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## The Selection and Training of Italian Aviators during the First World War

*La sélection et l'entraînement des aviateurs italiens pendant la Première Guerre mondiale*

**Fabio Caffarena**

Traduction de Béatrice Sans

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The Selection of Professionals of the Sky (1916-1918)

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### Methodological introduction

- 1 This article does not examine the most famous aviators who frequently belonged to the nobility or the bourgeoisie, but the mass of aviators unknown to the public, composed of average people, including individuals from the lowest social levels. It is generally unknown that, in Italy during the Great War, craftsmen, workers and employees became pilots and that this democratisation of flying can be regarded as an aspect of the modernity of the conflict. Consequently, we need to analyse the experience of the war from the bottom up in terms of cultural history.
- 2 During the war, the myth of aviation and of its protagonists was fed by an enthusiasm for all things related to flying, which scholars and intellectuals had already discovered at the beginning of the 20<sup>th</sup> century. Yet now, the interest for flying also won over ordinary people, who in ever-increasing numbers rushed to the airfields for the first shows of this new aerial sport.<sup>1</sup> At the time, the pilots were regarded as dandies and the airfields looked like circuses, according to the efficient description by Franz Kafka during the Brescia air show in 1909.<sup>2</sup> The Great War was about to transform these dandies into staid her-

oes, but above all, it would allow some of the air show spectators to unexpectedly become pilots in turn.

- 3 The main sources for this article are the thousands of registers of the Italian aviators of the Great War housed at the *Ufficio Storico dell'Aeronautica Militare* (USAM) in Rome. These documents are of great interest: in addition to information on the identity, job, physical condition and even daily habits (consumption of alcohol, smoking) of these military pilots, the registers provide data on their flying activity that enables us, in some cases, to reconstitute a significant career history. This documentary ensemble reveals not only the psycho-physical criteria for selecting aviators, but also qualitative aspects of their experience as air soldiers, especially if one cross-references this information with other qualitative sources. In particular, some rare written accounts (correspondence and diaries) by pilots currently available in the archive network of informal writing (Trento, Genoa, Pieve Santo Stefano), indicate the subjective motivations that led some to join the Air Force. This choice was not always dictated by passion or love of flying, but much more frequently by the desire to avoid the trenches. Becoming a pilot – in spite of the high mortality rate – also allowed them to live through the war more comfortably, by benefiting from the flying allowance and the bonuses awarded for each downed aircraft.
- 4 By focusing on the career history of pilots from the middling to lower social classes, these sources enable us to enrich and correct the more traditional historiographic perspective, by de-mystifying the history of the aviators of the Great War.

## **From Dandy to Airman: the Selection of Military Pilots (1911-1916)**

- 5 In a letter sent from Campoformido on 27 January 1916, the young motorist and artilleryman Giuseppe Canonica told his family that “a memorandum for a flying lesson had been received,” the details of which he did not yet know, but which had obviously caught his attention. The young twenty-year-old man had even copied out on paper,

kept with his personal papers, a memo by the staff of the *Battaglione Aviatori* with the list of the necessary documents to apply for the lesson.<sup>3</sup> According to the memorandum n° 131 from 28 February 1915, apart from the weight limit of 75 kg, a medical certificate of excellent health was required, especially as regards the visual, hearing, nervous and circulatory systems. At last, one needed a certificate of good conduct, needed to be single and without children and - for those under 25 - parental authorisation.

- 6 Holding that documentation and his parental authorisation, Giuseppe was accepted for the flying lesson: one of the many humble and unknown pilots who underwent the memorable physical and mental experience of war, moving from the mud of the roads travelled along at the wheel of his lorry to the pathways of the sky.<sup>4</sup> For other lorry drivers, mechanics, machine workers, as well as countrymen, bricklayers and fishermen, enlisting in aviation was a way to get away from the front, to escape from the madness of the life in the trenches, and from the anonymity of the dead masses.<sup>5</sup>
- 7 Long before the war, the possibility of accepting soldiers in the flying crew was subject to a debate, not only in the small group of military circles, but also in the pages of periodicals. In an article from December 1911, Arturo Mercanti - one of the founders of the Aero Club of Italy - had defended that option based on conclusive experiments carried out in France. Even the most famous theoretician of the strategic use of aircraft, Giulio Douhet,<sup>6</sup> in his report on the organisation of military aircraft in Italy in December 1912, did not rule out the possibility of allowing soldiers to fly, however, on condition that they were always accompanied by an officer when in operation.<sup>7</sup>

But aside from the social composition of the crews, what preoccupied Douhet the most was the aviators' inclination toward showing off, an inheritance of the cliché of the dandy and athlete of the pre-war years that was irreconcilable with the martial image of the military pilot. In his inaugural speech for the preparatory aircraft course delivered in Turin on 29 January 1913, to pilots "attracted by the new delight of flying," Douhet reminded them that flying was meant to be "a simple means to achieve an act of war," to be fulfilled without any "unnecessary daring nor...stupid conceit."<sup>8</sup>

- 8 Ottorino Pomilio had a completely different point of view. An aeronautical engineer appointed in 1914 to the *Direzione Tecnica dell'Aviazione Militare* of Turin, he considered it counterproductive to have excessive rigour toward the pilots. In 1913 in the Italian Touring Club magazine, Pomilio stated it was impossible to “consider a man who pilots an aeroplane in the same way as one considers a driver” and that an aviator “must have not only exceptional sporting qualities but also exceptional moral qualities and energy to be able to beat all the weaknesses, all the doubts. Consequently, the aviator needs the support and admiration of the public.”<sup>9</sup>
- 9 Italy's entry into the war in 1915 ended the polemic by making the presence of soldiers on-board military aircraft indispensable. In fact, this evolution had already started in October 1913, when the first flying course reserved for about fifty non-commissioned officers was opened.<sup>10</sup> The war launched a real process of large-scale, increasingly sophisticated manufacturing and needed ever more pilots to face the growing demand.
- 10 In Italy, the production of planes grew from 382 units built in 1915 to 6,518 built in 1918, for a total of about 12,000 aircraft of all types. At the same time, between 15,000 and 20,000 candidates were submitted to the preliminary tests for recruitment in aviation:<sup>11</sup> the 7,700 registers about those who passed the selection to become pilots, observers, and machine-gunners are housed in Rome at the *Ufficio Storico dell'Aeronautica Militare* and form a valuable source of information on an essential component of the military aviation, the human component.
- 11 30% of the candidates came from the infantry, and others from artillery (13%), from engineering (7%), from the *bersaglieri* (5%), from the *Chasseurs Alpins* (5%), from the Navy (4%) and so on in much lower proportions for the weapons and the minor corps, among which there were some male nurses, miners, and road workers. Finally, 6% of them were already enrolled in the *Battaglione aviatori*. 60% of those men came from central and northern Italy and most of them were very young: the oldest were born between 1880 and 1899 (10%), and most of them were in their twenties (1895-1899 = 51%). Among the 120 young men born in 1900 accepted in the flying schools in 1918,

a large number of them did not even have time to complete their training because of the end of the war.<sup>12</sup>

## The Selection of Professionals of the Sky (1916-1918)

- 12 In 1916, one of the first organic regulations for the *Battaglione Scuole Aviatori* highlighted the need for meticulous training and very serious and strictly assessed theoretical and practical tests, with the goal to “save the prestige of those who succeed flawlessly.” This document, although normative, consequently established that to become a pilot, acquiring specific technical skills was not enough; it also meant gaining an enviable position by achieving a social ascent and even a moral promotion.<sup>13</sup> At the beginning of 1916, the percentage of licensed pilots did not exceed 60% and the coming into effect of these standards probably did not improve the situation.<sup>14</sup> Particularly, according to the regulation, one had to successfully pass the following exams:

First grade license

For the nomination to the rank of “Student of flying school,” the Student pilot will have to:

- 1) Show, during an oral examination before a suitable board nominated by the command of the *Battaglione Scuole*, that he has notions related to the technology of aeroplanes, internal combustion engines, and various equipment in use in aviation and atmospheric phenomena;
- 2) Complete at the controls of a plane equipped with an engine of at least 40 HP, 2 flights during which he will have to make 5 consecutive ‘figure eights’ around 2 pylons not more than 500 metres from each other. The descent and the landing will be done after switching off the engine at a height of at least 100 metres so that the aeroplane stops at a distance which will not exceed 50 metres compared to a point previously designated;
- 3) Complete at the controls of a plane equipped with an engine of at least 80 HP a flight of at least 45 minutes, reaching a height of 500

metres. The descent will be done gliding in a spiral after switching off the engine at a height of at least 300 metres so that the aeroplane stops at a distance which will not exceed 100 metres compared to a point previously designated.

#### Second grade license

For the nomination to the rank of "Aircraft pilot," the Student pilot will have to:

1) Show, during an oral examination before a suitable board, that he fully masters the notions related to:

a) the regulations and instructions on the service of aviation (norms on the technical and disciplinary operating of the Schools and the Squadrons, on the transport and maintenance of the equipment, on telegraphy using the Morse code alphabet);

b) the technology of aeroplanes in general and particularly of the aeroplane and engine used by the student, their operating, their assembly and disassembly and their adjustments; to the use of the compass and other flight instruments and to the topographical map while flying. The student pilot, if he is an Officer, will have to show he has the necessary notions as regards:

the mobilisation of the *Battaglione Squadriglie Aviatori*, the management of the equipment and the workshops in the Squadrons, of the use of aeroplanes during wartime, of the training of the different troop corps, not only national, but also those of the main foreign armies;

2) know how to behave properly while flying in a turbulent atmosphere by accomplishing, without incident, a flight of at least 45 mn started with a wind of at least 7 metres/minute on the ground and by reaching a height of at least 2000 metres;

3) land without incident after gliding from a height not inferior to 1000 metres at the controls of a squadron aeroplane at full load, within a predefined area of 40 metres by 120. This test will have to be carried out at least twice out of four consecutive attempts;

4) accomplish without incident from the dawn to the sunset of the same day, as chosen by the candidate, a circuit flight of at least 250 km, with a predefined transitional landing and checks in localities chosen beforehand and distant at least 30 km, so that none of the sides of the polygon to be flown across are inferior to 30 km. This flight will be performed with a squadron aeroplane, at full charge, by holding for at least a quarter of the whole flight a height superior to 3000 metres.<sup>15</sup>

- 13 The regulations thus contained a dense programme of lessons that comprised, amongst others, notions of mechanics and meteorology. To obtain the first-grade license, a student had to pass an oral exam and two practical tests during which he had to carry out various manoeuvres at predefined altitudes. The second-grade license was granted after another oral exam followed with three practical tests, more difficult than the previous ones. Specific requirements and tests were needed to become a flight instructor in the schools and to be entitled to pilot aircraft different from the one used to learn to fly.
- 14 At the time of the creation of this regulation, the president of the Aero Club of Italy, lieutenant-colonel Carlo Montù, group leader of a squadron of civilian pilots created to support – without great success – the Italian troops during the war in Libya, gave talks throughout Italy to educate the general public, who had thus far been fascinated only by the acrobatic exploits of aviators:

...the new psychology of their caste, the heroic spirit which fills with life and enhances their boldness and their love for their country. Knowing and appreciating this collective psychology is nowadays a duty for the Italian people...The pilot must have a steadfast and stern heart, agile and vigorous muscles, acute and assured eyesight and above all, a swift intuitive perception, an immediate connection between thought and action. Brave and cautious, despising peril but not daring, the man who learns how to fly is severely tested every day.<sup>16</sup>

- 15 To select this “caste”, an increasingly severe assessment system of the candidates was created, so as to limit failures during training and flight accidents, but also to adapt the pilots to the complexity and the increased performance of the aeroplanes that were made during the



conflict. From 1917, the Franciscan Agostino Gemelli<sup>17</sup> and Amedeo Herlitzka established two offices for psycho-physiological research on aviation and for the inspection visits of pilots, one at the main Headquarters in Udine and in Turin, flanked by similar laboratories in Naples (dependent on the Navy) and one in Rome, run by Giuseppe Gradenigo and Alberto Aggazzotti.<sup>18</sup> During the tests, carried out with the first flight simulators and measurement tools, the reaction time to external requests, the attention and observation span, and the degree of emotion were tested and the absence of alterations to the cardiovascular and respiratory systems were verified.<sup>19</sup>

- 16 The need to increase the ranks of aviation led to a flexible application of the selection parameters: some subjects considered as “rather highly” and “highly” emotional were declared fit when the protocols required a “very low” or “low” level, others were accepted despite their visual, hearing or balance deficiencies or in spite of the after-effects of their wounds.<sup>20</sup> The results of the inspections were registered on a file kept with the identification booklet.<sup>21</sup>
- 17 More than 60% of the recruits were selected and sent to flying schools in 1917-1918, among which 5,000 pilots (1/3 officers, 1/3 non-commissioned officers and 1/3 ordinary soldiers).<sup>22</sup> The memo n°12848 from the *Direzione Generale d'Aeronautica* on 8 June 1917 even planned a compulsory medical check-up for the mechanics who had already been hired before January 1917, so as to convert them to flying.<sup>23</sup> While the role of pilot fell to men of varied origins and capacities, the one of observer was, on the other hand, reserved for specially trained officers (with a few exceptions), whereas the gunners were exclusively ordinary soldiers and non-commissioned officers.
- 18 The students were divided into three groups corresponding to the three steps of the training: the penguins, those of the straight line, those of the certificate. The penguins - such as Pilot Rodolfo Fumagalli - are the novices. They drag themselves on the ground with their aeroplanes without lifting from the ground, neither the empennage nor the wheels. The penguin plane is an aeroplane ready for everything but taking off; and woe betide him if he did....The students of the straight line leave, rise up into the air for a few metres from the ground and land following a line, which should be straight, but which often draw the strangest geometrical shapes. Those who have already

finished the whole route around the field are training for the admission tests of the license.<sup>24</sup>

- 19 However, that system was never perfect and the high rate of accidents and losses shows the probable lack in preliminary training, or at least of the flying protocols: during the war, 989 Italian pilots died, among which 291 while at school as a result of 237 flight accidents: 9 in 1915 (out of a total of 11 deaths); 26 in 1916 (32 deaths); 63 in 1917 (76 deaths) and 139 in 1918 (172 deaths). The pilots who died at school were more numerous than those killed by the enemy (225).<sup>25</sup> The emergency need to make pilots for war, the rudimentary machines,<sup>26</sup> the training method (single seat aircrafts: no double controls) – as later admitted by Pilot Mario Fucini in his memoirs – made sure, at that time, that becoming a pilot was an extremely serious risk.<sup>27</sup>
- 20 There was no shortage of inspections in the schools, also because of the suspicion, sometimes justified, that despite the risks, some students postponed obtaining the certificate to remain as long as possible away from the front. But the lengthening of training time (set to around 25 hours of flight) was mainly due to problems of organisation, as well as the availability, efficiency, and lack of standardisation of the planes – which extended the training period and which determined the cost of the training.
- 21 To remedy these flaws, in 1917, the Aviation Command adopted a particularly difficult and intense theoretical programme, with a seven-week course for a total of 126 one-hour lessons: 3 daily lessons from Monday to Saturday on the organisation of the aeronautic service (6 lessons), aerology (12), notions of physics and mechanics (12), equipment and planes (12), aeroplane engines (36), notions of magnetism and electricity related to the ignition of engines, photoelectric devices, telegraphy and radio telegraphy (18), weaponry and ammunition (18), and finally techniques of orientation and of aerial census (12).<sup>28</sup>
- 22 This programme may have been a bit heavy for those with a basic education: in July 1918, during an inspection tour, Commander Raimondi additionally observed that the flying schools did not have a basic textbook and that the note cards prepared by the instructors for the theory lessons were of very unequal quality. Besides, it was certainly not easy to prepare lessons, to write note cards, and to

write a textbook to reach students with such varied levels of education, including some students who had barely passed the school certificate.<sup>29</sup>

- 23 The debate on the learning system received wide coverage in the specialist magazines, particularly thanks to some pilots on condition of anonymity, such as the article published on 10 May 1918 by the bi-monthly *Nel Cielo*, a supplement on disclosure focused on air warfare and the aviators, delivered with the periodical *Il Secolo Illustrato* and with the sports newspaper *Gazzetta dello Sport*<sup>30</sup> – where the excess of theoretical training, inadequate for the generally poor education level of the students, was denounced:
- 24 The student pilots form, by virtue of the recruiting process, a mass devoid of homogeneity. One can find everything: from the engineer, among the officers, to the countryman in the troops. All the jobs, all the weapons, all the regions, are represented in the background of the candidates to flying. Most of them are men whose cultural knowledge is less than average....One may wonder why one still persists in organising for the flight candidates, lectures which deal with at least ten – we mean ten – subjects. A university programme...In our modest opinion, for the pilot candidates from the troops, two subjects would be enough in addition to the flight time: engines and topography. And as regards these two subjects, pretend that the student does his utmost, by requiring rigorous practical and theoretical exams. For the officers, one should be more demanding. One should also change the flying lessons on two points of view: in quantity and in terms of organization.<sup>31</sup>
- 25 Another anonymous commentator responded to those observations in the issue published on 10 August:

Today, one might create squadrons of sparrows...In the world of the instruction grounds, one speaks with admiration or envy of some records achieved in the last few months with a fantastic number of lessons – and an incredible number of licenses – sometimes, one might have done in one day more than what one did in a month....One shall hurry, so it be: one shall try to obtain in three months what one used to get in a year, but one should not skip on the necessary lesson ....One should not skip on the lesson time, but one should lighten the bureaucratic system. One should not uselessly send the students

from one city to another for months and months, waiting for a visit and an assignment.<sup>32</sup>

- 26 One aviator made an extremely interesting suggestion, published in the same issue, to involve the magazine *La Gazzetta dello Sport* in the training process, in order to stimulate the productivity of the flying training schools by introducing healthy competition susceptible to add value to the sporty appearance of flying and the athletic dimension of the typical aviator of the pre-war period, without relinquishing the strictness of the military discipline:

In the aviation sector, if one wants to train real pilots and not only be satisfied with being able to fly, one must consent to lead a chastised lifestyle, as strict as the one of a gymnast, of an athlete who practises rowing or running. To endure those sacrifices one needs passion, the enthusiasm which built the flight pioneers to face the hazards of the sky. The writer of these lines, present for several months on the instruction grounds, did not find that enthusiasm: he found among his comrades famous champions in different sports, but they had also changed or were changing after fifteen days, or one month of school. On the instruction grounds, one does not breathe the revivifying air so full of powerful energy specific to all the sport environments anymore: one rather has the impression – please excuse the comparison – of being in a school for teaching tram drivers....We are not asking to make the aviators and more particularly the student pilots, for whom we are writing, stars; we only wish that in the interest of our weapon, we take advantage of this strong athletic substrate on which aviation is based. One may organise championships for the students, one may create prizes, one may give the names of the best to the public, one may create a strong feeling of emulation between the schools, between the students and then the directors will see that the number of pilots will increase, that their quality will get better and that one will save equipment.

If for some bureaucratic issues or in virtue of specific considerations the *Commissariato dell'Aeronautica* cannot deal with the organisation of such championships, it may give its support to a private organisation as the Ministry of War does towards the *Gazzetta dello Sport* as regards the training of soldiers and one should find the means to gather, from time to time, all the student pilots who will have been able to join a squadron within the last six months, for an aircraft

race. The results – we are convinced about that – will considerably counterbalance the toil and the expenditures.<sup>33</sup>

- 27 The wish for a joint effort with the well-known sport magazine brought up to date – without any provocation – the enduring relationship between aviation, aviators and the sporting dimension of flying. The debate continued until the end of the war and on the 25 September 1918, again in the magazine *Nel Cielo*, Flight Lieutenant Massimo Adolfo Vitale gave a lucid analysis of the radical changes that the war had imposed on the character of the aviator, from the particular point of view of the schools:
- 28 Today, the necessity of war has brought about major change. Today, one had, out of necessity, to ask for quantity, and quality has suffered. The doors of aviation are open not only to the chosen ones only but also to anyone. And even if many of those who came to the new weapon did it in virtue of a noble and genuine passion, out of a desire for daring and marvellous triumphs, many rushed to it out of curiosity, out of ... ignorance, to escape another destiny, believing they would find an easy, comfortable and safe life. Then, each chosen one really had a distinct personality, they could embody the exceptional individual. Today, the masses present themselves, the masses (with some rare exceptions) are raw, shapeless, that the will and intelligence, the insight, the acumen of the squadron leader, of the chief pilot, of the instructors, must assess and select. The necessity of war sent onto the school grounds the most disparate individuals without being able to take into account their backgrounds on an educational, professional, lifestyle, national service point of view.<sup>34</sup>

#### Folding the wings: the post-war period

- 29 Becoming a pilot meant a temporary interlude in life for many. For some that interlude ended during the conflict, for others at the end of the war. At the end of 1918, some pilots spontaneously presented a request for leave, for others it was a painful renunciation dictated by demobilisation or by family necessities. A lot of pilots returned to the occupations, sometimes very modest, that they had had in civilian life, thus ending an indelible experience. For example, Giuseppe Canonica drove a coach from Liguria and Piedmont. The story of so many anonymous sky fighters gave way to the legend of the captains

of the clouds, as part of the epic lyric of Italian military aviation. A handful of stars contributed decisively to the genesis of that legend: such as Francesco Baracca<sup>35</sup> and Gabriele d'Annunzio, the latter ironically embodied that myth without having ever been to a flight school due to his age and without having ever passed the pilot's license. This was contrary to what a lot of anonymous peasants did, and by flying as an average passenger on board aircraft flown by faithful fellow adventurers.<sup>36</sup>

- 30 The study of the obscure careers of anonymous aviators, who are not featured in the pantheon of the aces, consequently deconstructs the rhetoric of a myth. Analysed from the inside, this myth looks much less monolithic and more prosaic than what the traditional epic firmly entrenched in the collective mind suggests.
- 31 The creation of the Italian Air Force by the fascist government – *la Regia Aeronautica* – in March 1923 was a fundamental step in developing that epic, which makes the most of the powerful mythological potential of air warfare, able to transfigure the dandyism of the sportsmen of the pre-war period into the patriotic heroism of military aviators. The modernity and the appeal of flying enabled the *Regia Aeronautica*, regardless of the lack of financing it received,<sup>37</sup> to disseminate the nationalist cult of the homeland and the dynamic spirit of the fascist regime through the great air-raids in formation or spectacular sporting competitions, perceived as exemplary illustrations of Italian discipline and engineering. The elevation of aviation to the rank of metaphor for national power formed one of the most fascinating and deceptive fantasies of the fascist liturgy, destined to miserably fall right from the beginning of the Second World War.<sup>38</sup>

## NOTES

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- 1 R. Wohl, *A Passion for Wings: Aviation and the Western Imagination, 1908–1918* (New Haven & London: Yale University Press, 1994).
- 2 P. Demetz, *The Air Show at Brescia, 1909* (New York: Farrar, Straus and Giroux, 2002).
- 3 A copy of Giuseppe Canonica's letter is stored at the Archivio Ligure della Scrittura Popolare of the University of Genoa (ALSP).

- 4 On Giuseppe Canonica's experience in aviation, see F. Caffarena and C. Stiaccini, *In guerra sopra le nubi. Il pilota Giuseppe Canonica nel Primo conflitto mondiale* (Rome: Edizioni Rivista Aeronautica, 2015).
- 5 F. Caffarena *Dal fango al vento. Gli aviatori italiani dalle origini alla Grande Guerra* (Turin: Einaudi, 2010).
- 6 E. Lehmann, *La guerra dell'aria. Giulio Douhet, stratega impolitico* (Bologna: Il Mulino, 2013).
- 7 A. Curami and G. Rochat, *Giulio Douhet. Scritti 1901-1915* (Rome: Ufficio Storico Stato Maggiore Aeronautica -USSMA-, 1993), 241.
- 8 *Ibid.*, 249-51.
- 9 O. Pomilio, 'L'aviazione in Italia', *Rivista mensile del TCI*, 4 (1913), 207-11.
- 10 Ufficio Storico Aeronautica Militare (USAM), *Fonds Primordi, Gestione amministrativa e attività dei servizi aeronautici*, b.10 (1913) and *Ordini del giorno, ordini permanenti, notiziari, circolari e fogli d'ordine*, b.12, fasc. 6, fasc. 10 (1914).
- 11 G. Alegi, 'Costruire piloti: scuole, allievi, istruttori e aerei', in G. Montinaro and M. Salvetti (eds.), *L'Aeronautica italiana nella I Guerra mondiale* (Rome: USSMA, 2010), 129-177 at 143. The United Kingdom trained 22,000 pilots and produced 55,000 aeroplanes, France 18,000 pilots and 52,000 planes, Germany built more than 48,000 planes whilst Austria-Hungary and Russia did not build more than 5,000 aeroplanes. See J. H. Morrow Jr., *The Great War in the Air. Military Aviation from 1909 to 1921* (Washington: Smithsonian Institution Press, 1993), 367. As for the Italian and French cases, see A. Curami, 'I primi passi dell'industria aeronautica italiana', in P. Ferrari (ed.), *La Grande Guerra aerea 1915-1918. Battaglie industrie bombardamenti assi aeroporti* (Novale : Edizioni Gino Rossato, 1994), 97-140 and C. Christienne and S. Pesquiès-Courbier, 'L'effort de guerre français dans le domaine aéronautique en 1914-1918', in G. Canini (ed.), *Les fronts invisibles. Nourrir, Fournir, Soigner* (Nancy: Presses Universitaires de Nancy, 1984), 233-46.
- 12 Data calculated by the author, on the basis of information in the registers of the aviators.
- 13 On flight as 'the myth of the experience of war', see G. L. Mosse, *Le guerre mondiali. Dalla tragedia al mito dei caduti* (Rome-Bari: Laterza, 1990), 132-38.
- 14 Ufficio Storico Stato Maggiore Esercito (USSME), *Serie IX, Mobilitazione e Difesa dello Stato*, sotto-serie IX-5 Servizi, b.27, fasc. 141: *Scuole di*

aviazione, nota ad oggetto Ammissione alle scuole di aviazione (5 February 1916).

15 USAM, Miscellanea Grande Guerra, b.8, *Regolamento delle prove teoriche e pratiche da sostenersi per il conseguimento, durante la presente guerra, delle cariche aeronautiche, sancito dal Ministero della Guerra, Direzione generale dell'Aeronautica, con dispaccio n. 9222 del 19 maggio 1916* (Turin: Tipografia della Direzione Tecnica dell'Aviazione Militare, 1916).

16 *La nostra Aviazione. Conferenza tenuta dal presidente generale dell'Aereo Club d'Italia Tenente Colonnello On. Carlo Montù a Firenze, Torino, Genova, Bologna, Napoli, Roma, Milano, Treviso, Foggia, Cosenza con l'autorizzazione del Comando Supremo del Regio Esercito (aprile-maggio-1916)* (Turin: Lattes & C., 1916), 10-11 and 21.

17 Agostino Gemelli studied in a systematic way the psychology of soldiers and conducted studies that led him to attend in 1916 the medical-aeronautics Congress of Paris organised by the countries of the Entente to set common principles related to the tests of psychophysical selection of aviators. See A. Gemelli, *Il nostro soldato. Saggi di psicologia militare* (Milan: Treves, 1917) and 'Sull'applicazione dei metodi psico-fisici all'esame dei candidati all'Aviazione Militare', *Rivista di psicologia*, 3 (1917), 157-58.

18 University of Turin, Archivio Storico (ASUT), Fonds Istituto di Fisiologia, Subseries Correspondence, Booklet 354, box 22, Letters from Giuseppe Gradenigo to Alberto Aggazzotti related to the activity of the Ufficio Psico-Fisiologico, especially to the tests of the aviators (7 letters, 15 may-29 September 1918).

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20 G. Alegi, 'A caccia di aeroplani. L'asso come sportivo nella prima guerra aerea' and D. Burigana, 'Uno "sport tragico" al servizio della guerra: il volo. Lo spirito "sportivo" del "campione" e lo sforzo bellico nazionale fra mito e anti-mito dell'aviatore/atleta come fenomeno transnazionale', in *Quaderni della Società Italiana di Storia dello Sport (Lo sport alla Grande Guerra)*, 4 (2015), 132-47, 148-58.

21 The record includes the personal data, the indications provided by the candidate (date of incorporation; civilian occupation; experience in the aeronautics; accidents et traumas; family and personal pathologies; habits) and information dispatched into nine sections: I. Physical exam (general state; weight and measurements; respiratory system; cardiovascular system; abdominal and sexual organs; urines; nervous system; symptoms of infection by syphilis); II. Exam of the ocular system and function (objective exam; refraction; adjustment; night vision; visual field; gaze field; resolution; stereoscopic vision; perception of colours) ; III. Exam by an otorhinolaryngologist (hearing system; nose; pharynx); IV. Balance exam (dynamic; static); V. Reaction time (visual without prior warning; visual with prior warning; auditive) ; VI. Coice and decision making time (total average value; reduced average value; percentage of incorrect reactions; systematic mistakes) ; VII. Exam of emotivity ; VIII. Resistance to variations of pressure (rapidity of the variations; cardiovascular reaction; respiratory reaction; hearing system; general behaviour); Psychological exam (aperception; span of the aperception; ability to compare; ability to concentrate). Finally, the record mentions the final appreciation as well as the declaration of aptitude.

22 Data elaborated by the writer, on the basis of information comprised in the registers of the aviators.

23 USAM, Fondo Fascicoli personali scuole di volo Prima guerra Mondiale, b.80, fasc. 18.

24 R. Fumagalli, *Ali e alati* (Milan: L'Eroica, 1919) [quote from the edition (Mizar: Sanremo, 1981), 87].

25 Forecast data from those given by Paolo Varriale (2014). The figures are significant, but for an accurate estimation, one would need to compare the training time spent airborne during the war in the schools with the time spent airborne during the war and the number of students with the number of pilots in operations. The sources, however, do not allow such an accurate calculation. 237 accidents occurred on the training airfield: Malpensa (41);

Mirafiori (26); Cameri (18); Venaria (12); Orbetello (11); Sesto Calende (11); Cascina Costa (10); Busto Arsizio (9); Taranto (9); Foggia Nord (8); Gioia del Colle (8); Centocelle (7); Foiano della Chiana (7); Furbara (6); Taliedo (6); Passignano (6); Capua Nord (5); San Giusto (5); Foggia Ovest (4); Palo (4); Coltano (3); Bolsena (2); Capua (2); Cerveteri (2); Pau-Francia (2); Montecelio (2); Battaglione Aviatori Milano (1); Brolio (1); Cambiano (1); Capua Sud (1); Foggia (1); Lonate Pozzolo (1); Montecelio Ovest (1); San Pelagio (1); Scuola imprecisata (1); Varese (1); Vigna di Valle (1).

26 The schools were mainly equipped with Aviatik, Blériot, Caudron, Farman, Gabardini, and SAML aircraft which were no longer fit for the operational service.

27 M. Fucini, *Voli sul nemico. Ricordi di un pilota* (Florence: Bemporad, 1932) [quote from the edition (Rome: Ministry of Defense, 1958), 17].

28 USAM, *Miscellanea Grande Guerra*, b. 8, *Istruzione teorica degli allievi dei campi scuola* (14 January 1917).

29 USAM, *Miscellanea Grande Guerra*, b.8, *Relazione sulla visita fatta dal maggiore Raimondi alle scuole di pilotaggio nei giorni dal 17 al 30 giugno 1918* (4 July 1918).

30 In the periodical *Nel Cielo*, see S. Bulgarelli, '1909-1919: il volo nelle riviste aeronautiche e nelle cartoline dell'Archivio Aeronautico Giuseppe Panini', in S. Bulgarelli, R. Russo, P. Varriale (eds.), *Il folle volo. Uomini e aerei della Prima Guerra Mondiale* (Modena: Fotomuseo Giuseppe Panini, 2007), 31-37. The aviation journals published during the Great War are difficult to find, but a vast collection is available at the USAM and on the website of the Associazione di Volontariato in Italia per l'Aviazione – AVIA [www.avia-it.com/act/avianew\\_index.asp](http://www.avia-it.com/act/avianew_index.asp), accessed 8 March 2017.

31 'I campi scuola', *Nel Cielo*, 6 (10 May 1918), 93.

32 'La fucina dei piloti', *Nel Cielo*, 10 (10 August 1918), 157-58.

33 'Per una iniezione di entusiasmo alle fucine di piloti', *Nel Cielo*, 10 (10 August 1918), 158.

34 M. A. Vitale, 'I campi-scuola', *Nel Cielo*, 13 (25 September 1918), 206.

35 *Francesco Baracca tra storia, mito e tecnologia* (Rome: USSMA, 2008).

36 F. Caffarena, 'Vienna, 9 agosto 1918: d'Annunzio vola sulla città. Dal poeta aviatore al contadino pilota', in S. Luzzatto and G. Pedullà (eds.), *Atlante Storico della Letteratura Italiana* (Turin: Einaudi, 2012), 494-98 and G. Alegi (ed.), *In volo per Vienna* (Trento/Rovereto: Museo dell'Aeronautica Gianni

Caproni/Museo Storico Italiano della Guerra, 1993). See as well N. Capra, L. Gabrielli, G. B. Guerri (eds.), *Gabriele d'Annunzio aviatore* (Trente: Museo dell'Aeronautica "Gianni Caproni", 2014).

37 See G. Alegi, "'L'arma fascistissima': il falso mito dell'Aeronautica militare come preferita dal regime", in M. Ferrari (ed.), *Le ali del ventennio. L'aviazione italiana dal 1923 al 1945. Bilanci storiografici e prospettive di giudizio* (Milan: Franco Angeli, 2005), 111-54.

38 E. Lehmann, *Le ali del potere. La propaganda aeronautica nell'Italia fascista* (Turin: Utet, 2010); F. Caffarena and C. Stiaccini, *Chi vola vale. L'immagine della Regia Aeronautica nell'archivio del generale Cagna* (Rome: USSMA, 2013).

## RÉSUMÉS

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### English

The subject of this article is not the most famous and celebrated Italian pilots (the "aces"), but the mass of unknown aviators, ordinary people. It is little known that during the Great War, in Italy, peasants, craftsmen, workers and clerks became airplane pilots after a scientific selection made by the first flying simulators. This democratization of flight can also be understood as an aspect of the modernity ushered in by the conflict. The main historical sources are thousands of aviators' personnel files kept by the Air Force of Rome and their personal writings, now stored in private archives and in popular writing archives or published by aeronautical magazines during the war. This research perspective enables us to de-mythologize the First World War aviators.

### Français

Cet article n'a pas pour objet les aviateurs italiens les plus célèbres, les as du pilotage, mais bien plutôt la masse des aviateurs anonymes constituée de gens ordinaires. On ignore généralement qu'en Italie pendant la Grande guerre, des paysans, des artisans, des ouvriers et des employés devinrent pilotes à l'issue d'une sélection scientifique réalisée à l'aide des premiers simulateurs de vol. Cette sorte de démocratisation du vol peut aussi être considérée comme un aspect de la modernité dont le conflit était porteur. Les principales sources utilisées sont les milliers de dossiers personnels des aviateurs conservés au service historique de l'Armée de l'air italienne à Rome, ainsi que leurs écrits, déposés dans des archives privées et dans des institutions dédiées à la conservation des écrits des gens ordinaires, ou bien publiés pendant la Première Guerre mondiale dans les périodiques spécialisés dans l'aviation. Cet angle de recherche rend possible une approche qui fait justice de certains mythes relatifs aux aviateurs de la Première guerre mondiale.

## INDEX

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### **Mots-clés**

sélection militaire, entraînement, aviateurs, écoles de pilotage, brevets de pilote

### **Keywords**

military selection, training, Aviators, flying schools, pilot's licence

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## TRADUCTEUR

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