in 1799-1802 as the military's interest in balloons faded and the theme of future air warfare vanished from literature. The Franco-Prussian War of 1870-1871 was then a turning point, reviving the long-forgotten promise of future strategic air power within the French military. This renewed military interest met with a growing trend of literary and visual anticipation of future flying devices and their uses. It was also a way to cope with the morale-crushing defeat of 1871 by investing national hopes into hypothetical miracle weapons, in an era of pessimism about the long-term survival of France. Future air power<sup>12</sup> was now one of the avenues to the self-preservation and expansion of France. At the turn of the century, when aeronautics made heavier-than-air flight possible, airplanes joined balloons and airships in French skies and exhibitions were devoted to the "things of the air<sup>13</sup>", presenting public visions of aerial mobility that echoed, or even seemed to materialize, the achievements predicted by fiction. The decade of the Great War<sup>14</sup> would then be the catalyst for the realization of part of these visions, further pushing the horizon of fiction of future flight.

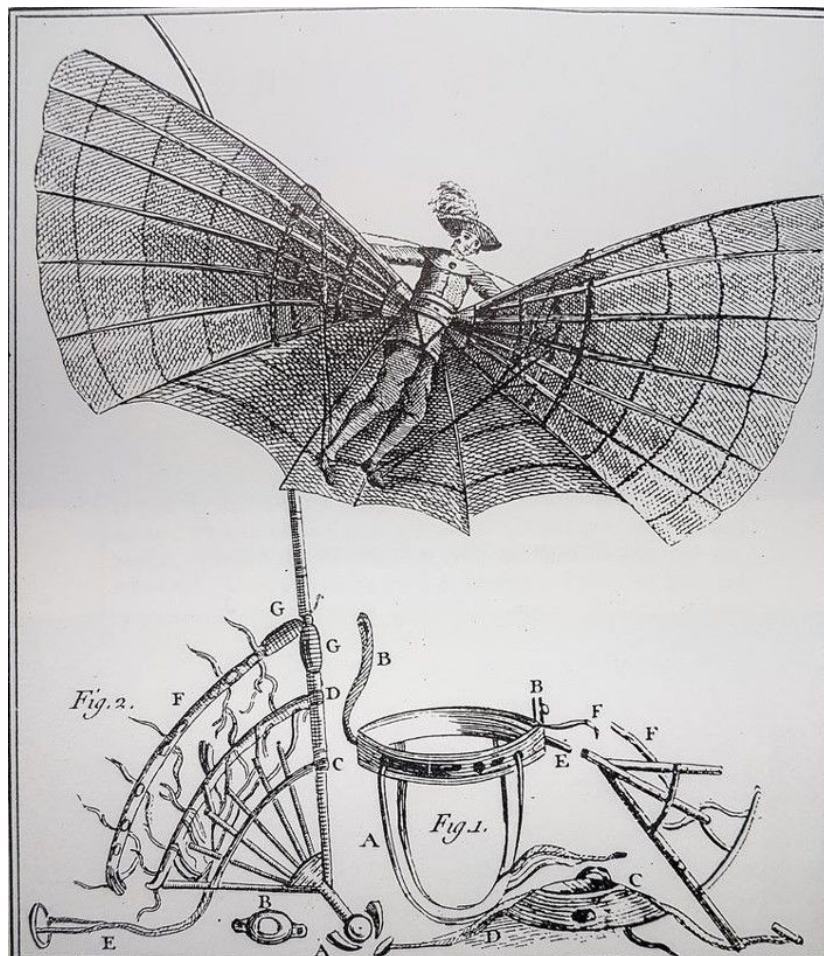
## **1. The two spurs of aeronautical progress: discursive futures and national traumas (1783-1886)**

### **1.1. Imagining progress: aerostrategic promise and aero-utopianism (1780-1800s)**

- 9 The first balloon flights in 1783 were greeted with great enthusiasm by the French public, who enjoyed the spectacle of progress and science. There are many traces of the stimulation of the imagination that followed, namely "balloonomania" and its literary and material impacts.<sup>15</sup> In literature, both present and future flying devices were incorporated into the common forms of the time, such as libertine satire and utopian political philosophy. As early as 1787, what could be

considered the earliest reference to future French air power was published: *La République Universelle, ou L'humanité ailée réunie sous l'empire de la Raison*<sup>16</sup> by “Reinser II,” also known as André Resnier de Goué. A general and diplomat, he staged the future establishment of a global republic through the use of flying devices. The use of winged costumes would allow the future republic to both eradicate hunger and poverty by being able to easily transport resources to where they are lacking. Subsequently, ignorance and violence would also disappear. Flying cosmopolitan peacekeepers would bring about the end of war by their crushing superiority.

**Fig. 1: Illustration of Resnier de Goué’s proposed flying costumes for global peacekeepers of the Universal Republic, from his 1788 book. The detailed description of the various parts of this biomimetic device are accompanied by calculations showing a limited understanding of the physics of flight.**



10 This utopia bears the essential traits of what I call *aero-utopianism*, that is, the idea of flight and air power as a decisive advance towards the abolition of some, if not all, of the world's limitations. Aero-utopianism is inscribed in the context of utopias as a common vector of Enlightenment political philosophy<sup>17</sup> and balloons as objects of wonder and entertainment. A few years later, when revolutionary France was fighting on several fronts, some works represented the first avatars of *aerostrategic promise*. The urgency of the situation and the ongoing transformation of the French military<sup>18</sup> gave rise to the idea that the current flying devices (i.e. the non-dirigible balloons) could be militarized for strategic purposes in very concrete conflicts. Published by François L'Ange in 1793, *Remède à tout*<sup>19</sup> speaks of an "arme céleste"<sup>20</sup> whose result is that "an army of a hundred thousand slaves can be crushed without it costing a single French life".<sup>21</sup> This idea was brought closer to reality on 26 June 1794, when the observation of enemy troops by a captured balloon contributed to the decisive victory of the French Revolution on the battlefield of Fleurus. However, the lack of any significant improvement in balloon control left the developing Air Force at a dead end under the Directoire. Balloons remained very much a part of the urban landscape as a public spectacle,<sup>22</sup> yet the vanguard vision never quite materialized.<sup>23</sup> Instead, they became an increasingly popular fairground entertainment. Over the following decades, stagnation in the development of military capabilities for balloons was accompanied by a clear decline of the presence of aeronautical speculative fictions. However, things changed in the 1850s and 1860s under the Second French Empire.

## **1.2. Debating and orchestrating optimism under the Second Empire (1851-1870)**

11 The Second Empire was an era of optimism, in which French imperialism tended to rely on soft power and positivist enterprise.<sup>24</sup> In this period, the balloon became a common fairground attraction, linking it to satire and merriment. Much of the material for the aeronautical fiction of the period came from satirical newspapers such as the *Charivari*, *Le Journal Amusant* or *Le Petit Journal Pour Rire*.<sup>25</sup> Mostly, balloons evoked frivolity, distance from earthly realities or comically



inflated characters. However, aeronautical satire and fiction were the discursive tools used by several aeronauts to attract interest and investment in their projects. Contrary to the writers and illustrators who merely enjoyed the aerial metaphor, the latter tended to articulate visions of a future in which aerial motion was part of a transformed desirable social life.

- 12 This was particularly true of the heavier-than-air enthusiasts who came together in 1867 to form the *Société pour l'encouragement de la locomotion aérienne au moyen des plus lourds que l'air* [Society for the encouragement of aerial motion by heavier-than-air means]. Its aim to build on the invention of Gustave du Ponton d'Amécourt, who had invented the first air helix propeller with Gabriel de la Landelle in 1862, led to Nadar's unsuccessful attempts to raise funds through a rally in a giant free balloon (*Le Géant*). Several members of the *Société* staged more or less fictional devices to illustrate and promote the possibilities of future aircraft. Their works articulated an imaginary dominated by projects of exploration and study of the globe, much more than a vision of air power. Most representatives of this trend were the heroes of Jules Verne's *Cinq semaines en ballon* (1863).<sup>26</sup> Verne is one of those who, along with other major figures in science popularization such as Gaston Tissandier, the aeronaut and founder of the journal *La Nature*,<sup>27</sup> pushed aeronautical fiction towards a more scientific approach.<sup>28</sup> Other members of the *Société* included Gabriel de la Landelle, credited for coining the term "aviation" in 1864.<sup>29</sup>
- 13 War and conquest were essentially absent from the aeronautical fantasies, as the military use of captive balloons had long been considered a dead end despite the balloon's critical role in the decisive battle of Fleurus (1794). The hopes sparked in that moment were soon dashed away as dirigibility remained an insurmountable obstacle.<sup>30</sup> Henri Giffard's experiments with dirigible oval balloons in the early 1850s didn't yield enough promise for the military to be interested.<sup>31</sup> Until the shock of the *Année Terrible* of 1870, there was little appetite for the use of air as a tool of conquest, let alone conflict.

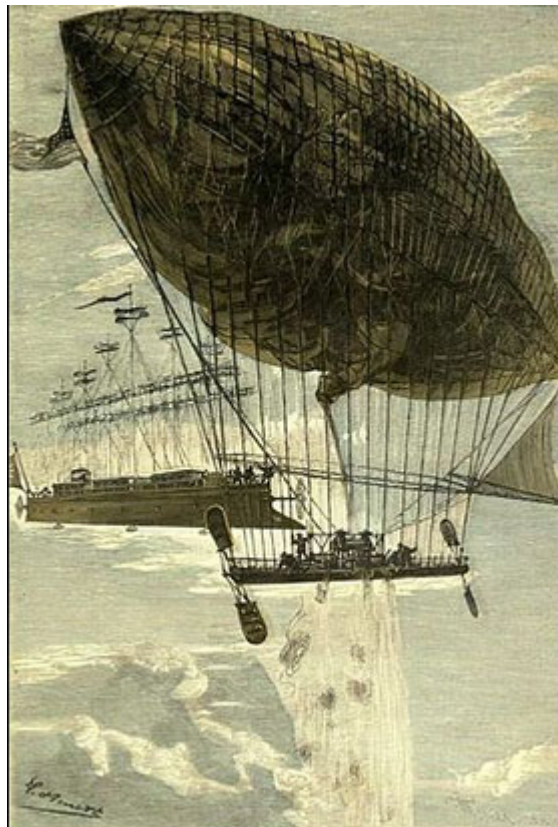
### 1.3. From optimism to revanchisme, air power for defense (1870-1885)

- 14 In the summer of 1870, the Second Empire was crushed by a Prussian-led German coalition. The Republic was proclaimed, Napoleon III was captured, and Paris suffered a traumatic siege over the autumn and winter that followed. Balloons suddenly became a means for evading the enemy and rallying the remaining French forces. More than 60 balloons were assembled and launched, allowing the Parisians to evacuate Léon Gambetta, head of the provisional government, among others. The efforts of the Paris aeronauts offered a glimpse of hope and pride in a moment of soul-crushing defeat. The resulting national trauma provoked a shift in French imperialism towards a more territorial and aggressive approach. Gaston Tissandier for instance called for a « *sursaut scientifique* », which would bring the public's interest in science popularization towards the aims of national defense.<sup>32</sup>
- 15 As the nation entered a period of mourning, the defeat was analyzed by patriotic and liberal circles through the influence of social Darwinism.<sup>33</sup> In this view, nations are analogous to living organisms engaged in a perpetual struggle for life, with eventual oblivion as the only alternative to victory.<sup>34</sup> The cultivation of power and domination thus became a pressing matter of national interest as a necessity to regenerate and strengthen the nation by providing it with resources and space for expansion.<sup>35</sup> The newly unified German powerhouse, twice as populous as France, appeared to be an existential threat. To prepare for a French resurgence, the military sought to regain the technological edge that had given Prussia victory through superior logistics, production and equipment. A reform and modernisation of the military was underway with new technologies at the heart of the transformation.<sup>36</sup> As early as 1871, the military commissioned the naval engineer Henri Dupuy de Lôme to design a maneuverable airship.<sup>37</sup> It would take just over a decade for advances in mechanics to be put at the service of aerial mobility. In 1884, when *La France* took off from Chalais-Meudon using an electric motor – as Gaston Tissandier had long advocated – dirigible balloons finally became a reality.

- 16 Prior to this moment, speculative aeronautical fiction conveyed the trauma of defeat and the dream of restoring French power through the air. The few stories published in the years after the defeat addressed the trauma and offered alternative futures in a time of pessimism. The most notable of these was *La revanche fantastique*, published in 1872. Written by a graduate of the *École Polytechnique*, Louis Denayrouze (1848-1910),<sup>38</sup> alongside a journalist that specialized in writing about theater, Eugène Tassin (d. 1882), the novella staged a new German invasion in 1882, during which an eccentric inventor saved France with a bat-like flying machine. He chose to keep his invention secret because “the over-civilised nations of our time should be struck with superstitious terror, like the people of America at the first shots of Fernand Cortez [sic]”.<sup>39</sup> The “*aéroscape*” allowed a fantasy revenge in which the general disbelief in the feasibility of a heavier-than-air flying device is duly exploited by the wise President Thiers. The Germans and (incompetent) *communards* were both defeated and sent into exile. All this is eventually revealed to have been part of Bismarck’s nightmare, as the German Chancellor woke up and ordered Germany to investigate the controllability of balloons. The sense of urgency, the belief in the supremacy of aerial warfare, and the anti-revolutionary nationalist tone all conveyed a technopolitical promise: that France’s power, order and honor were only an invention away.<sup>40</sup>
- 17 How would this invention come about? The believers in air power nurtured various ideas, all of which influenced fictional productions. Speculative fiction also served as a venue for technical debates. The advocates of heavier-than-air devices closely followed the progress of motorisation. This debate was best illustrated by Jules Verne’s *Robur le Conquérant* (1886), which transposed the intrigue of *Twenty Thousand Leagues under the Sea*<sup>41</sup> into the air. Like Captain Nemo, Robur was an engineer of unknown nationality, whose invention was considered impossible, but who acquired the power to conquer empires through his machine – the *Nautilus* for Nemo and the *Albatross*, a heavier-than-air flying ship, for Robur. The *Albatross*, powered by rows of propellers on masts, outperformed all the extrapolated dirigible balloons sent after it, proving the members of the *Société pour la locomotion aérienne* right. In a similar way to Captain Nemo, Robur’s device was staged as an extension of the genius of a mind cut

off from society. The vengeful inventor wielded a power that allowed him to terrorize and ransom at will, only to be defeated by his own hubris.

**Fig. 2: Illustration for Jules Verne's *Robur le Conquérant* depicting the *Albatross* eschewing airships at his pursuit. Illustration of Georges Roux for Hetzel's original edition.**



- 18 Robur's adversaries in the novel were *légéristes* for whom the path to follow was the dirigibility of balloons. In the novel they sported airships inspired from Henri Giffard's experiments of 1851 of spindle-shaped steam-propelled balloons. Although spindle shapes would become the canonical design of the early projects and later iterations of airships, a temporarily-envisioned alternative was Louis Capazza's experimental lenticular-shaped balloons of the 1880s and 1890s, some of which were integrated into speculative fictions, such as Danrit's *L'invasion noire* (Flammarion, 1894).
- 19 Other debates focused on energy sources, the shape of devices or biomimetic controversies.<sup>42</sup> They testified to a resurgence of public

interest in the military use of flying devices, recreating the hyperbolic optimism about the future weapon in the air that had accompanied the invention of the balloon. As the defeat of 1870 had relegated a technological solution to a matter of perceived national survival, the French press and popular literature echoed and extrapolated the latest developments, such as the progress in engines (electric<sup>43</sup> and diesel<sup>44</sup>) and the development of avionics from the studies of Louis Mouillard (1834-1897), Octave Chanute (1832-1910) or Otto Lilienthal (1848-1896).

## **2. Into the new century: air imperialism as a looming promise (1886-1914)**

### **2.1. Satire and displacement of the fictional horizon**

20 In spite of the seriousness with which some authors advocated the use of air power for patriotic defence, the subject remained, at the same time, the subject of future-facing satire. The use of humorous hyperbolic predictions in the French press dated back at least to the first half of the 19th Century.<sup>45</sup> The frequent target of satire was Nadar himself, as in a short story signed Saturnin Poirot<sup>46</sup> published in *Le Tintamarre* on 11 January 1880 (p. 6), entitled « *La direction des ballons* » [The direction of the balloons]. The author pictured French and German aeronauts equipped with helix-propelled rubber balloons fighting over the Rhine in 1920, while General Nadar (Jr.) ordered a deadly attack on a fortified cloud. This satirical insight into the reality of the time (a Franco-German war of position overcome by aerial means fits the event on the Western Front in summer 1918) also included fake advertisements for a British insurance company offering to “cover all risks you may incur during a balloon ascent... notwithstanding those occurring during the descent”. Even more interesting is Albert Robida’s famous illustrated novella *La guerre au xx<sup>e</sup> siècle*.<sup>47</sup> It described a fictional war in which battalions of psychics and fart bombs coexisted with aircraft that respected some of the future principles of aerial warfare (aircraft grouped in squadrons and

fleets analogous to the navy and cavalry, specialization of tasks to bombard cities, range detection and air patrols).<sup>48</sup> Robida, a prolific author and editor and the founder of *La Caricature* in 1880, is a key example of the development of the public's interest in stereotyped spectacles of the future<sup>49</sup>.

- 21 France then became increasingly confident, thanks to the consolidation of a republican regime committed to social progress and the successes of a renewed imperial drive, this time based more on territorial control and hard power. The French colonial conquests, although heavily criticized by various political factions, would bring most of North and West Africa under French control. In addition, the development of electric and oil engines finally made the dream of dirigibility in the air a reality. These were also the years of the last advances before the realization of aviation, with the first – although poorly functioning – types. The horizon of expectations seemed to be moving faster and faster, as shown by the increasing variety of fictional flying machines (airships, airplanes, proto-helicopters, hybrids...). The early years of the twentieth century would thus be marked by an optimism fuelled by the breakthrough first achieved by the Wright brothers, followed by a flurry of progress that made Paris the aeronautical capital of the world in the years that followed.<sup>50</sup>

## **2.2. Imperial struggles, imperial skies (1890-1914): air power for conquest**

- 22 The taste for satire of the 1880s changed in the following decade, as a threshold was reached with the first successful directed flight in 1884.<sup>51</sup> The involvement of the military in aeronautical research drew the interest of authors with military background. A prime example is Edouard Deburau (1864-1904), *polytechnicien* military engineer assigned to the *Établissements d'Aérostation Militaire* by 1885.<sup>52</sup> He started advocating for long-range balloon flights by 1891 in the *Revue du Génie Militaire*, and was distinguished by the *Académie des Sciences* in 1894 with fellow military engineer Maurice Dibos for an innovative guide rope system. Between 1897 and 1902 he published seven “aerostatic novels” staging the use of his inventions to explore Africa by air, in close proximity with the genre of popular adventure novels.<sup>53</sup> His stories carried the classical colo-

nial representations of white man's burden among tribes and savages, and related in many cases to the context of the French colonial endeavor or rivalry with Great Britain and/or Germany. They also represented one of the most hopeful *légéristes* fictions prior to the Wright Brothers' flights.

- 23 Other military authors offered interesting contrasts, especially Émile Driant (1855-1916). A brilliant infantry career officer, he was identified as a catholic nationalist by the Ministry of War and eventually sacked from high-ranking nominations. He also started publishing popular fiction novels in the 1890s, with a clear focus on themes of national defense against Germany, imperial rivalry with Great Britain and distant threats of African and Asian hordes.<sup>54</sup> Flying devices presented in his novels followed the latest developments, from extrapolated airship of *La Guerre en Ballon* (Flammarion, 1893) and *L'Invasion Noire* (Flammarion, 1894) to the extrapolated airplane of *L'Aviateur du Pacifique* (Flammarion, 1910). His tone was more jingoistic and his narratives revolved much more around future threats and necessary decisive action than genuine interest for foreign lands and admiration of pioneers of flight.

**Table 1. Air-minded novels of Léo Dex (Édouard Deburaux) and Danrit (Émile Driant)**

Édouard Deburaux (Léo Dex)	Émile-Cyprien Driant (Capitaine Danrit)
<p><i>Les aérostats et la traversée de l'Afrique Australe : voyages aériens au long cours</i>, L. Dex-Baudoin et Maurice Deburaux, 1894  <a href="https://gallica.bnf.fr/ark:/12148/bpt6k1035589?rk=21459;2">https://gallica.bnf.fr/ark:/12148/bpt6k1035589?rk=21459;2</a></p>	<p><i>La guerre de demain : vol. 3 : La guerre en ballon</i>, 1891</p>
<p><i>Sur la route du Pôle : voyage et aventures de l'aéronaute Gradnier</i>, A. Mame et fils, Tours, 1897  <a href="https://gallica.bnf.fr/ark:/12148/bpt6k65879w?rk=21459;2">https://gallica.bnf.fr/ark:/12148/bpt6k65879w?rk=21459;2</a></p>	<p><i>La guerre au xx<sup>e</sup> siècle. L'invasion noire</i>, Flammarion, Paris, 1894  <a href="https://gallica.bnf.fr/ark:/12148/bpt6k1062887?rk=21459;2">https://gallica.bnf.fr/ark:/12148/bpt6k1062887?rk=21459;2</a></p>
<p><i>Du Tchad au Dahomey en ballon : voyage aérien au long cours</i>, Hachette, Paris, 1897  <a href="https://www.europeana.eu/fr/item/794/ark_12148_bpt6k65860g">https://www.europeana.eu/fr/item/794/ark_12148_bpt6k65860g</a></p>	<p><i>La guerre fatale, France-Angleterre</i>, Flammarion, Paris, « Auteurs célèbres, 419 », 1902  <a href="https://gallica.bnf.fr/ark:/12148/bpt6k5469903r.r">https://gallica.bnf.fr/ark:/12148/bpt6k5469903r.r</a></p>
<p><i>Les aventuriers du fleuve Orange</i>, F. Juven, Paris, 1897</p>	<p><i>Robinsons de l'air</i>, Flammarion, Paris, 1908</p>
<p><i>Le record du tour de la terre en vingt-neuf jours, une heure, dix minutes</i>, Combet, Paris, 1899</p>	<p><i>L'Aviateur du Pacifique</i>, Flammarion, Paris, 1910</p>

À travers le Transvaal, aventures d'une mission française, Hachette, Paris, 1899 < <a href="https://gallica.bnf.fr/ark:/12148/bpt6k14174140">https://gallica.bnf.fr/ark:/12148/bpt6k14174140</a> >	Au-dessus du continent noir, Flammarion, Paris, 1911
Trois reporters à Fachoda, Combet, Paris, « Les aventures scientifiques », 1901	L'Alerte, Flammarion, Paris, 1911 < <a href="https://gallica.bnf.fr/ark:/12148/bd6t5751283d">https://gallica.bnf.fr/ark:/12148/bd6t5751283d</a> >
À travers Madagascar insurgée, voyages et aventures d'un aérostat, A. Mame et fils, Tours, 1901 < <a href="https://gallica.bnf.fr/ark:/12148/bpt6k658656?rk=193134;0">https://gallica.bnf.fr/ark:/12148/bpt6k658656?rk=193134;0</a> >	
Au pays des Touaregs, Ch. Delagrave, Paris, 1901 < <a href="https://gallica.bnf.fr/ark:/12148/bpt6k6217287r?rk=21459;2">https://gallica.bnf.fr/ark:/12148/bpt6k6217287r?rk=21459;2</a> >	
Un corsaire moderne : narration romantique de la guerre hispano-américaine, A. Mame et fils, Tours, 1902	
Un héros de treize ans, épisode de la guerre du Transvaal, Hachette, Paris, 1902 < <a href="https://gallica.bnf.fr/ark:/12148/bpt6k165607h?rk=64378;0">https://gallica.bnf.fr/ark:/12148/bpt6k165607h?rk=64378;0</a> >	
Un héros de quinze ans, épisode de la guerre du Transvaal, Hachette, 1904 < <a href="https://gallica.bnf.fr/ark:/12148/bpt6k66205x?rk=107296;4">https://gallica.bnf.fr/ark:/12148/bpt6k66205x?rk=107296;4</a> >	
Vers le Tchad, Hachette, Paris, 1904 < <a href="https://gallica.bnf.fr/ark:/12148/bpt6k66204k?rk=171674;4">https://gallica.bnf.fr/ark:/12148/bpt6k66204k?rk=171674;4</a> >	

- 24 During the years of the Fachoda Incident and the Second Boer War, but before the Entente Cordiale of 1904, Britain was often portrayed as the villain. In Paul d'Ivoi's *La capitaine Nilia* (Jules Tallandier, 1899), Paul Sémant's *Gaston Faradel, explorateur malgré lui* (Flammarion, 1902) or Wilfried de Fontvielle's *Les aéronautes français au Transvaal* (Guyot, 1902), all the main characters sympathized with the Boers. They did so out of contempt for the British Empire, highlighting the magnanimity of French endeavors in Africa, like in *Les aéronautes français au Transvaal*, when the aeronaut Joël exclaimed as he marveled at the clarity of a night sky over Africa:

This is where European and African astronauts should go if they want to understand the mystery of the sky. There are so many studies to be made, and instead of multiplying observatories under European climates, why not set up a few over the mountains of Africa?

When the French soldiers wrested these regions from the ignorant, they offered them to science, which had no need of them. This absolute clearness of the sky, only occasionally darkened by thunderstorms, will be an inestimable element for the astronomers of the Twentieth Century.



What a destiny for France! Having wrested the north of the black continent from the pirates of the sea, she is now about to gloriously wrest its center from the pirates of the sand. How can France be the only opponent of the official piracy of the civilized nations? When will compulsory arbitration, which renders war useless, force men of heart to seek glory elsewhere than in the shedding of blood?<sup>55</sup>  
(my translation).

- 25 After the Russo-Japanese War of 1905, Asian and especially Japanese villains entered the scene. As such, these works of speculative fiction used many of the tropes of exotic adventure fiction,<sup>56</sup> including the racist views of the colonial era. Danrit's novels<sup>57</sup> were the most striking example, as his political views and prejudices infused in his novels, against the English, the Germans, the "Yellows", the "Blacks", the Jews, the socialists and the southerners.
- 26 Three main tenets emerge from these narratives, all of which contribute to the discursive making of air power as an imperial attribute.
- 27 First, air power will be the best defence of the imperial centre against its existential threats. In this respect, a comparison between decades shows unsurprisingly that the imagined enemy of future inter-imperial wars vary. In the 1870s and 1880s, the enemy against whom air-planes would bring victory was often Germany, the most recent aggressor. In the 1890s and 1900s, the successful expansion of the French colonial empire brought it into conflict with the British empire on several occasions, which is often reflected in narratives of future air wars. In the early 1910s, Germany was once again France's main future adversary, as the development of Zeppelins and tensions in Morocco drew attention to the Rhine border.
- 28 Secondly, air power would serve as an imperial link between the center and the periphery. The new reality of flight inspired more precise scenarios for science fiction writers, building on the ongoing conquest of Africa with stories of benevolent colonial conquest and exploration made possible by extrapolated aircraft (e.g. *Le monde noir : roman sur l'avenir des sociétés humaines* by Marcel Barrère [1909]). This theme is also found in satirical content, as an echo of the transformation of urban landscapes, rhythms and circulations. Just as many authors transpose the new urban nuisances into the air (traffic jams, aerial billboards, aerial vandals and cops...), the future aerial

metro often links Paris with Timbuktu, Moscow, and Saigon. Behind the jokes lies the image of Paris as the center of an imperial and even global space.<sup>58</sup>

29 Thirdly, air power will serve as a means of controlling populations, spaces and resources within the imperial sphere.

30 All these elements make up the imperial promise of aviation. This promise would be glorified, promoted and invested in by various industrial and military figures. The imagination of air power would soon turn promises into projects. By the time the Great War broke out, the French military already had several hundred aircraft, initially used for range finding and artillery control. The four years of war would be a catalyst for progress, and the production of science fiction would decline in quantity (as many authors were now drafted) and quality (as most stories were predictably about victory in the current war, by extrapolation of aircraft performance).

### **3. The Great War and its aftermath: from triumphant catalyst to uncanny pessimism (1914-1930s)**

31 After victory and peace, aircrafts were numerous and developed enough to be used on a worldwide scale. The thousands of planes produced for the skies of eastern France and Belgium now formed the fleets of the first airlines which soon connected France to eastern Europe<sup>59</sup> and the British Isles, before expanding reach into Asia and America. France also secured control over Cameroon, Syria, and Lebanon as new colonies with help from its newly created colonial air forces. These forces would go on to assist the colonial administrations calculate taxes and carry out archaeological<sup>60</sup> and geographical research. Airplanes were also used to impress local elites and maintain the impression of the colonizers' superiority.<sup>61</sup> Alongside Britain, France used air power<sup>62</sup> to control its colonial space by also conserving exhausted troops and resources. Air power was particularly instrumental in the conquest of Syria (by France) and Iraq (by Britain) in the early 1920s. Air forces were also involved in the suppression of

colonial revolts in Syria (1925-1927) and Morocco (1920-1927). In this context, the French armed forces benefited from a monopoly on air power, which made aviation a de facto absolute weapon. Although this absolute weapon was mastered, it was also feared as a threat to the imperial center.

32 Paradoxically, at a time when the future seemed brighter than ever, inter-war aeronautical science fiction took a pessimistic turn when it came to the future of French air power. The obsession with national decline did not disappear with the victory of 1918. On the contrary, this obsession was fuelled by demographic losses. Until 1927, French aviators were still in the forefront in the race for records, air raids and airlines. But at the end of the decade, France seemed to be on the verge of being overtaken by other nations in aeronautical innovation and performance, as illustrated by the failure of the First World War aces René Fonck and Charles Nungesser to win the Orteig Prize.<sup>63</sup> At the same time, the stakes of air power seemed to be rising, as the theories of Giulio Douhet and technological advances made it possible for air fleets to raze cities to the ground. Many writers, not without a political agenda, pointed out that Paris was in danger of becoming a victim of its own centrality. Books like Baudry de Saunier's *Comment Paris fut détruite* (Flammarion, 1921) or Commander Marcel Jauneaud's *L'aviation militaire et la guerre aérienne* (Flammarion, 1923) extrapolated on the late World War I German bombing campaigns on Paris.<sup>64</sup> They professed explicitly that a larger-scale attack of improved airplanes<sup>65</sup> would enable future hostile powers to destroy urban centers in lightning attacks, decapitating a country by destroying its capital and center of command. The specter of defeat was used in these texts to instill fear in a nation exhausted by the losses and devastations of the Great War.

33 French aeronautical science fiction partly reflected this disarray, under the dominant form of the *péril aérochimique*.<sup>66</sup> Despite Germany's defeat, German aircraft manufacturers remained active and turned to civil transport, the only type of aircraft the Treaty of Versailles allowed them to build. Soon many of these planes rivaled and even surpassed the capabilities of their French, English or American counterparts. Many French aviation enthusiasts, angered by their government's suboptimal efforts to counter this decline, used the image of aerochemical danger extensively to rally public opinion to

invest more in aeronautical innovation and to revive a French sense of aviation. Most of the stories of the 1920s and early 1930s thus featured a more or less hypothetical German civil aircraft-turned-bomber that arrived *en masse* by surprise and destroyed France with a massive drop of chemical bombs. Such a scenario can be found in a February 1927 public lecture given by André Michelin,<sup>67</sup> in a special edition of *Vu* magazine<sup>68</sup> or in a few novels such as Léon Daudet's *Ciel de Feu* (Flammarion, 1934). This resort was based on the one hand on the fear of losing the next air battle, and on the other on the fear of chemical weapons. This scaremongering was indeed part of an effort by the best-informed aeronautical circles of French society, but it was not effective or timely enough to prevent France from being defeated by more numerous and more advanced German aviation in 1940.

## 4. Conclusion

34 As a conclusion, we can assess that the dialogue between dream and project, or fear and imperial urge expressed into speculative fictions have been integral parts of the French social interest surrounding flight as early as the 18th century and at least until the World Wars. Early French aeronautical science fiction evolved from a limited subset of writings expressing the views of few promoters willing to develop aeronautics beyond mere entertainment, to the field of expression of a national hope and a technological promise. We have seen how the shifts of experiences and context matter no less than the technical history of aviation. Aero-utopianism is part of the Enlightenment, as the first aerostrategic promise is part of the French Revolution Wars. Later on, this promise would be renewed after the trauma of the 1871 defeat to project the readers into a brighter future. The chronology clearly shows the shift between balloon vogues and curiosity being grounds for proposing within-reach future flying devices into the patriotic investment of flight. Future Air Power went from byproduct of the project of air pioneers to a patriotic promise promoted by newcomers in aeronautical culture. Once fulfilled, this promise became an anguish of losing prominence, and of suffering total destruction from the very tools that had “saved” France in World War I and were helping the French Empire assert its dominance. Authors shifted their horizons or became less creative, but more im-

portantly, they could become key voices in the social and political discourse.

- 35 Aeronautical speculative fictions are the voices of its founders: traces of interests, passions, hopes and efforts. We have seen how they crystallized into a promise first buried and then revived by crisis and breakthrough, an impulse sublimed into national military power. As reality catches up with fiction, we see how authors from various horizons met the public in the shared interest in a future object. The success of Jules Verne, Robida, Danrit and their peers were at the front of a future-mindedness that would split between the genre of science-fiction and professional prospective reasoning.

## NOTES

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1 L'ANGE François-Joseph, *Remède à tout ou Constitution Invulnérable de la Félicité Publique, projet donné mainte-fois sous différentes formes*, Louis Cutty, Lyon, 1793, p. 35 (translation by author), <<https://gallica.bnf.fr/services/image/highlighter/ark:/12148/bpt6k55465#>>.

2 BAUDRY DE SAUNIER Louis, *Comment Paris a été détruit en six heures, le 20 avril 1924 (le jour de Pâques)*, Flammarion, Paris, 1921, p. 18, <<https://gallica.bnf.fr/ark:/12148/bpt6k6264058s/f22.item>>.

3 Baudry de Saunier's fictional Germans possess all the negative traits depicted in revanchist and First World War French propaganda.

4 MOINE Jean-Marie, « Un mythe aéronautique et urbain dans la France de l'entre-deux-guerres : le péril aérochimique », *Revue historique des armées*, n° 256, 2009, p. 94-119, <<https://journals.openedition.org/rha/6818>>.

5 We refer to Sheila Jasanoff's definition of socio-technical imaginaries as “collectively held, institutionally stabilized, and publicly performed visions of desirable futures, animated by shared understandings of forms of social life and social order attainable through, and supportive of, advances in science and technology”, see JASANOFF Sheila, “Future Imperfect: Science, Technology, and the Imaginations of Modernity”, in JASANOFF Sheila and KIM Sang-Hyun (eds), *Dreamscapes of Modernity: Sociotechnical Imaginaries and the Fabrication of Power*, University of Chicago Press, Chicago/London, 2015, p. 1-33, quote p. 4.

6 PÉZARD Émilie, « Le genre de Jules Verne ou de Wells ? », *CONTEXTES*, n° 21, 2018, connection on 21 December 2023, Doi: <<https://doi.org/10.4000/contextes.6558>>.

7 There is no universally accepted definition of science fiction, see LE-TOURNEUX Matthieu, « Le genre comme fait de discours : pour une définition molle de la science-fiction », *ReS Futurae*, n° 20, 2022. <<http://journals.openedition.org/resf/11405>>, consulted on 1 September 2023.

8 HARTOG François, *Régimes d'historicité : présentisme et expérience du temps*, Paris, Éd. du Seuil, « La Librairie du XXI<sup>e</sup> siècle », 2003.

9 Reinhard KOSELLECK, *Futures Past: On the Semantics of Historical Time*, New York, Columbia University Press, 2004 [1979], from the original KOSELLECK Reinhard, *Vergangene Zukunft: Zur Semantik geschichtlicher Zeiten*, Suhrkamp, Frankfurt am Main, « Theories, 2 », 1979.

10 Clair JULLIET and Jean-Marc OLIVIER, « Pour une histoire sociale et culturelle de l'aéronautique au XX<sup>e</sup> siècle », *Nacelles*, n° 1-(Pour une histoire sociale et culturelle de l'aéronautique au XX<sup>e</sup> siècle), 2016, consulted le 27 février 2024, <<http://interfas.univ-tlse2.fr/nacelles/123>>.

11 This paper is based on a broader study of early French aeronautical science fiction works. The broader study, conducted as part of my PhD thesis, deals with several themes of the early stages of aeronautics, such as the lighter-than-air/heavier-than-air debate, aeronautical utopias, urban air transport,

12 For this purpose, we will define French Air Power as the use of flight as a tool s for the defense and expansion of France. The notion of Power here refers to strategic might understood as a continuum, be it offensive or defensive depending on the fortunes of France

13 At the end of 1908, a section “reserved for the things of the air” was created as part of the Motor Show at the Grand Palais in Paris. The following year saw the organisation of the first international exhibition of aerial locomotion.

14 Recent works have updated our knowledge of the broader history of French armed forces, see Jean-Marc OLIVIER (dir.), *Histoire de l'armée de l'air et des forces aériennes françaises du XVIII<sup>e</sup> siècle à nos jours*, Éd. Privat, Toulouse, 2014, and DE LESPINOIS Jérôme (dir.), *Nouvelle histoire de l'armée de l'air et de l'espace*, Éd. Pierre de Tailhac, Paris, 2022.

- 15 THÉBAUD-SORGER Marie, *Nouvelle histoire des ballons : invention, culture matérielle et imaginaire, 1783-1909*, Éd. du Patrimoine-Centre des monuments nationaux, Paris, « Temps et espace des arts », 2010.
- 16 Published in 1788 in by an anonymous publisher, written (according to the author's foreword) in Geneva in 1788. REINSER, *République universelle, ou L'humanité ailée réunie sous l'empire de la Raison*, l'an premier de la Raison, [S.l.], [s.n.], 1788, <<https://gallica.bnf.fr/ark:/12148/bpt6k821173>>.
- 17 BACZKO DE Bronislaw, PORRET Michel and ROSSET François (dir.), *Dictionnaire critique de l'utopie au temps des Lumières*, Chêne-Bourg, Georg Éd., 2016.
- 18 CRÉPIN Annie, « L'armée de 1789 à 1798 : de la régénération à la réforme, de la révolution à la recreation », *Inflexions*, vol. 25, n° 1-(Commémorer), 2014, p. 159-168, Doi: <<https://doi.org/10.3917/infle.025.0159>>.
- 19 L'ANGE François-Joseph, *Remède à tout...*, *op. cit.* Considered by Jean Jaurès as a proto-socialist, François-Joseph L'Ange was elected a judge in Lyon during the French Revolution and was guillotined on 15 November 1793 as part of the republican repression.
- 20 Celestial weapon or celestial army.
- 21 *Ibid.*, p. 37, original « avec mille ballons on pourra pulvériser une armée de cent mille esclaves sans qu'il en coûte la moindre égratignure à un Français ».
- 22 THÉBAUD-SORGER Marie, *Nouvelle histoire des ballons*, *op. cit.*
- 23 HILGARTNER Stephen, "Capturing the Imaginary: Vanguard, Visions and the Synthetic Biology Revolution", in HILGARTNER Stephen, MILLER Clark A. and HAGENDIJK Rob (eds), *Science and Democracy: Making Knowledge and making Power in the Biosciences and Beyond*, Routledge, New York/London, "Genetics and society", 2015, p. 51-73.
- 24 TODD David, *A Velvet Empire: French Informal Imperialism in the Nineteenth Century*, Princeton University Press, Princeton/Oxford, "Histories of economic life, 4", 2021.
- 25 For an in-depth study of French satirical press of the middle 19th Century, see RÜTTEN Raimund, JUNG Ruth, SCHNEIDER Gerhard and RÉGNIER Philippe (dir.), *La Caricature entre République et censure : l'imagerie satirique en France de 1830 à 1880 : un discours de résistance ?*, Presses universitaires de Lyon, Lyon, « Littérature et idéologies », 1996.

26 First published in 1863 by Pierre-Jules Hetzel, Paris, <<https://gallica.bnf.fr/ark:/12148/bpt6k6572136x.r>>.

27 HOHNSBEIN Axel, « Du Magasin d'éducation et de récréation à *La Science illustrée* », *CONTEXTES*, n° 21-(L'anticipation dans les discours médiatiques et sociaux, 2018, connection on 22 December 2023, Doi: <<https://doi.org/10.4000/contextes.6669>>.

28 The role of his publisher Pierre-Jules Hetzel should be mentioned, see HUSTI Carmen, « Romans d'anticipation et vulgarisation scientifique. Les enjeux du dialogue éditorial Verne-Hetzel », *Arts et Savoirs*, n° 14-(Styles de pensée, pensée de style. Écrire le vivant au XIX<sup>e</sup> siècle, 2020, connection on 22 December 2023, Doi: <<https://doi.org/10.4000/aes.3393>>.

29 LA LANDELLE Gabriel DE, *Aviation ou navigation aérienne*, E. Dentu, Paris, 1864, <<https://gallica.bnf.fr/ark:/12148/bpt6k3048313t.r>>.

30 THÉBAUD-SORGER Marie, *L'aérostation au temps des Lumières*, Presses universitaires de Rennes, Rennes, « Histoire », 2009.

31 According to Tissandier Gaston, *La navigation aérienne, l'aviation et la direction des aérostats dans les temps anciens et modernes*, Hachette, Paris, « Bibliothèque des merveilles », 1886, <<https://gallica.bnf.fr/ark:/12148/bpt6k2155076/f263.item>>, p. 258.

32 See *Science, patrie, conférence par M. Gaston Tissandier, le 29 novembre 1889, au siège de l'Association des dames françaises, 24, boulevard des Capucines*, Delattre-Lenoel, Amiens, 1889, <<https://gallica.bnf.fr/ark:/12148/bpt6k63756541.r>>.

33 BERNARDINI Jean-Marc, *Le darwinisme social en France, 1859-1918 : fascination et rejet d'une idéologie*, CNRS Éd., Paris, « CNRS histoire, Histoire contemporaine », 1997 [new online edition].

34 CHARLE Christophe and JEANPIERRE Laurent (dir.), *La vie intellectuelle en France*, 2 vol., Éd. du Seuil, Paris, 2016, vol. 1, and DIGEON Claude, *La Crise allemande de la pensée française : 1870-1914*, Presses universitaires de France, Paris, 1959.

35 GIRARDET Raoul, *L'Idée coloniale en France : de 1871 à 1962*, 1st ed., Paris, La Table Ronde, « Mouvements d'idées », 1972.

36 GOYA Michel, *L'Invention de la guerre moderne : du pantalon rouge au char d'assaut, 1871-1918*, 1<sup>re</sup> éd., Paris, Tallandier, « Texto : le goût de l'histoire », 2014.



37 Dupuy de Lôme was the author of decisive advances in ironclad and submersible construction, but was denounced in an open letter by the aeronaut Eugène Godard, then one of the leading balloon constructors. Along with other aeronauts, Godard criticized an inept choice of the military and its inconclusive results.

38 L. Denayrouze was an amateur playwright and author of a few technical books.

39 TASSIN Eugène and DENAYROUZE Louis, *La revanche fantastique*, E. Dentu, Paris, « Mélanges d'histoire et de politique contemporaines 1848-1879 », 1872, p. 6.

40 Patrick Luiz SULLIVAN DE OLIVEIRA, *The Ascending Republic: Aeronautical Culture in France, 1860-1914*, doctoral thesis under the supervision of Philipp G. Nord at the University of Princeton, 2018, <<http://arks.princeton.edu/ark:/88435/dsp016h440w13c>>.

41 First published in the *Magazin d'éducation et de récréation* from March 1869 to June 1870, then by Pierre-Jules Hetzel in 1871.

42 In her PhD thesis, Andréa Seigner shows how studies of flying animals led to a divergence between fixed and beating wings. See Seigner Andréa, *Micro-histoire sociale des pionniers de l'aviation (1890-1914)*, PhD Dissertation in History, Jean-Marc Olivier (dir.), Université 2, 09 December 2017, <<https://theses.hal.science/tel-02399577>>.

43 Dirigibility with electric engines was achieved on 1883 by the Albert and Gaston Tissandier, and on 1884 by military aeronauts Charles Renard and Arthur Krebs.

44 Starting with the Daimler P engine of 1887.

45 STIÉNON Valérie, « Les genres médiatiques de l'anticipation : des usages comiques du futur », in Pinson Guillaume and Thérenty Marie-Ève (dir.), *Les journalistes : identités et modernités*, Actes du premier congrès Médias 19, Paris, 8-12 juin 2015, <<https://www.medias19.org/publications/les-journalistes-identites-et-modernites/les-genres-mediatiques-de-lanticipation-des-usages-comiques-du-futur>>.

46 A recurring signature in *Le Tintamarre*, suspected to be the editor Léon Bienvenue (1835-1910) better known as a satirist as « Touchatout », according to COSTES Guy and ALTAIRAC Joseph, *Rétrofictions : encyclopédie de la conjecture romanesque rationnelle francophone, de Rabelais à Barjavel*,

1532-1951, vol. 2, Encrages /Les Belles lettres, Paris, « Interfaces, 5 », 2018, p. 641.

47 ROBIDA Albert, *La guerre au vingtième siècle*, Georges Decaux, Paris, 1887, <<https://gallica.bnf.fr/ark:/12148/bpt6k3120885.r>>.

48 HODEIR Marcellin, « La guerre aérienne à travers la science-fiction : Albert Robida », *Revue historique des armées*, vol. 256, n° 3-(Aspects de la pensée militaire), 1991, p. 78-88, Doi: <<https://doi.org/10.3406/rharm.1991.4053>> ; BAREL-MOISAN Claire and LETOURNEUX Matthieu (dir.), *Albert Robida : de la satire à l'anticipation*, Les Impressions nouvelles, [Bruxelles], « Réflexions faites », 2022.

49 VAS-DEYRES Natacha and BUARD Jean-Luc, « La science-fiction invisible (1860-1950) », in VAS-DEYRES Natacha, BERGERON Patrick and GUAY Patrick (dir.), *C'était demain : anticiper la science-fiction en France et au Québec : 1890-1950*, Presses universitaires de Bordeaux, Pessac, « Eidolon, 123 », 2018, p. 359-377.

50 Although the transformation of Paris into an aerial capital is a common theme in general French aeronautical science fiction material, its significance here is limited to the centrality of Paris as a core in a hierarchized imperial world-space.

51 Accomplished in Meudon on the 9th August 1884 by *Genie* officers Renard and Krebs.

52 PUYO Jean-Yves, « Léo Dex et les romans "aérostatiques" », *Studia Romanica Posnaniensia*, vol. 50, n° 1, p. 55-68, 2022, Doi: <<https://doi.org/10.14746/strop.2023.50.1.4>>.

53 See Table 1.

54 See Table 1.

55 FONTVIELLE Wilfried DE, *Les aéronautes français au Transvaal*, Guyot, 1902, p. 8, <<https://gallica.bnf.fr/ark:/12148/bpt6k9344366/f10.item>>.

56 SIMARD-HOUDE Mélodie, « Voyages dans l'espace et avions électriques », *CONTEXTES*, n° 21, 2018, Doi: <<https://doi.org/10.4000/contextes.6629>>.

57 Regarding the "yellow peril", Danrit's notable works are *L'invasion jaune*, 2 vol., Flammarion, Paris, 1909 and *L'Aviateur du Pacifique*, Flammarion, Paris, 1911.

58 On that discourse and its Interwar aspect, see REGOURD François, « Capitale savante, capitale coloniale : sciences et savoirs coloniaux à Paris

aux XVII<sup>e</sup> et XVIII<sup>e</sup> siècles », *Revue d'histoire moderne & contemporaine*, vol. 55, n° 2-(Sciences et villes du monde, XVII<sup>e</sup>-XVIII<sup>e</sup> siècles ), 2008, p. 121-151, <<https://doi.org/10.3917/rhmc.552.0121>>.

59 ACCOULON Damien, "Building an aeronautical alliance in Central Europe (1919-1932)", 20 & 21. *Revue d'histoire*, vol. 152, n° 4-(Repenser la Petite Entente), 2021, p. 15-33, <<https://doi.org/10.3917/vin.152.0015>>.

60 Archaeologist and aviator Antoine Poidebard established the principles of aerial archaeology on French military planes over Syria in the inter-war period.

61 For an overview of this subject, see BOUBLI Zacharie « Une mue difficile. L'aéronautique militaire française au sortir de la Grande Guerre, 1918-1928 », p. 103-133, in LESPINOIS Jérôme DE (dir.), *Nouvelle histoire de l'armée de l'Air et de l'Espace*, Éd. Pierre de Tailhac, Paris, 2022. For a thorough and in-depth study, see MANCHON Jean-Baptiste, *L'aéronautique militaire française outre-mer, 1911-1939*, Presses universitaires de la Sorbonne, Paris, « Mondes contemporains », 2013.

62 The French usage of air power in the early 1920s is distinct from its British counterpart in the extent that French forces keep aerial means subordinated to land command whereas British forces let air forces operate in autonomy and coordinate with land forces.

63 This prize was attributed to the first pilot to connect New York and Paris in a single flight, eventually won by Charles Lindbergh. It is important to note that the crossing of the Atlantic had already been proved possible with balloons or by other routes (Ireland-Newfoundland).

64 See BOUBLI Zacharie, « Le ciel menaçant de l'entre-deux-guerres », academic blog *Ciels de Paris*, 20 February 2023, <<https://cdp.hypotheses.org/1984>>.

65 After the Great War, stories staging airships are in complete decline, as airplanes, drones and helicopter replace lighter-than-air devices.

66 MOINE Jean-Marie, « Un mythe aéronautique et urbain... », art. cit.

67 CHAMPEAUX Antoine, *Michelin et l'aviation : patriotisme industriel et innovation, 1896-1945 : patriotisme industriel et innovation*, 2 vol., [Panazol], Lavauzelle, « Histoire, mémoire et patrimoine », 2006.

68 *Vu*, n° 152, 11 February 1931, special issue on "The Next War", also included two short stories by Pierre Dominique and Pierre Mac Orlan entitled resp.

## ABSTRACTS

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### English

This article studies early French aeronautical speculative fictions in relation to the theme of French Air Power from the invention of balloons in the 1780s to the aftermath of World War I. In the era of the French Revolution, a handful of authors saw balloons as paving the way for a world ridden of borders, war and famine. This militant discourse coalesced into the attempts of the Revolution's armies towards using balloons on the battlefield, in vain. Decades later, the experiments of Henry Giffard sparked a new generation of air-minded authors, many of which would advocate for the developments of heavier-than-air flying devices. A turning point was the 1870 Siege of Paris, which subsequently prompted the French military to develop flying devices. Jules Verne or other authors of his generation would then follow closely the progress leading to the invention of airships and airplanes, often writing to extrapolate and speculate on future usages of flying machines in a fast-changing world. In the 1890s-1900s, airships and airplanes had become frequent popular literary devices, with a new vein of speculative fictions written by military officers, with more precise ideas and recommendations towards their use in a future war. The bases of a French air force had thus be laid by a handful of visionaries when World War I started, catalyzing the advancement of airplanes. After the war, speculative fictions of aeronautics would evolve into either generic entertainment or reflexions on national air strategies.

### Français

Cet article étudie les fictions spéculatives traitant d'aéronautique en relation au thème de la puissance aérienne française, de l'invention des ballons dans les années 1780 à l'entre-deux-guerres. Pendant la Révolution française, plusieurs auteurs imaginèrent que les ballons permettraient de débarrasser le monde des frontières, de la faim et de la guerre. Ce discours militant se retrouva autour des tentatives de la première République pour employer les ballons sur le champ de bataille, en vain. Des décennies plus tard, les expériences d'Henry Giffard attirèrent l'intérêt d'une nouvelle génération d'auteurs intéressés à l'aéronautique et la dirigeabilité des ballons. Une nouvelle étape fut franchie avec le Siègne de Paris de 1870, qui ressuscita l'intérêt de l'armée française pour les machines volantes. C'est dans ce contexte que Jules Verne et d'autres auteurs de sa génération allaient suivre de près les progrès qui mèneraient à l'invention du dirigeable et de l'avion, à travers des écrits extrapolant et spéculant sur les usages futurs des appareils volants. Dans les années 1890-1900, les machines volantes devinrent de plus en plus présentes dans la littérature populaire, coïncidant avec une vogue de fictions spéculatives écrites par des officiers militaires et comprenant des idées et recommandations précises pour l'usage d'avions et dirigeables dans une guerre future. Lorsque commence la Première Guerre

mondiale, les bases intellectuelles d'une force aérienne française avaient ainsi été posées par un nombre restreint de visionnaires, permettant une accélération formidable du progrès aéronautique. Après la guerre, les fictions spéculatives aéronautiques se mettent à évoluer entre divertissement de plus en plus générique et réflexions sur la stratégie aérienne nationale.

## INDEX

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### Mots-clés

puissance aérienne, dirigeable, ballon, avion, science-fiction, utopie, culture aérienne, air-mindedness

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