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TEXT

To conquer command of the air means victory; to be beaten in the air means defeat and acceptance of whatever terms the enemy may be pleased to impose.

General Giulio Douhet, 1921

1. The starting point

- 1 In the second half of the 1920s, the existence of the *Regia Aeronautica* as an independent service was no longer at stake. Instead, debate revolved around the role of the air force as such, and was deeply rooted in the experiences of World War One. At the time, military aviation was an integral part of the army and had developed to assume a number of tasks closely related to ground operations ranging from tactical reconnaissance to artillery spotting. Meanwhile the very existence of a more and more effective bomber force had suggested that an Air Armada could conduct operations with strategic objectives. In Italy this idea had vociferous advocates in General Giulio Douhet,¹

and in Gianni Caproni.² Their view that the air constituted a third dimension with its own set of rules was the propelling force behind the establishment of the *Regia Aeronautica* in 1923. Having an independent air force implied the need to define its role and its relationship with land and naval forces, and this became a doctrinal problem that was to be addressed while laying the foundation of the new service. To understand what was going to happen over the next twenty years, the concept of a doctrine has to be defined. Indeed, the creation of doctrine is a living and continuous process that uses both the lessons of the past and the opportunities provided by the present. This means, firstly, the exploitation of existing and developing technology. On the other hand, a doctrine is not a set of rules resulting from the analysis of past conflicts combined with an appreciation of what technology can offer. Instead, it represents the very essence of an organization; it summarizes its cultural dimension; and it underlines its “domain competence”. A doctrine identifies the guidelines for the build-up of the operational instrument; defines the frame for its use in combat at all levels of war; and sets the way to conduct training, in accordance with the basic principle “train as you fight, fight as you train”. It is the core element of the type of response an air force – but also an army or a navy – will give when summoned into action.

- 2 From 1923 to 1926, the *Regia Aeronautica* was mainly concerned with recruiting, staffing and organizational issues, so it was only with the appointment of Italo Balbo as Undersecretary at the Air Ministry on 6 November 1926 that the problem of doctrine was taken into account. Balbo, whose main aim was to further strengthen the status of the air force, paid particular attention to Douhet’s ideas. This said, while these ideas were put to the test, and were to be the dominant vision in the following years, they were never translated into an official doctrine.³
- 3 The imperative at the time was to take the war direct to the heart of the enemy homeland and population in the firm belief that offensive air power through the form of bomber aircraft would dominate future wars to the extent that it alone could decide the outcome. Douhet’s strategic bombing theory challenged the preeminent role of armies and navies, and his central thesis was unequivocal:

To conquer command of the air means victory; to be beaten in the air means defeat and acceptance of whatever terms the enemy may be pleased to impose.⁴

- 4 This thesis came with two supporting statements:

In order to assure an adequate national defence it is necessary and sufficient to be in a position, in case of war, to conquer the command of the air.

[...] All that a nation is ready to do to assure her own defence should have as its aim procuring for herself those means which, in case of war, are suitable for the conquest of the command of the air.

- 5 Accordingly, Douhet concluded that air forces were destined to become the dominant service, and therefore they should gradually be strengthened at the expense of the others. Because of the aircraft's range, speed and unparalleled striking power as well as its ability to create fear and panic amongst enemy populations Douhet believed that it was logical to target urban centres and national infrastructure. The aim was to cause the maximum damage in the shortest time and plunge the enemy into terror and confusion. This occurred especially if incendiary and chemical weapons were used in addition to high explosives, and when they were used in such a way that the enemy's will to fight was destroyed. Air power had thus added a new dimension to warfare: a dimension which emphasized the advantages of going on the offensive and would allow swift, crushing outcomes. This quite radical view appealed to those who advocated the setting up of an independent air force. However, up to 1926 it was just one out of many, and by no means was it accepted without questions.
- 6 Captain Gian Mario Beltrami does not mention Douhet in *L'Aeronautica Militare e la guerra terrestre*⁵ despite his aim to address the problem of the use of the air force through a synthesis of the different solutions proposed. According to Beltrami, the enormous implications connected to the arrival of aircraft did not mean a total transformation of the phenomenon of war, and neither could it cancel or minimize the importance of land and sea forces. The effect had to be a gradual evolution, moving from direct cooperation to a kind of indirect cooperation:

In both cases, the forms in which air activity is performed to the detriment of the enemy are the same, the difference being only given by the different “depth” and “intensity” of that bombing action in which it consists.⁶

- 7 Inside this scenario, the bomber squadrons played a central role under the direct control of the Supreme Command and were intended as an air armada capable of effective indirect cooperation provided they had the numbers, the bomb load and the range. According to Beltrami indirect cooperation should have consisted of wide-ranging offensive operations against “the most vital and vulnerable targets, both from the material and morale point of view”. This was in order to have a decisive effect on the outcome of the conflict. However, his prevailing view remained that of an army cooperation-oriented air force, and in this regard, he was concerned that a wrong approach to the concept of independence in the *Regia Aeronautica* could jeopardize the overall performance of the military instrument.
- 8 For at least two years, the *Rivista Aeronautica*⁷ almost ignored Douhet and even hosted some rather critical articles on his theories and the concept of the air domain itself, believing it to be too absolute and not practical.⁸ Similar opinion was expressed on 24 April 1926 by the army general and member of Parliament Nicola Vacchelli. In presenting the budget of the *Regia Aeronautica* to the Chamber of Deputies, he called Douhet’s vision “a dream of fantasy”.
- 9 Things changed with Balbo’s appointment and Douhet became the unofficial prophet of Italian air doctrine. It has to be stressed, however, that Balbo had very limited personal contact with Douhet and that although he was familiar with Douhet’s theory and approved its key concepts, he was definitely cautious in accepting it as an official doctrine and was quite open to other ideas.⁹ Balbo’s main goal during the seven years he was in charge of the Air Ministry was to consolidate both the identity and the independence of the *Regia Aeronautica*. This is where his reverence for Douhet was also instrumental to this project. By focusing on mass raids to strengthen the image of the service and define a higher standard of training, at the same time and for the same purpose, Balbo pursued a policy that pointed to the need to operate within the frame of a continental strategy on the hypothesis of a war with the neighbouring nations and mainly with France.

- 10 At a time when the army and the navy were also redefining their role and structure, the budget that was required and the limited availability of resources resulted in a more and more radical inter-service confrontation to the detriment of a true joint approach. Meanwhile the law of 6 January 1931 reduced the aviation component of both the army and the navy to a tactical reconnaissance role in order to concentrate men, aircraft and equipment in the “Air Army”.¹⁰ Such an approach was certainly consistent with the “Douhetian” vision that the national defence system should be transformed, providing the existence of the conceptual element to modify the existing balance between the services and the allocation of financial resources. It should be noted that in Douhet’s *La Difesa Nazionale* – a study published in 1923, soon after the Royal Decree n. 645 of 28 March¹¹ – stated that the definition of the defence budget was dependent on foreign, domestic and economic policy considerations and, therefore, there could be no pre-established solution.¹²

2. The great manoeuvres of 1927

- 11 The relationship between the *Rivista Aeronautica* and Douhet was to become very strong in the context of a doctrinal debate that was both internal and external to the air force. Such a relationship began in December 1927 with an article significantly entitled *L’armata aerea*, and it was to continue until 1930, when *La Guerra del 19...* was published posthumously a few weeks after Douhet’s death. The *Regia Aeronautica*, however, did not translate these ideas into an official document so to understand how much they were truly embraced by the service – beyond the façade claims that reaffirmed their centrality – we have to analyse the themes of the great manoeuvres of those years and to examine the statements of their leading players.
- 12 A first attempt to assess the feasibility of some solutions was done even before the *Rivista Aeronautica* opened its pages to Douhet with the great manoeuvres carried out in the summer of 1927. These took place in Veneto from 16-20 September based on the hypothesis that there would be war between Italy and Yugoslavia. For the first time, the air force would operate independently from land forces as emphasised by chief of staff of the *Regia Aeronautica*, General Armando Armani, during the initial conference in Padua on 15 September 1927.

On the other hand, Armani did state that the concept of the autonomy of the air force was always to be seen as an albeit indirect contribution to a common effort:

We do not mean, as sometimes happened in the past and still happens today, that the operations of the Air Armada are out of the overall picture of land and naval warfare, but only that, rightly framed within such a complex plan, they can develop with rational, ample freedom of action, to concur, in their new and powerful expression, most of the time indirectly, to the success of land and sea operations.¹³

- 13 The goal of the manoeuvres was to test existing capabilities so they were designed not as a direct confrontation between two opposing parties and judged by umpires, but as a sequence of single acts of air warfare from which lessons could be drawn. Given this approach, the manoeuvres proposed little new. Indeed, if we exclude the opening act with the simulated bombing of the Aviano airfield that underlined the validity of a pre-emptive attack on the sources of enemy air power, all they did was to highlight themes that were well known since the end of the Great War. Even the attempted ground-skimming attack on 19 September by 32 BR.1 of the 13th Wing (also against the Aviano air base) resulted in a low altitude rather conventional flight profile. This exposed aircraft to ground fire and explains the doubts about this type of attack. While continuing to test its practicability, the decision was to adopt this solution only in exceptional situations. This conclusion did not meet Lieutenant Colonel Amedeo Mecozzi's agreement. Effectively, as a World War One ace who had promoted this kind of tactics in an article published by *Rivista Aeronautica* in June 1926, Mecozzi advocated that ground-skimming attacks were different from those made at low altitudes and, therefore, required specific solutions for both aircraft and armament:

To me ground-skimming flying does not involve diving and climbing manoeuvres, except to overcome obstacles which, on the contrary, can be used to mask oneself from anti-aircraft fire. The offensive weapons of the ground-skimming flying are the machine-gun and the bomb, but the single-seat aircraft, the typical fighter, is inherently incapable of performing this kind of attack, since to make use

of the machine-gun it must abandon the skimming profile, and to make use of the bomb it has not a wide enough field of view [...].¹⁴

- 14 Compared to horizontal high-altitude bombing, ground-skimming generated surprise, increased the precision of bombing and resulted in a reduction in the number of aircraft needed to achieve the desired result. Mecozzi concluded that the test performed during the great manoeuvres in Veneto was not significant and that it only served to confirm the absolute peculiarity of this method of flight.¹⁵ Mecozzi's concepts contrasted starkly to notions put forward by Douhet. He believed that strategic bombing alone could not determine the outcome of a conflict, and that due to Italy's limited resources a large bomber fleet was not realistic. Mecozzi supported the idea of a more balanced air force made up of fighters, medium bombers and "assault" aircraft, able to achieve local air superiority and to deliver accurate strikes against individual targets through assault tactics. In his view, assault pilots had to train in the *volo rasente*, ground skimming at 50 meters altitude as well as in low-angle diving attacks. He advocated a tactically oriented air force that was more focused on supporting the army and the navy but had the ability to strike also at point targets of strategic importance, without resorting to any kind of area bombing.

3. The "Douhetian" experiment of 1931

- 15 Rather than solving the doctrinal problem, the great manoeuvres of 1927 verified the level of preparation of the squadrons and the operational validity of aircraft and equipment. Coming a few years after the birth of the *Regia Aeronautica*, they can be considered as a starting point based on the founding experience of the Great War. A further step forward was planned in 1928 with in-depth analysis of the solutions tried in the previous year. However, the lack of aircraft limited the scope of the manoeuvres to the preliminary phase of gathering forces, then led to the cancellation of the manoeuvres altogether and reverting to command posts exercise only.¹⁶ The analysis of the intentions of the two opposing parties highlights both the importance given once again to a pre-emptive counter-air offensive and the con-

fidence in the “counter-value” use of the bombers, to strike at the enemy’s will to fight: both were based on the hypothesis of an air domain conquered and maintained through the use of the fighter arm.¹⁷

- 16 The state of readiness of the squadrons, and the level of serviceability of aircraft, also affected the conduct of the training activities planned for 1929. Command posts exercise organized between March and April prepared for war with France, and the outbreak of hostilities preceded by a short period of growing tension. In such a context, massive and repeated day and night raids were planned against enemy air bases followed by the bombing of the road and railway junctions of the region between Lyon and the valley of the Rhone and the border with Italy. No form of cooperation with ground forces was considered, and this stretched the concept of autonomous air operations to its limit. In truth, the leadership of the air force was well aware that the poorly equipped and understaffed bomber squadrons would have been in some difficulty to strike with the required continuity at targets such as Lyon, Toulon and Marseille. The politically and economic centre that was Paris remained, meanwhile, out of reach. The manoeuvres that took place on the coast of Tuscany from 29 August–2 September 1929 comprised of an inter-service cooperation whereby an invasion force would land, but the focus would soon return on air force independent operations. “Douhetian” ideas had become central and the 1931 manoeuvres were the first and only ones thoroughly designed to prove their validity through the mass use of all the aircraft available in a scenario that gave also substance to the aero-chemical threat.¹⁸

- 17 On April 29, Balbo presented the yearly budget of the *Regia Aeronautica* to the Chamber of Deputies. He reiterated that in future conflicts the air force would be the decisive weapon and the nation defence would depend primarily on its offensive power, but he admitted that a doctrine of air warfare did not yet exist, due to a lack of experimental evidence. Therefore, Balbo announced a great exercise, intended to test existing ideas, including the idea of assault aviation:

For a long time, I have been a strong supporter of the idea that in future conflicts the decisive action will be entrusted to the air force. I am also convinced that the task of protecting the country is reserved to its offensive effectiveness, more than any active or passive de-

fence, but, as I said elsewhere, no doctrine exists because no precedent exists, and must be created. I have therefore prepared for next August important exercises with opposing parties, which will constitute the largest experiment in handling large air units so far attempted. [...] We will be able to test mass flight and combat formations, attacks in successive waves on fortified cities and industrial and demographic centres, strikes against the vital points of an operating army, destruction of airbases, ground-skimming and horizontal high-altitude actions.¹⁹

18 The spectrum of possibilities to explore was very broad, and so was the spectrum of ongoing procurement programmes. This was the inevitable consequence of a plurality of specializations that was certainly not in line with the ideas of Douhet. He would not have been pleased to know that while industry was studying new aircraft types for the army and navy auxiliary aviation, the funding to start mass production of a large bomber was not available.²⁰

19 The great air manoeuvres that took place in Northern Italy from 26 August to 3 September involved 69 squadrons organized in two air divisions for a total of 894 aircraft, and required months of preparation with intensified construction and repair activities to bring the squadrons to full strength. This scenario had Italy, which was already at war with Yugoslavia, attacked in the West by France. Hence, the air force had the task of protecting industrial and demographic centres from the opposing aviation in order to give time to the army to reorganize according to the new situation. The available squadrons were accordingly divided into two parties: one projected to conquer the domain of the air and to exploit it by attacking “value” rather than “force” targets whereas the other was committed to contain and neutralize such offensive action.²¹ The lack of any involvement of the other two services emphasized the purely aeronautical character of these great manoeuvres aimed at verifying the ability of the air force to decide the outcome of the conflict with a powerful and decisive action in the first week of war. In this scenario, one force comprised of fighter squadrons and bombers was tasked with defensive operations while another would attack the vital ganglia of the enemy in order to reach a swift conclusion of the conflict. This conformed absolutely to Douhet’s theories.

20 The attacks against city-type targets were to be prepared by a counter-aviation campaign, so conforming to the assertion that “the air war consists and ends in the conquest of the air domain”.²² In the setting of the exercise, this was taken for granted with consequent freedom of action for the attacking forces.²³ In underpinning the destructive power of air attacks against cities with the simultaneous use of both explosive and incendiary devices, as well as the delivery of aggressive chemicals, the final act of the great manoeuvres of 1931 had a clear propaganda purpose. However, this should not lead us to forget the major goal of establishing the real effectiveness of bombing raids aimed at destroying the opponent’s will to fight.

21 In the October 1931 issue of *Rivista Aeronautica*, General Francesco Pricolo²⁴ stated that the 1931 great manoeuvres had confirmed the validity of the principle of mass. He also stated that the suitability of close formations to make it practicable despite the presence of a strong anti-aircraft artillery and an aggressive fighter arm. As for which targets to bomb, a question that was widely debated at the time, Pricolo again explained his position on the pages of *Rivista Aeronautica* in November 1932. Here, he identified the morale of the populations as the primary target to strike with all available means:

If the Air Force wants to achieve from the beginning impressive and perhaps decisive results, it must employ all its strength to hit with the maximum violence the most important cities, the industrial centres, the headquarters of the Government and the Command structure; in a word, it must prostrate the enemy nation with terrorist effects, and destroy the nerves of people with the continuing nightmare of bombing.²⁵

22 Balbo’s conclusions were less peremptory. In April 1932, first in the Chamber of Deputies and then in the Senate, he recalled the experience of those now famous manoeuvres to reaffirm the role of the air force and the need to grant it all the resources required to confront successfully the neighbouring countries across the Alps. However, he still left open the problem of the construction of a doctrine for air warfare, which required further experimental evidence:

This not only must take into account the mobilization of the required manpower, but also the industrial mobilization, the use of large

masses of aircraft, their redeployment from one field to another with all the relevant complicated ground services. Only from this kind of experiments a doctrine can be developed, which we are carefully and scrupulously doing.²⁶

- 23 Balbo's attitude, together with some of his future initiatives,²⁷ confirms that he was considering all suitable options and his commitment to Douhet's theory was far from complete. Such a commitment was loudly expressed at political level, and was a popular propaganda theme, but for most aviators in the early 1930s it was more for show than for real. It has been stated that the regime was fully committed to Douhet and the doctrine of strategic bombing, as an Italian idea expressing the spirit of the Fascism,²⁸ but the financial resources and the technology were not available, and the incoming wars were not going to make things easier.

4. The great manoeuvres of 1934 and the "quick course war"

- 24 The great manoeuvres of 1931 were supposed to confirm Douhet's theories and the decisive role of the *Regia Aeronautica* in a context of independent air operations, and somehow they did but perhaps not surprisingly, the counter-city theme was no longer proposed. Perhaps this was a consequence of the exceptional nature of the considered scenario. It took for granted the domain of the air, and rested on an unrealistic assessment of the existing and predictable capabilities. In 1932 there was no major exercise but only a token participation of the *Regia Aeronautica* in the September naval manoeuvres. The command posts exercise carried out in the spring of 1933 in a hypothetical conflict that had Italy and Germany against France and Yugoslavia had a more conventional approach, although the principle of the autonomy of air force operations was maintained. Priority was given to counter-aviation and strategic interdiction, but the possibility of bombing the enemy's cities was not ruled out, if it could provide decisive effects. Multiplying the possible lines of action resulted in a fragmentation of the available forces, dispersed among several objectives without any relation between the desired effects and the bomb load of the aircraft, in an open violation of the principle of mass

and with a fundamental uncertainty about the scope that these operations should have had. As far as the assault aviation, it was the ideal weapon to strike at point targets, such as bridges and power plants. However, it was also a weapon to use only in special cases, owing to the risks associated with ground-skimming attacks and aircraft characteristics, which were the result of a compromise between the performances required from a fighter and those of a bomber. Finally, the support to land forces on the battlefield was limited to specific situations, to exploit success or to contain a breakthrough of the enemy, without a “system” of instruments and procedures to ensure effective air-to-ground cooperation and a proper integration of efforts.

- 25 The lack of a formal doctrine went hand in hand with the dissatisfaction with the scarcity of the available resources and the prevalence of visions anchored to the past, that were considered to affect adversely the growth of the air force. In the last of his yearly budget speeches, on May 3, 1933, Balbo, although projected towards the imminent Atlantic massive flight, *Crociera Aerea del Decennale*, wanted to emphasize this aspect and remarked that elsewhere, even in traditionalist France, investments in aviation were constantly growing, and the theories about its use in war were increasingly inspired by Douhet's ideas. There was therefore a risk that Italy, while having indicated the way, would fall behind nations readier to grasp the true meaning of aviation:

[...] while the theories on the predominantly aerial character of the future war have been announced for the first time in Italy, taught in Italy and documented in Italy, only abroad they have found fervour of convictions and plenty of means that allow their rapid application, while sometimes we have been the subject of sceptical controversy, of incredulous behaviour, despite the fact that with their actions Italian aviators have given the measure of the possibilities not only of tomorrow, but also of today. [...] Should we then romantically repeat the Virgilian *sic vos non vobis*, and be satisfied with the modest pride of having taught others the truth, without taking advantage of it ourselves?²⁹

- 26 In Balbo's words it is certainly possible to perceive the regret for an unfinished project that he tried to push forward in September and which advocated a reorganisation of the armed forces. The army

would be smaller but fully mechanized, and the budget for the air force would be equal to the budget for the navy since both had to be strengthened.³⁰ Furthermore, there was to be just one Ministry of Defence instead of a separate ministry for each branch of the services, and the Chief of General Staff was to have full power. In presenting this paper to Mussolini, Balbo was also aiming to become the new Chief of General Staff while hoping to be able to complete his program. He had not considered that the worldwide popularity gained with his mass transatlantic flights had made Mussolini more and more suspicious and jealous. Moreover, he had underestimated the power and the resilience of the military establishment that could not accept such a radical change and deep in heart considered Balbo a parvenu. On 5 November 1933, Mussolini informed Balbo of his assignment as governor of Libya meaning that Balbo would have to leave the Air Ministry. Like the War Ministry and the Navy Ministry, the Air Ministry was taken over by the Duce himself.

- 27 Despite the official declarations and statements about the autonomy and independence of the *Regia Aeronautica*, the “Douhetian” vision remained confined to the background in the great manoeuvres of 1934. These were the most important of the post-war period in that they were organized to give a demonstration of the level of efficiency achieved in just over a decade by the armed forces of fascist Italy. Conceived in an air-land dimension, they took place in the second half of August at the border between Tuscany and Emilia. The proposed theme was the conflict between two states divided by the Apennine ridge. The first of the two planned phases was the gathering and the deployment of the opposing forces while the advanced elements of both parties tried to improve their positions in order to facilitate the task of the follow-on forces. Subsequently, the better positioned of the two should have taken the initiative with the aim to break through the lines of the enemy and spread into its rear areas. In the meantime, in order to test the organization of civil defence, on both sides the populations would have to adopt the necessary precautionary measures. The overall goal was to test the new tactical doctrine of the army that was inspired by movement and manoeuvring. Both sides based their action on these principles, aiming to resume the initiative as soon as possible and meanwhile conducting a dynamic and mobile defence.³¹ The air force played a supporting role

totalling about 2,000 flying hours and carrying out intense reconnaissance, bombing and ground attack operations. However, Air Division General (Major General) Francesco Pricolo³² gave priority to the independence of the air force, and to operations targeted against the enemy's morale and fighting power, over providing support to the army. This, he considered, was a secondary role. Pricolo was in fact to underline that the true essence of the air force, and its reason for being, were those brought to light by the great manoeuvres of 1931:

It was proved then, with the use of the whole mass of bombers and fighters divided into two opposing parties, what the real possibilities of an independent air force were, possibilities that were still not foreseen or believed by many. With the clear evidence of the facts, the real value of the new, bold, very Italian doctrine about the air force was affirmed and confirmed, and it is now well understood that the air force can and must be used, in the general framework of the war, in powerful actions against those important objectives that up to yesterday were considered immune from any offence. Due to their logistic, strategic, demographic value, their productive capacity, their nervous sensitivity, so to speak, if they are hit with the lightning-fast violence of the modern and aggressive bombing units, they could cause clear effects of material, and above all moral disintegration, in the whole Nation, [...] this has led to the establishment of a solid war organism that would be erroneous and dangerous to employ in actions of modest radius or against targets on the front, while targets of much greater importance and vulnerability can be hit hundreds of kilometres in the interior of the enemy nation, with immediate advantages, enormously more important for the solution of the conflict. The training of our Air Force units was therefore directed towards achieving these goals, avoiding their use in fragmentary and multiple actions, which return to the detriment of the massive offensive capacity.³³

- 28 Never the less, the great manoeuvres of 1934 were an experiment from which to learn. In fact, a consistent portion of the air force was used in direct support of land operations, to crush the opponent's last resistance or to contain the extent of a defeat, in this way confirming its flexibility and adaptability to the most diverse circumstances:

This is indeed one of the most unique and important characteristics of the Air Arm which, free from any space constraint, can in turn bring its offensive power to the most profitable target for the overall success.

- 29 From the doctrinal point of view, the great manoeuvres of 1934 were an anticipation of the concepts expressed in the *Directives for the employment of the Major Units*, conceived and largely written by Corps General (Lieutenant General) Federico Baistrocchi. Undersecretary of War since July 1933 and Chief of Staff of the Army since 1 October 1934. Along with General Francesco Saverio Grazioli, Baistrocchi was one of the leading exponents of the so-called “modernists”. They envisaged the need to build a new army on new foundations, favouring quality over quantity, with a highly mechanized core element suitable for a war of movement. In the only truly doctrinal document published in the inter-war period, Baistrocchi affirmed the need immediately to take the initiative and to build up the necessary superiority of forces at the most suitable point for a breakthrough. In doing so, the war would be carried into enemy territory. Furthermore, there could be no more room for a war of attrition. In re-proposing the scenario of World War I, it would have been incompatible with the Italian reality, even if it had ended victoriously:

[...] a war of position that seeks, and even achieves, victory through the opponent's slow and progressive crumbling, would both in materiel and in moral prostrate a nation like ours, rich in men but poor in raw materials.³⁴

- 30 Baistrocchi's directives designed a modern operational army, but to succeed it would have been necessary to support the effort of mechanization with resources that were not available.
- 31 As far as the *Regia Aeronautica* was concerned, the content of the 1935 directives was consistent with the prevailing vision within the service. It conceded that the mass of the air force should be oriented against strategic objectives within the enemy territory and that this had precedence over all types of direct support to the Army:

The intervention of the air arm [on the battlefield] is subordinate to the other tasks that it performs independently, but that indirectly

also influence the operations of the army for the purposes of the common victory.

- 32 It was for the Supreme Command to determine when and where an air force fraction should cooperate with the ground forces, striking in a violent and sudden way at the enemy's centres of movement and life. However, there was no mention in the directives of any kind of direct cooperation with the armoured units, which, in proposing an Italian version of the aircraft-tank combination, would have made possible to compensate for their insufficient firepower.³⁵

5. Lost opportunities: Ethiopia and Spain

- 33 The operations in East Africa during the so-called "seven-month war", from October 1935 to May 1936, and the colonial police operations of the following years, had the *Regia Aeronautica* supporting the army with reconnaissance, bombing, transport and liaison missions in a scenario void of targets that could justify an independent and "against value" use of the air power. Instead, an air-land system was created, with an integrated chain of command, and this placed aerial forces under the operational control of the regional commander, proving to be extremely effective. In Ethiopia, inter-service cooperation was perfect because the command was unified and relied on an efficient system of communications, allowing to exploit the superiority granted by the undisputed use of air power in a war of movement.³⁶ However, this scheme, which re-proposed in a very different geographical environment and with scaled-up resources the sort of solutions already implemented in Libya between 1927 and 1931, was not developed. It remained confined to the colonial sphere for the very reason that it was in contrast with the absolute dogma of air force independence. The lessons learned about aero-cooperation were not duly exploited, with the consequence that aero-cooperation remained a confused subject and the problem of tactical control of the air units tasked to support the army was never really solved during World War Two.
- 34 In Spain, the Italian Air Force made a major contribution to the war and performed very creditably. While it was able to acquire and

maintain the required level of air superiority, it primarily provided battlefield interdiction and close air support. The *Aviazione Legionaria* practised them widely and effectively with reliable and very manoeuvrable aircraft such as the CR.32, and with specifically designed ground attack aircraft such as the sturdy Ba.65. In spite of positive results and the propaganda effort which came with them, these tactical duties were carried out without too much enthusiasm and most of all without seizing the opportunity to develop techniques and procedures for a truly integrated air-land system. In the highest echelons of the air force - but also in the middle ranks - there was a widespread concern that by going along this path the air force would become an army branch to the detriment of its independent status.³⁷ Together with the losses that came with low-level attack profiles, this feeling contrived to downplay tactical missions and to focus attention once again on the strategic level of air power.

- 35 In Spain, unlike Ethiopia, most targets for bombing lay outside the battlefield, railway installations, road junctions, industrial estates and harbour facilities. The most significant of these raids (which were outside the tactical dimension and more in line with the vision of the *Regia Aeronautica*) were carried out mainly by the three-engine SM.79 bombers of the 8th Wing, the Balearic Falcons. Based in Majorca, and never deploying more than thirty aircraft at a time, they repeatedly attacked the port facilities of Barcelona and the ships at anchor. The 16 incursions registered between 10 January and 15 March 1938 caused damage and death in the city. This was inevitable, given that the bombs were released at an altitude close to 6,000 meters and given the poor precision of bomb-sights. In some way, this should not be seen just as collateral damage since Barcelona was an important population centre and bombing could also be intended to affect its morale. This was precisely the goal of the last three raids on 16, 17 and 18 March in which 44 tons of bombs killed 550 and wounded 989 in an attempt to put into practice the theories on the strategic bombardment and the decisive use of the weapon of terror.³⁸ The campaign was halted due to political considerations and was not resumed. Nevertheless, the wrong conclusions were drawn: while refusing to acknowledge that the bombardments over Barcelona had no lasting effect, the Air Force blamed the unsatisfactory result on the political unwillingness to conduct a terror campaign for

long enough to achieve the desired results. Furthermore, nobody considered that a relatively small fleet of medium bombers was not the weapon of choice for such a strategy.

- 36 The effectiveness of area bombing carried out with medium bombers was just one of the erroneous conclusions about how to respond to the changing nature of modern aerial warfare that were drawn from the Spanish Civil War. As for ground support and interdiction, pilots experimented with bombing attacks at low altitudes in accordance with Mecozzi's air assault theories achieving greater accuracy, but increasing the risk of damage from anti-aircraft fire. Medium bombers were therefore restricted to horizontal attacks made in formation at high altitude that were considered to result in adequate damage to a target at much lower risk. Nonetheless, since payloads had to be limited to 1,000 kg in order not to affect aircraft performance, this mode of action resulted in an inaccurate dispersal of a relatively light bomb load. Another erroneous conclusion was the steadfast commitment to high manoeuvrability dogfight tactics. Italian pilots achieved with their biplanes a far higher kill ratio than their foes, and this gave the biplane fighters a level of attention that was unrealistic for future air warfare. They did not understand that the CR.32 was the last hurrah for the agile biplane, and high manoeuvrability tactics continued to be taught even if it was to be soon clear that low-wing monoplane fighters could not be handled in combat in the same way.
- 37 One lesson from the Spanish Civil War was the need for better navigation training. The instrumental navigation school established by Balbo in 1931 closed in 1936 and to fill the gap a new one opened the gates at Littoria (now Latina) in 1939. The intention was to train all bomber pilots in low visibility flying techniques, but the school closed again in June 1940, when Italy entered the fray. Even this lesson was lost, and the fate of the Littoria school is emblematic of a general tendency. The failure to understand the trend of future developments in air warfare, the trust in solutions based on wrong assumptions or dictated by a national industry that was falling behind the state-of-the-art and, last but not least, the attrition of two wars were the reasons for a sudden decline. Towards the end of the decade, this tendency accelerated due to the growing technological gap with air forces that from the rearmament of the 1930s had gained a new impetus for modernization.

- 38 Nothing changed with the great manoeuvres of 1937 in Sicily and 1938 in Libya. In both cases (as indeed for the 1934 manoeuvres) they were joint exercises with a supporting role given to the air force. However, the 1938 manoeuvres in Libya proposed an interesting experiment for air landing in the enemy's rear but it just gained lip service. It was considered another of Balbo's eccentricities and was not further developed.³⁹ Very little was done to properly address inter-service co-operation, and while a new war became imminent, the *Regia Aeronautica* was poorly equipped for both a continental and a Mediterranean scenario. Even worse, no clear doctrine was defined. Meccozzi's theory was to become a component of Douhet's strategic theory. Accurate strikes made by assault aircraft were simply a more efficient method to achieve air supremacy above a target or to complement horizontal high-altitude bombing. Since there was no effective assault aircraft, and the strike arm was a relatively small force of medium bombers that was unsuitable for both, the *Regia Aeronautica* was in a doctrine vacuum.

6. Uncertainty and lack of solutions

- 39 The dominant vision, at least in the official statements, remained strictly "Douhetian" as Benito Mussolini⁴⁰ reiterated in a speech in the Senate on March 30, 1938:

Our doctrine of air warfare was used in practice even before being taught by the chair. Stripped of all polemical passion, Douhet's vision appears to be that of a precursor. The war from above must be conducted to disrupt the enemy's organization, dominate the sky, weaken the morale of its people. The whole bombing technique has improved and therefore the possibility of hitting the target, even a moving one. The air war is destined to take on greater and greater importance in the wars of tomorrow.

- 40 A few days earlier, in presenting the Ministry's budget to the Chamber of Deputies, General Giuseppe Valle, Undersecretary of State for Air and Chief of Staff of the Air Force since Balbo's departure, echoed the same view. He challenged those foreign military critics who claimed that the events in Ethiopia and Spain had given a severe blow

to the theories of Douhet. On the contrary, Valle pointed out that in both cases the air force had played a decisive role. Therefore, those theories had gained new strength from those experiences, however incomplete they were, while their fundamentals remained firm:

It will never be enough to repeat that the frontal use of force, over land, at sea and in the sky, leads to a static attrition that extends the conflict indefinitely: that today the whole nation is affected by the tragedy of war, and that the more logical humanization of it consists in striving in every way to shorten its duration as much as possible, even if this result has to be obtained at a very hard price.⁴¹

41 Valle further developed these ideas in the special issue that the magazine *Rassegna Italiana* dedicated in 1939 to the *Regia Aeronautica*.⁴² In his view, the primary target of the air force was to destroy the enemy both morally and materially in accordance with the concept of integrated warfare. An essential requirement was the conquest of the air to be obtained by making the most of the surprise factor. Once this goal was reached, the air force had to conduct its war with a series of mass actions on “all the enemy territory in order to weaken the moral strength of the populations and dry up the major sources of life and production”. Precedence had to go to the destruction of moral forces “because they are the ones that give the tone to the conduct of the war”. In this perspective, even the actions not directed against purely military objectives acquired a military significance. The intervention of aerial forces gained its maximum expression in horizontal high-altitude bombing both on a strategic level and on a tactical level. Even the assault aircraft were to operate in the strategic field in order to integrate the action of the high-altitude bombers thanks to their being better able to create surprise and to pinpoint targets such as roads, bridges, tunnels and viaducts. This vision did not envisage any form of direct cooperation with the army or the navy and reaffirmed the decisive role of the bomber that could terminate a war in a quick and economic way by destroying the vital choke points of the enemy nation.

42 On the eve of World War II Douhet’s ideas were presented by Valle in their purest form. However, even then, they were not translated into a doctrine and were used mainly in the budget debate while competing with the other two services for a greater share of the financial re-

sources. Beyond the façade declarations, Douhet's theory of war had no practical consequences. This was due both to the characteristics of the operational instrument, given Italy's lack of heavy bombers, and to a Mediterranean strategic situation in which bombing was increasingly characterized as counter-force, *i.e.* directed against military targets that were inherently point targets and not area targets. At the same time, the new legal framework banned the weapon of terror and therefore the primary instrument to strike at the enemy's morale. Article 42 of the Italian "law of war and neutrality" (R.D. n.1415 of 8 July 1938) prohibited any bombardment "that has the sole purpose of hitting the civilian population or of destroying or damaging assets not having military interest". Furthermore, according to Article 51, it banned "the use of bacteriological, asphyxiating, toxic agents or similar gases, as well as liquids, materials or similar processes".

- 43 All these elements combined to design a framework that had very little in common with the scenario of the great manoeuvres of 1931 without, however, favouring a true inter-service, joint- approach. The emergence of a different orientation is evident in the ritual budget speech given in the Chamber of Deputies on 15 March 1940 by General Francesco Pricolo. He had succeeded Valle as Chief of Staff of the Air Force on 31 October 1939. Pricolo, who had been a staunch supporter of an independent and counter-city use of the bomber arm, presented instead a picture in which counter-force actions prevailed as part of a close cooperation effort with the other armed forces. He underlined the need to set aside the theoretical schemes and take note of reality:

The Italian Air Force will operate in solidarity with the Army and the Navy to the point of exhaustion, up to the last aircraft and the last pilot. The goal is common to all armed forces and they all work together for success. Naturally, the way to operate is determined by the characteristics of each force. The intervention of aviation in tactical actions cannot constitute the essence of the use of the air arm. [...] In this regard, we do not deny that certain statements about the effectiveness of air power have suffered in the past from excessive polemical heat, but, in the face of the devaluation that someone made then, it was necessary to reaffirm the role of the Air Force. [...] The air war does not allow to encapsulate it in *a priori* theoretical

schemes, because its forms depend on the changing circumstances and the evolution of the means.⁴³

- 44 Inspired by a concrete pragmatism, Pricolo's words opened new perspectives with a substantial renunciation of the dogma of independence. In the following months, the new chief of staff worked hard to reconfigure the Air Force in this sense, but his efforts clashed with the dynamic of a rapidly evolving situation and with basic shortcomings that could no longer be overcome in the time available. The prevailing approach had resulted in a continental-type strategy which targeted the demographic and industrial centres following a counter-aviation initial effort. However, the reality of the conflict required a Mediterranean-type strategy and proposed mainly force-type targets, i.e. military objectives such as ports, airports, depots, ships, vehicles and troops in the field. The available aircraft were inadequate for both scenarios and their actual capabilities had been much exaggerated while bombing was not as simple as Douhet had suggested. Rearmament programs were conditioned by the size of the aircraft industry, its expected rate of expansion, and the amount of money available to finance it. The rate of technical change was accelerating by the end of 1930s but Italy was lagging behind. One more problem was what to produce and the lack of a clear doctrinal approach did not help. In the end, the *Regia Aeronautica* went to war with aircraft designed for a multiplicity of roles without sufficient numbers or technology advanced enough to really fulfil them.
- 45 To address the problem of aero-cooperation, it would have been necessary to have not only a type of aircraft different from the medium bombers with insufficient defensive armament and limited range that formed the bulk of the attack fleet, but also well-established procedures and a solid air-to-ground control and command structure. Only in the late spring of 1943 when the outcome of the conflict was already in major doubt, was an attempt made to address this problem with a directive issued jointly by the army and the air force staffs.⁴⁴ The document stated that cooperation between the army and the air force was an absolute need in modern warfare in order to maximize both the offensive and defensive power of the military instrument. It was the only way to give "to the manoeuvre the continuity and extension required to obtain decisive results". However, the attention paid

to the procedures for aero-cooperation came too late, and it was too late to solve the doctrinal problem of the *Regia Aeronautica*.

NOTES

- 1 Since 1916, Douhet had been proclaiming the decisive influence of a massive bombing offensive against the Austro-Hungarian industrial infrastructure.
- 2 Caproni was a well-known aircraft designer and producer whose three-engine biplane had been the first effective bomber fielded in some numbers.
- 3 Douhet's *The Command of the Air* was published in 1921. It presented concepts that he had developed over the years including that the notion that strategic bombing its most powerful and influential expression.
- 4 G. Douhet, *Il dominio dell'aria* (Firenze: Scuola di Guerra Aerea, 1972), 30-31.
- 5 Published in 1924 by Captain Gian Mario Beltrami, former commander of a reconnaissance squadron in the Great War.
- 6 G. M. Beltrami, *L'Aeronautica Militare e la guerra terrestre* (Roma: Tipografia del Senato, 1924), 13-17.
- 7 A magazine first published in July 1925.
- 8 L. Bozzo, "Giulio Douhet e il Dominio dell'Aria: dottrina del 'potere aereo' o teoria della guerra totale?", in G. Douhet, *Il Dominio dell'Aria e altri scritti* (Roma: Ufficio Storico Stato Maggiore Aeronautica, 2002).
- 9 A. Pelliccia, *Il periodo epico dell'aeronautica 1923-1933* (Roma: Veant s.r.l., 1985), 7-8.
- 10 F. Botti, M. Cermelli, *La teoria della guerra aerea in Italia dalle origini alla Seconda Guerra Mondiale (1884-1939)* (Roma: Ufficio Storico Stato Maggiore Aeronautica, 1989), 305-306.
- 11 This decree was the basis for the forming of the *Regia Aeronautica*.
- 12 F. Botti, M. Cermelli, *op. cit.*, 338-339.
- 13 Ministero dell'Aeronautica, Ufficio di Stato Maggiore, 1° Reparto Operazioni, *Relazione sulle esercitazioni aeree*, Provveditorato Generale dello Stato, Roma, settembre 1927, Archivio Ufficio Storico Stato Maggiore Esercito (AUSSME), Rep. G-28, Fasc. 73, Campi e manovre.

- 14 A. Mecozzi, "Il volo rasente e le sue possibilità tattiche", *Rivista Aeronautica*, 6/1926.
- 15 A. Mecozzi, "L'offesa a volo rasente", *Rivista Aeronautica*, 10/1927.
- 16 G. Gangi, *Alla ricerca di una dottrina. Le manovre della Regia Aeronautica dal 1927 al 1933* (Quaderno: Società Italiana di Storia Militare, 1998).
- 17 B. Di Martino, "Le grandi manovre della Regia Aeronautica 1927-1934", *Storia Militare*, 8/2011.
- 18 B. Di Martino, "Un'ombra inquietante. Le armi chimiche dai campi di battaglia della Grande Guerra alle teorie sulla guerra aerochimica del periodo tra le due guerre mondiali", *I Quaderni della Rivista Aeronautica*, 2/2007.
- 19 I. Balbo, *La conquista dell'aria e la crociera atlantica* (Roma: Tipografia Camera dei Deputati, 1931), 40-41.
- 20 F. Botti, M. Cermelli, *op. cit.*, 548-549.
- 21 *Grandi Manovre 1931. Relazione conclusiva*, Archivio Ufficio Storico Stato Maggiore Aeronautica (AUSSMA), Grandi manovre del 1931.
- 22 G. Douhet, *Il Dominio dell'Aria, Libro Secondo*, 1932, reprinted by Ufficio Storico Stato Maggiore Aeronautica in *Il Dominio dell'Aria e altri scritti*, edited by Luciano Bozzo, Roma, 2002, 150.
- 23 *Grandi manovre 1931. Relazione conclusiva*, AUSSMA, Esercitazioni, Fasc. 5.
- 24 Pricolo was perhaps second only to Mecozzi as the most active writer on air warfare following Douhet's death in 1930.
- 25 F. Pricolo, "La difesa aerea di una grande città", *Rivista Aeronautica*, 11/1932.
- 26 I. Balbo, *La guerra futura e il senso della realtà* (Roma, Tipografia della Camera dei Deputati, 1932), 36.
- 27 In 1936 Balbo, who was governor of Lybia, established the *Battaglione Sahariano*, a joint army-air force battalion-size unit which included a motorized and an air component. Furthermore, in 1938 great manoeuvres south of Tripoli he pioneered an air landing exercise at division level with the support of "assault aviation" squadrons.
- 28 R. Overy, *The Air War 1939-1945* (Washington D.C.: Potomac Books, 2004), 16.

- 29 I. Balbo, *Sic vos non vobis?* (Roma: Tipografia della Camera dei Deputati, 1933).
- 30 G. B. Guerri, *Italo Balbo* (Milano: Saggi Bompiani, 2013), 395-397; A. Pelliccia, *op. cit.*, 64-65. It is not proved that the plan, drafted by Colonel Emilio Canevari, was officially presented to Mussolini and discussed, but the content and its meaning are clear, and it is documented that the former Secretary of the National Fascist Party, Giovanni Giuriati, proposed Balbo as Chief of the General Staff to Mussolini.
- 31 *Commento alle grandi manovre pronunziato da S.E. il Generale Grazioli al gran rapporto finale*, Summer 1934, Appennino Tosco-Emiliano, AUSSME, Rep. L-13, Fondo Grazioli.
- 32 Pricolo directed air operations during these manoeuvres.
- 33 F. Pricolo, "L'Armata Aerea e le grandi manovre", *Le vie dell'aria*, 34-35/1934.
- 34 O. Bovio, *In alto la bandiera. Storia del Regio Esercito* (Foggia: Bastogi Editrice Italiana, 1999), 141-143.
- 35 F. Botti, "La guerra aerea. Strategia d'impiego: concezioni contrastanti", in R. H. Rainero, A. Biagini (eds.), *L'Italia in Guerra. Il primo anno - 1940* (Roma: Commissione Italia di Storia Militare, 1981), 215-244.
- 36 R. Gentili, "L'aeronautica in Libia e in Etiopia", in P. Ferrari (ed.), *L'aeronautica italiana. Una storia del Novecento* (Milano: Franco Angeli Storia, 2004), 318-320.
- 37 F. Pricolo, *La Regia Aeronautica nella Seconda Guerra Mondiale 1939-1941* (Milano: Longanesi 1971), 29-30.
- 38 L. Ceva, "L'aeronautica nella guerra civile spagnola", in P. Ferrari (ed.), *op. cit.*, 357-364.
- 39 B. Di Martino, "Balbo e le aviotruppe. L'esperimento di aviosbarco nelle grandi manovre in Libia", *Rivista Aeronautica*, 6/2013.
- 40 Mussolini acted as Minister of Aeronautics from November 6, 1933.
- 41 Speech given at *Camera dei Deputati* by the Under Secretary of State, General Valle, in presenting the yearly budget, March 16, 1938.
- 42 G. Valle, "Le Forze Armate dell'Italia fascista", *Rassegna Italiana*, 8/1939, in F. Botti, *La guerra aerea. Strategia d'impiego: concezioni contrastanti*, *op. cit.*, 219-222.

43 F. Pricolo, *op. cit.*, 168-171.

44 Stato Maggiore Regio Esercito, Ufficio Addestramento, Stato Maggiore Regia Aeronautica, IV Reparto, Circolare n.1000/A, *L'aviazione nella battaglia terrestre*, May 1943.

ABSTRACTS

English

Following the establishment of the *Regia Aeronautica* as an independent service in 1923, a debate followed about the use of the new air force. The officially prevailing vision was based on Douhet's theory about the domain of the air and the "counter-value" use of air power, but another school was supporting Mecozzi's ideas about ground-skimming attacks and the so-called assault aviation. Both theories were tested in exercises and manoeuvres, but no clear decision was made. Ethiopia and Spain wars proved the importance of aero-cooperation but this issue was never properly addressed, mainly because ground-support operations were considered to undermine the independence of the air force. At the same time the bomber force remained composed of medium bombers, without the striking power and the range required by Douhet's theories. Despite all façade proclaims, the Italian Air Force entered World War Two without a clear air warfare doctrine.

Français

La création de la *Regia Aeronautica* en tant que service indépendant en 1923 a suscité un débat concernant l'utilisation de la nouvelle force aérienne. Jusque-là, la vision officielle qui prévalait se fondait sur la théorie de Douhet à propos du domaine aérien et de l'utilisation de la puissance aérienne en profondeur contre des cibles civiles, mais une autre école de pensée défendait les idées de Mecozzi, prônant les attaques au sol et l'aviation dite « d'assaut ». Les deux théories ont été testées lors d'exercices et de manœuvres, sans qu'il soit possible de les départager clairement. Les guerres d'Éthiopie et d'Espagne ont prouvé l'importance de la coopération aérienne, mais cette question n'a jamais été correctement abordée, principalement parce que les opérations d'appui au sol étaient considérées comme compromettant l'indépendance de l'armée de l'air. Dans le même temps, la force de bombardement restait composée de bombardiers moyens, sans la puissance de frappe et la portée requises par les théories de Douhet. Malgré toutes les proclamations de façade, l'armée de l'air italienne est entrée dans la Seconde Guerre mondiale sans doctrine claire de guerre aérienne.

INDEX

Mots-clés

Douhet (Giulio), Mecozzi (Amedeo), Regia Aeronautica, Balbo (Italo), doctrine de la guerre aérienne, manœuvres

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