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## Conclusion (en)

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# Conclusion (en)

Éric Lehmann

## TEXT

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- 1 The conference at which the papers in this Thematic Section were given enriched our knowledge of the history of aviation during the First World War. The resolutely comparative perspective adopted, which goes beyond the now classic and somewhat outdated national narratives, is the only one able to deconstruct some of the myths that still weigh heavily on the aeronautical historiography on both sides of the Alps. In our opinion, from the intense exchanges among specialists from France and Italy, three particularly historically significant orientations emerged:
- 2 First, this transnational approach has solidly established some certainties that deny or strongly qualify certain common ideas about the history of aviation. With regard to the pioneering uses of military aviation, in addition to the first experimental and, thus, rather amateur, war flights by the Italians in Libya at the end of 1911, we must also add the first aerial bombing by the Bulgarians in the Balkan wars in 1912-1913, and the first air warfare conducted by the French in the skies of Morocco in 1912. Moreover, contrary to a deeply-rooted belief, at the beginning of the Great War, the French Chief of Staff did not privilege reconnaissance flights nor prioritise using airplanes for regulating artillery fire. Rather, he endeavoured rather to develop bombing to strike and disrupt the rear-guard of the Germans. Finally, there were many illusions about the production capacity of the US, which can be found in several memoranda written in 1917 by the Italian colonel Giulio Douhet, a fervent supporter of strategic bombing (which he would have liked to see the Allies practice systematically and on a large scale). These illusions also influenced French governmental circles as at the same time, the President of the Council Alexandre Ribot supported a project to have the US manufacture thousands of aircraft. Yet the American factories were not up to the task because of a lack of adequate tools, of trained workers, and of mastery of the increasingly sophisticated technologies developed by European aircraft manufacturers.

- 3 Secondly, comparing the French and Italian situations has brought to light the relations, the similarities, as well as the differences concerning the development of these countries' military aviation during the Great War. On the one hand, France's initial advance in technology and production was maintained throughout the conflict. This was due to its denser industrial fabric and undeniably superior capabilities in the field of innovation, such as SPAD's fast and manoeuvrable fighter planes. France also had the first plane with propeller-synchronized machine guns, successfully used by the famous Roland Garros pilot in April 1915, then improved upon by Dutchman Anthony Fokker for the Germans after the French 'Ace' Garros was forced to land behind enemy lines. On the other hand, let us not forget the Italians' great ingenuity in producing, adapting and modifying the French fighter planes that were imported or manufactured under license in Italy. Moreover, the Italians had a remarkable capacity to develop their own models of bombers, namely the big three-engine plane by engineer Gianni Caproni. Thanks to this exercise of comparing and contrasting, we also noted the absence of any real air power theorist in France, as opposed to the influential theorisation (notwithstanding exaggerations and excessive dogmatic rigidity) of the Italian Giulio Douhet, universally considered, and rightly so, as the main air power strategist.
- 4 Thirdly, the creation and the early developments of military aviation were tantamount to an exhausting and never truly finished attempt to reach the delicate balance between empiricism and theory. The results of experiments carried out in laboratories, in workshops and on airfields had to be reconciled with the needs and requirements of the head of the military. They also had to be balanced with the budgetary and logistical demands of industrial production schedules agreed to by the political authorities, in consultation with aircraft manufacturers, engine manufacturers, suppliers of raw materials and intermediate goods, and manufacturers of aviation accessories.
- 5 This was the reality of operations, with the military of both countries having early on recognized and understood the usefulness of the air force in war, and not only tactically. This early interest in the war potential of emerging aviation naturally led to the creation and rise in power of the Italian *Corpo aeronautico*, illustrated by General Inspector Basilio Di Martino, as well as French military aeronautics.<sup>1</sup>

- 6 This balance between theory and practice was also the case with industrial production, with the rapid conversion of many factories into aeronautics, such as Michelin and FIAT. They combined production of aircraft and aircraft engines with their traditional tire and motor vehicle manufacturing, notwithstanding the shortcomings of a largely business-oriented management in the sector, such as pressure to produce and the fierce competition of the main industrial groups.<sup>2</sup>
- 7 As for the people involved, Sylvain Champonnois and Fabio Caffarena have shown how the selection and training of pilots oscillated between empirical practice - dictated by the need to have a large number of men graduate from the schools able to fly to replace the high losses in wartime and to respond to the exponential growth of military aviation - and efforts to codify and evaluate the psychophysical skills of flight personnel using procedures developed and tested according to rigorously scientific methods.
- 8 The same was true in terms of aviation doctrine, as revealed by the process of adapting French military aeronautics to operational requirements, which certain officials - Chief of Staff Joffre and Colonel Barès first, then General Pétain and Colonel Duval - gave a decisive boost by personally contributing to the preparation and intensification of air warfare operations.<sup>3</sup> This tension between theory and empiricism was also at the heart of the debate provoked by the Douhet's theory of strategic bombing. We have shown that his work as author of *Il dominio dell'aria* cannot be equated with any of the two great classical currents of nineteenth-century military thought - Jomini and Clausewitz. His work offered a genetic theory of war, which was certainly fascinating at the strictly conceptual level, but too axiomatic and dogmatic to be fully applied in operations. These characteristics explain both the great interest shown in French military circles for Douhet's thought - known mainly through the work of Colonel Paul Vauthier, author in 1935 of the volume *La doctrine de guerre du général Douhet* - as well as the heated discussions about the validity of his ideas.<sup>4</sup>
- 9 The thorny question of the synthesis between practice and theory was still present at the demobilization of military aviation and the first steps of civil aviation in the immediate post-war period. While political and administrative obstacles disrupted the demobilization of

the personnel of the *Corpo Aeronautico* and hampered the development of air travel in Italy - the first civilian line was not inaugurated until April 1, 1926 - in France, by contrast, a remarkable program of aeronautical organization (the Saconney plan) created a network of modern airfields.<sup>5</sup>

- 10 From this bi-national comparison, logically, the need to further deepen research on both sides of the Alps has come to light, along with the wish that some of the most important archives may finally be opened to consultation (especially the collection of the documents of engineer Gianni Caproni, currently being sorted by the Museo Aeronautico Caproni de Trento, where they are held). Moreover, this conference and its exchanges led to the desire to promote cooperation between organizations that conserve our aeronautical heritage (such as the very recent network of Italian aeronautical museums and the Air and the Space Museum at Le Bourget) with academic institutions such as universities and flight schools in both countries.

## NOTES

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- 1 For France, see C. Carlier, 'Le origini dell'aeronautica militare francese', in E. Lehmann (ed.), *La Grande Guerra aerea. Sguardi incrociati italo - francesi* (Rome: Difesa Servizi SpA - Edizioni Rivista Aeronautica, 2017), 34-40.
- 2 G. Aubagnac, A. Champeaux, C. Tilatti, 'La produzione aeronautica francese durante la Grande Guerra', in E. Lehmann, *La Grande Guerra aerea...op. cit.* 72-81; A. Mantegazza, 'Ali per la guerra. Lo sviluppo dell'industria e della tecnologia aeronautica in Italia', *ibid.* 42-71.
- 3 M-C. Villatoux, 'Dottrina e impiego operativo dell'aviazione militare francese', in E. Lehmann, *La Grande Guerra...op. cit.* 100-06.
- 4 M. Schiavon, 'La scoperta delle idee di Douhet in Francia e il loro impatto sulla dottrina francese nel periodo tra le due guerre', *ibid.* 134-41.
- 5 A. Ungari, 'L'aviazione italiana dal 1919 al 1923. Dalla smobilitazione alla costituzione dell'Arma Aerea', *ibid.* 144-62; D. Berthout, 'Smobilitazione e nascita dell'aviazione civile in Francia', *ibid.* 164-73.

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