

**Debate, discussion and disagreement: A Reassessment of the development of British tactical air power doctrine, 1919-1940**

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Abstract:

This article investigates the work conducted by the Royal Air Force (RAF) in the development of tactical air power in the inter-war period. It analyses the RAF's theoretical doctrinal thinking during the period along with exercises conducted on a joint Service basis to further develop these ideas in practice. It will argue that, rather than neglecting tactical air power during this period as is the accepted view, much good theoretical work was done that formed a theoretical and intellectual basis for the further development of tactical air power in the light of operational experience during the Second World War.

## **Debate, discussion and disagreement: A Reassessment of the development of British tactical air power doctrine, 1919-1940<sup>1</sup>**

The Royal Air Force (RAF) ended the First World War fully versed in all aspects of tactical air power and proficient in its application given the relative technological limitations particularly in communications in 1918. The RAF was able to conduct close air support, battlefield air interdiction, artillery observation and tactical and strategic reconnaissance in support of the British Expeditionary Force (BEF).<sup>2</sup> It has been argued that with the end of the First World War the development of tactical air power in Britain effectively stopped and the doctrine that was utilised during the Battle of France, 1940, suffered to a great extent.<sup>3</sup> This article will challenge this argument and demonstrate the degree to which tactical air power developed in Britain in the inter-war period.

The use of tactical air power was fundamental to the success of land armies in the Second World War. This was particularly the case for the British Army in the Western Desert where much time and effort was used to develop a functioning, impromptu air support system. This was achieved in the face of tremendous enemy opposition and required the Western Desert Air Force and Eighth Army to forgo the inter-Service rivalry that typified this development in Britain. They had to work closely together in order to implement some of the ideas that had emerged from the First World War and were further highlighted in the exercises conducted during the inter-war period.<sup>4</sup> These included the co-location of headquarters, the importance of maintaining experienced pilots within army co-operation squadrons and the utilisation of liaison officers at army/RAF forward headquarters. These concepts are the bedrock for effective tactical air power, and the developments made during the inter-war period provided the theoretical and intellectual basis for its continued advancement during the Second World War. With the increasing development of both aircraft and communications technology, the concepts that emerged from the First World War would require trialling in the inter-war

period to demonstrate their continued importance. The focus of the inter-war period for the RAF, however, was the theoretical development of strategic bombing.<sup>5</sup>

It was believed that the development of a strategic bombing force would secure the continued independence of the RAF, would give the British Isles greater security from potential European aggressors and end any major European conflict quickly through the targeting of the enemy's homeland, government infrastructure and people. This article will argue that, whilst it was never high on the RAF's list of priorities, it did seek to develop tactical air power during the inter-war period and to a greater extent than has been acknowledged in the literature. David Hall, for example, has claimed that, with the disbanding of the Experimental Armoured Force in 1928, there were no more opportunities for tactical level development of air support.<sup>6</sup> It has also been claimed that during the inter-war period the RAF simply forgot how to support the army.<sup>7</sup> This article will demonstrate that the RAF did not simply forget how to support the army, but due to the atmosphere of the inter-war period felt unable to push this aspect of air power to any great degree.<sup>8</sup> Many of the ideas from the exercises conducted would go on to be utilised to great effect during the Second World War. These exercises demonstrate that the RAF was indeed thinking about the theoretical application of tactical air power thinking during the inter-war period. This argument will be supported through an analysis of the army co-operation exercises conducted between 1927 and 1933. The years in which these exercises took place is also instructive to the wider development of military force within Britain. These exercises took place prior to the introduction of rearmament in Britain, where each Service looked to present its own case for expansion and reduced the good will necessary for collaboration and co-operation in joint matters. It will also look at the wider inter-Service political structure and financial limitations within which the RAF was working in the inter-war period.

It will finish by demonstrating some of the effects of the stunted development of tactical air power in Britain through a short analysis of the Battle of France from an air perspective. It must be accepted that, despite the developments that had been made during the inter-war period in tactical air power, the RAF was not ready for the challenge that awaited it in France.<sup>9</sup> This is more down to the inter-Service rivalry that pervaded the inter-war period and prevented greater development than any failing on the exercises or thinking of the period. Whilst already widely studied, the inter-Service rivalry during the inter-war period is vital to gain an understanding of the atmosphere in which the army co-operation exercises were conducted and the position the RAF found itself in when trying to discuss and debate these ideas with the General Staff.<sup>10</sup> Even though there was plenty of discussion on this issue, little fruitful debate could take place as neither side was willing to back down from what they believed to be the correct application of tactical air power. These developments in the principles that would guide effective tactical air power were undertaken by the RAF in isolation as there was little prospect of both Services reaching agreement on a joint doctrine. The major focus of post-Second World War air power history has been on the development and application of strategic air power. Tactical air power was lost in the wilderness and has only recently come to the fore. This recent focus has come about due to historians re-engaging with the land battles of the Second World War and looking to develop a wider understanding of how success was gained in the land operations. Alongside this re-engagement with the land battles of the Second World War, the importance of tactical air power to these campaigns has also emerged. This wider examination has led to the study of the support given from the air and how the systems that were employed were developed. Through doing this, however, the context of tactical air power development by the RAF is lost. This focus of the RAF on strategic bombing can be cogently explained by the geopolitical situation that influenced British defence policy. In a comparison with the German

geo-political situation, Williamson Murray has highlighted how its geographical position has influenced British thinking on warfare:

The British living on an island and possessing the largest navy in Europe, could afford to think in terms of strategic bombing ... German strategic problems however, were the exact opposite. Germany was not an island power; she was a continental power in any conceivable conflict that would involve the military forces of the German Reich, Germany would face the probability of land operations at the outset of hostilities.<sup>11</sup>

This meant that the British could afford to develop an air power capability and doctrine centred around strategic bombing, as they would, in theory, have the luxury of time for this and economic warfare policies to take effect. If Germany, on the other hand, were to develop such thinking, they may find themselves decisively defeated on land before the effects of strategic bombing could make themselves felt. The focus of historians such as Noble Frankland, Charles Webster, Robin Neillands and Peter Gray has, quite naturally, been on the destruction and devastation caused by strategic bombing and the advent of airborne nuclear weaponry.<sup>12</sup> Due to this focus, it is easy to look glibly on whatever developments were made by the RAF in Britain in the field of tactical air power during the inter-war period and to dismiss them.

The First World War had laid an effective platform for the future development of tactical air power in Britain, but this was not built upon as greatly as it could have been. The RAF's army co-operation capabilities in 1918 were unrecognisable from that of the Royal Flying Corps (RFC) of 1914. Army co-operation in 1914 was limited to strategic reconnaissance and, due to doubts surrounding the possible accuracy of information gained from pilots flying quickly across the battlefield, pilots initially had to prove their worth to ground forces; that is not to say that the British Army of 1914 was against the use of aircraft. Officers such as

General Sir Douglas Haig had taken a great deal interest in how aircraft could enhance the strategic vision of senior commanders prior to 1914.<sup>13</sup> As with any new technology, however, its usefulness would only become truly clear when it had proved itself in the heat of battle. As the mobility that characterised the opening of the First World War was replaced by the static trench warfare, army co-operation came into its own. By 1917 the RFC had developed an effective system through wireless telegraphy to conduct artillery observation.<sup>14</sup> The RFC were also able to conduct close air support and battlefield air interdiction missions in support of offensives to great effect.<sup>15</sup> These missions were pre-planned as the communications technology of the time did not allow for troops to call for impromptu support through wireless or radio telegraphy. Other methods for aircraft to locate ground forces whilst conducting support, such as signal lights fired by infantry were used, but their success was haphazard.<sup>16</sup> Experience such as this would prove invaluable for the continued development of tactical air power in the inter-war period. The First World War was the testing ground for many different ideas and from this experimentation, as with all of air power in the First World War, sound systems and concepts that worked with the technology available.<sup>17</sup> The apparent stall in the development of tactical air power in Britain after 1918 was due to the financial, political and strategic situation that was faced by all three Services as well as the RAF's focus on the application of air power at the strategic level of war.

Whilst the RAF were working in close co-operation with the army in the Empire between 1919 and 1939, any major development in this field was not seen by the Air Ministry as applicable to any potential major European conflict involving a first-class enemy.<sup>18</sup> Focusing on strategic bombing also had further advantages for the newly formed RAF in the years after the First World War. It allowed them to demonstrate a new, theoretical, way of fighting wars against major European powers that could foreshorten any conflict by attacking an enemy nation's industrial and political infrastructure.<sup>19</sup> This potential type of warfare could not be

pursued by an air force that was tied to land and naval Services. The Air Staff theorised that any other European nation developing air power in this way could place London in grave danger due to its relative proximity to the continent.<sup>20</sup>

By pursuing the development of strategic air power, and arguably exaggerating the impact of strategic air attack on Britain, the RAF was looking to preserve its independent status.<sup>21</sup> The RAF's independence, as well as the limited defence budgets, which now had to be split three ways, brought the RAF into direct conflict with its sister Services the army and Royal Navy. Both of these Services believed that the RAF should be disbanded, and its resources brought back under their control as had been the case prior to the creation of the RAF in April 1918.<sup>22</sup> It was believed that through the continued existence of the RAF both the army and Royal Navy would be placed at major disadvantage in a future war by not being able to control both the nature and the timing of any air support they would require. This argument over the control of air resources, which was particularly vicious between the army and RAF after the Battle of France, would continue through the Second World War until the creation of 2<sup>nd</sup> Tactical Air Force in 1943.<sup>23</sup>

The dispute between the RAF and army over tactical air power began in 1921 the Chief of Imperial General Staff, Sir Henry Wilson argued:

Mr Balfour's ... suggestion that unless the Royal Air Force be kept completely separate and independent of the Army and the Navy we shall be at a serious disadvantage compared with foreign nations I am quite unable to understand.

Neither France, America nor Japan, to quote only the greatest Naval and Military powers, have adopted such a policy ...<sup>24</sup>

The Air Staff's response was that the structure of British defence resources should 'conform to the requirements of British imperial strategy, not to the methods adopted by Foreign Powers whose circumstances are entirely different to our own'.<sup>25</sup> This brief episode

highlights the difficult relations that existed between the RAF and army during the inter-war period, and this led to reluctance from both Services at the high command level to engage in reasonable debate in how best to train and develop tactical air power in an efficient and effective manner.

Relations between the RAF and army were further hampered by the fact that the status of the RAF in Britain was slowly increasing, particularly within Cabinet, who saw the use of the RAF as a convenient method to retain control of the Empire whilst reducing the cost burden. This use of the RAF helped to cement its status as an independent Service, much to the consternation of its sister Services. This was exacerbated with the publication of the Air Staff's first doctrinal publication Confidential Document (CD) 22 in 1922, which emphasised the independent use of air power. Despite stating that the RAF would work with the army in 'a spirit of generous co-operation', there was much ambiguity within the chapter on co-operation with the army. CD 22 stated that the air force commander would act as adviser to the military commander; however, it also stated that the military commander would decide the work he wanted accomplished and leave the details of how the air force would conduct its role to the RAF commander.<sup>26</sup> The fundamental issue that continued to plague co-operation between the RAF and army in the inter-war period was operational ownership of assets. This would then have an overwhelming bearing on how they would be deployed in support of ground forces. This viewpoint was confirmed in the War Office's 1938 publication *The Employment of Air Forces with the Army in the Field*. The fundamental principles of air power, which had been codified in 1919 stated that operational control of air resources should be under a single air force Commander.<sup>27</sup> The War Office's pamphlet stated that air forces should be under the control of a land commander.<sup>28</sup> The air officer's role would be providing advice on the availability of air resources, and the general air situation. The air officer would then be responsible for putting the land commander's plan into effect.<sup>29</sup>

This confusion over what the army was to expect in its relationship with the RAF led to increasing frustration within the General Staff. It was not the case that the army knew what they wanted in terms of equipment or doctrine as they saw air support simply acting as flying artillery and operating at the tactical level. In their theoretical thinking they demonstrated an ability to conceive of the operational level effects that the fight for air superiority may bring. This is demonstrated in *The Employment of Air Forces with the Army in the Field*, which stated:

In connection with the operations of an army in the field air superiority implies the ability to ensure firstly that one's own reconnaissance and bomber aircraft can carry out their tasks effectively, and secondly that the army suffers the minimum of interference from the reconnaissance and attacks of enemy aircraft. ... Where conditions are favourable, a temporary advantage in the struggle for air superiority may be obtained by effectively attacking enemy aerodromes.<sup>30</sup>

Through gaining control of the air, even at a localised level, the abilities of land forces would be enhanced to a greater degree allowing freedom of movement and an ability to project force from land-based weapons systems on a larger and more effective scale. If the army was willing to accept and publish the ideas of the RAF in operational pamphlets published in 1925, the RAF must have believed that, at least to a certain degree, they had been able to convince the army of at least some of the fundamental principles of air power.<sup>31</sup>

Whether the ideas contained in the doctrinal pamphlet quoted above were simply repeated from RAF doctrinal publications in order to demonstrate a superficial degree of co-operation on the army's part is very much open to debate. Given the potentially deliberate lack of understanding of air power concepts by the investigatory committee into the Battle of France, 1940 this explanation is highly convincing. It is possible that the committee, headed by General Sir William Bartholomew whose views on the independence of the RAF were well

known in both Services, was fully aware of air power definitions and chose to deliberately misinterpret them in order to shift the blame for the failures on the operations in France in 1940 away from the army and on to the RAF, and that this had been occurring for several years prior to 1940. These misinterpretations, and Bartholomew's views on an independent RAF, will be explored in more depth below when the War Office's investigation is analysed in greater depth. This may also explain why there was so little debate surrounding tactical air power development between the RAF and army during the inter-war period.

In 1923 this confusion and frustration continued as relations with the French government reached their lowest ebb over French actions in the Ruhr and attempting to uphold the Treaty of Versailles.<sup>32</sup> There was a great fear that any potential armed conflict that emerged from these tensions would be fought mainly in the air and against civilian populations rather than armed forces. London was perceived as being particularly vulnerable to a knock-out blow from the air due its proximity to the British south-east coast, and therefore French air bases. In an attempt to protect its capital, and despite the financial restrictions that had been placed on defence spending, plans were drawn up to spend relatively large sums of money on an air expansion programme that would enlarge the Metropolitan Air Force by fifty-two squadrons.<sup>33</sup> This move by the Lloyd George government caused great resentment within the War Office. This was further exacerbated when, again in an attempt to save money, the RAF received more responsibility for policing rebellious parts of the Empire. At times, this was in place of army garrisons and at others working in close co-operation with them.<sup>34</sup> To the War Office, however, this was a clear indication of the army's traditional role being usurped by this new Service, which increased tensions between the two. This tension did not, however, prevent the two Services conducting joint exercises during the inter-war period.

Moreover, much good theoretical work was done at brigade and division levels to advance the development of tactical air power in Britain, as will be demonstrated below. The army

claimed that during a joint Staff exercise, conducted in 1923, there had been a great deal of ignorance of army co-operation matters from the RAF. A joint conference was held to investigate and resolve these issues. This meeting determined that a certain number of RAF officers should undertake education at various army schools such as the School of Artillery and this should continue on a regular basis. It also stated that officers trained in army co-operation should be assigned to army co-operation squadrons and that a system was being implemented in order to ensure that this occurred.<sup>35</sup> Joint courses were also held at the School of Army Co-operation at Old Sarum.<sup>36</sup> The War Office claimed that the RAF did not regard army co-operation tasks as a 'specialised branch of Air Force work', as they believed it should be.<sup>37</sup> In an effort to demonstrate how seriously they took army co-operation work and its development within Britain, the RAF were at pains to highlight the efforts they were making to 'train all young officers in the Air Force regarding the formation and organisations of the sister services whether or not the duties of co-operation will fall to these officers'.<sup>38</sup> Whilst these were honest efforts to give officers a rounded education with regards the different applications on air power, it was very much the case that the focus was on the strategic rather than tactical aspects.<sup>39</sup> This gave the RAF a political smokescreen that they could hide behind when the development of officers trained in tactical air power was discussed. There was also the opportunity for further specialised education in tactical air power for those who opted or were assigned to this branch through the School of Army Co-operation at Old Sarum.<sup>40</sup> What the RAF failed to point out during this conference was just how few officers were being assigned to co-operation work in comparison to those involved in the development of strategic air power, the limited number of army co-operation squadrons within the RAF's structure, or how low on the list of priorities tactical air power actually was. Due to the global strategic situation of the early 1920s, the funding available to the RAF at this time was severely limited and any increase in funding had to be put to its major

priorities: home defence and strategic bombing.<sup>41</sup> Whilst there are no actual lists or statistics to support this claim, that the RAF's focus during the inter-war period was on the application of air power at the strategic level cannot be denied. The RAF's focus at this time was on the development of a coherent theory of strategic bombing as this, combined with Imperial Policing, and gave it the greatest chance of survival as an independent force.<sup>42</sup> This explains why the RAF did not want to specify the work being done to develop tactical air power or the number of staff assigned to it.

This cover, however, was not enough to prevent the RAF from receiving a great degree of criticism in 1923 and meant that, for appearances sake, they would have to at least appear to be taking the development of tactical air power more seriously. This would smooth relations between senior commanders, giving the RAF the opportunity to establish itself and its intellectual principles. The RAF felt that at this point in their existence, they could not prioritise the development of tactical air power too seriously but had to appease their sister Services.<sup>43</sup>

The financial resources dedicated to the RAF in general also hampered the overall development of tactical air power and the relations between the two Services. The army requested the attachment of two squadrons to Aldershot Command for training purposes, in 1923. This request was flatly denied by the RAF on the grounds that these squadrons would not be available until after 1925 and only if the RAF expansion scheme proposed in 1923 was fully implemented. This expansion scheme was designed to create an additional fifty squadrons for the purpose of home defence.<sup>44</sup> This expansion would cost £2 million per annum in upkeep. Whilst this represented good value for money when compared to the other Services, it was still an expense that could not be justified and was ultimately not completed. The RAF also highlighted that there existed a specialist school within its own structure focused on the training of officers involved in army co-operation. This claim was, however,

somewhat misleading as many of the officers who passed through this school were not then assigned to army co-operation squadrons, thereby not utilising the specialist skills and knowledge that had been acquired.<sup>45</sup> Still, they were building a critical mass of knowledgeable personnel who could build upon the theoretical developments when necessary.

At a further conference with the army in February 1923, the RAF went on to the offensive in an attempt to try and settle the issue once and for all. They highlighted the difficulties that presented themselves due to the strategic vacuum that all three Services were operating in since the end of the First World War. These strategic difficulties were compounded by the lack of public money available to the First World War due to a focus on social programmes, and the general public revulsion to war and spending on military Services.

What war are the General Staff and the Air Staff going to train for? How can that training be co-ordinated so as to be able to meet any war that we have to consider as probable ... If it is decided that the war is in the nature of a European war, what broadly speaking, are the views of the Staff as to how that war would develop?<sup>46</sup>

The RAF had highlighted a fundamental issue that would plague the development of tactical air power throughout the majority of the inter-war period. In order to develop a functioning and effective air support capability, both the RAF and army had to have full knowledge of the type of war that was being planned, where in the world it would be fought and to what extent, if at all, ground forces would be involved. A conflict that took place within the British Empire, for example, may require little in the way of ground troops, leaving the bulk of the fighting to be conducted from the air. This was the case when many Imperial Policing operations were conducted. If a major conflict was to be fought in Europe against opponents that were stronger than those to be found in the Empire, then the nature of the fighting was

more important. If it was to be a similar war to that of the First World War, then army co-operation and tactical air power would have to prioritise the gaining of reconnaissance and intelligence **information** as well roles such as artillery spotting over that of direct and indirect support of troops during operations.<sup>47</sup> This kind of knowledge was simply not available to either Service but did prevent, to a degree, tactical air power development in Britain, and actively prevented any real contingency planning in this regard. Whilst no nation can ever know where its next conflict will be fought, Britain's position after the First World War, with increased imperial responsibilities, meant that this strategic situation became even more of a challenge for the Services. If an air support capability was created and designed to be used in a war between imperial powers in a dispute over colonised territory its effect would be lessened if the war took place between first-rate European powers on continental Europe.

The development of tactical air power in Britain in the inter-war period took place within the wider context of the RAF's thinking about the application of air power at all levels of war.

This thinking was first codified in the *Manual of Combined Naval, Military and Air Operations*, published in 1925. This Manual emphasised the need to gain air superiority over the zone of operations before any other air mission could be conducted with a real chance of success or influence on the operations of ground forces.<sup>48</sup> The Manual, however, was willing to concede one point. It was stated that, although the gaining of air superiority was the initial primary mission of the whole RAF, any squadron subordinated to an army commander could not be used for this task. If we look at the ideas contained within *The Employment of Air Forces with the Army in the Field* in 1938, we can see that, as all air resources aside from an advanced striking force for strategic bombing were, in the army's opinion, to be placed under the operational control of the Commander-in-Chief, there would be no aircraft available for missions such as air superiority.<sup>49</sup> The RAF were willing to concede this point due to the

arguments that had taken place in 1923 and further iterated in their Manual of 1925, highlighting their dedication to air support training and development, and would not have been aware of the army's policy to have all air resources of an air component under the control of the Commander-in-Chief. This allocation of resources would, however, have had profound implications for the RAF as they continued in their deep-battlefield-centric focus. The British Army simply wanted a force to act as flying artillery under their control, the RAF's focus was on attacking targets beyond the front-lines (and beyond the perspective of army commanders). This job would have been made almost impossible without the gaining and maintaining of air superiority to allow the RAF to dominate the skies. They did this in order to demonstrate to the army that they were taking this aspect of air power as seriously as others. Whilst the RAF may be accused of over-exaggerating how seriously they took the development of tactical air power in the inter-war period, they did in fact look to build a base level of knowledge and understanding of its basic principles **both at that time** and for the future.

This speaks to the pressure they felt as the army and Royal Navy pushed to have the RAF disbanded. The 1925 Manual also emphasised what the army co-operation exercises would highlight in later years in order to maximise the efficiency of air support: 'It is only by the closest liaison between the staffs of the three commanders that the RAF units can be used to the best advantage and with a minimum of interference and wasted effort'.<sup>50</sup> Through the co-location of headquarters mistakes in communication could be avoided and both Services would fully understand what the overall military plan was and how their forces could best achieve this.

The RAF's next major doctrinal manual, their War Manual, was published in 1928. This War Manual again dealt with co-operation matters through an entire chapter (fourteen pages out of a total of 168) dedicated to the subject. Whilst this is not a substantial part of the overall War

Manual, it did set out the fundamental concepts that were required from the aerial point of view for successful integration with land forces. The RAF were at pains to point out the importance of the gaining and maintaining of air superiority over the battlefield and the subsequent denial of aerial freedom to the enemy.<sup>51</sup> With the pressure on the RAF being lifted, and its existence almost guaranteed through the failures of the army and Royal Navy to have it disbanded, the RAF was now in a position where it could develop its thoughts on air support with greater freedom. This was demonstrated by the fact that they emphasised the use of aircraft in an interdiction role, particularly attacking targets that were outside of the range of the army's artillery. The Manual did, however, concede that aircraft may have to be used to act in a close support role during an emergency. To conduct this role effectively, the Manual recommended that fast single-seater fighters be utilised.<sup>52</sup> Two-seater fighters, still widespread within the RAF at this time, should only be diverted from their normal work if the target was of supreme importance. The Manual, however, did not specify what type of targets could be classed as being of supreme importance or what constituted an emergency. This meant that RAF commanders had almost *carte blanche* to refuse to attack almost any target. In their War Manual, the RAF looked to highlight what they perceived to be the most important aspect of tactical air power: battlefield air interdiction. The disagreement over the correct use of air power to support land forces from the air was the major cause of tension between the RAF and the army, throughout this period. The RAF held firm in their belief that close air support was an overly dangerous mission that should not be utilised in the normal course of events. **Their method of demonstrating this will be explored in more detail below.** Battlefield air interdiction also offered operational level advantages to ground forces, but its effect was not immediate and could rarely be seen by troops on the ground. The final doctrinal publication of the RAF prior to the Second World War was the second edition of the *Manual of Army Co-operation* in 1937. One area that the Manual focused upon

was the composition of the air component that would accompany any expeditionary force.<sup>53</sup> Despite the increasing tensions in Europe at this time, British foreign and defence policy was based on 'Limited Liability'. This policy took for granted the idea that French forces would undertake the majority of the fighting on land, whilst the British utilised their superior naval and air power capabilities. 'Limited Liability' allowed the British to continue to develop a strategic air force to act as a deterrent to warfare whilst not risking their general security in Europe through the diplomatic moves that formed part of the policy of appeasement.<sup>54</sup> The investment in and creation and development of an expeditionary force capable of fighting effectively on the continent against a first-class enemy was relegated to the bottom of the list of priorities.<sup>55</sup> The priorities for the defence establishment in Britain were the defence of Britain from the air and the undertaking of strategic air attacks against a potential enemy, the maintenance of Britain's naval position around the globe and, finally, the support of allies in the field on continental Europe.<sup>56</sup> There would be a small, limited, BEF that would receive the majority of its air support from the French *Armée de l'Air*. This meant that the RAF would be able to focus on strategic attacks against the German homeland, with a component stationed on French soil in order to conduct further strategic attacks. The policy of 'Limited Liability' was subsequently replaced with one that sent a bigger expeditionary force to the continent. This decision, however, was not made until early 1939 and required a larger air component to support it.<sup>57</sup> This meant that RAF had little time to alter the production priorities that had begun since the start of rearmament in 1934 and increased greatly in 1936.<sup>58</sup> There was also little time to overhaul their thinking about air support and adapt it to a major conflagration against a first-class, well-equipped nation on the continent.<sup>59</sup>

The Manual went into detail about the communication procedures and how aircraft were to be used in the approach phase of operations, as well as working with a mobile force. In order to allow an air component freedom of action, as well as covering all of the potential roles they

could be called on to conduct, the Manual detailed different types of operation in many different theatres. The Manual stated that in order to provide squadron and military commanders with the necessary intelligence to conduct operations effectively, Air Liaison Officers would work closely with both Services. They would also provide army co-operation squadrons with up-to-date details about artillery arrangements and provide direction to aircraft in the air as to the changing situation on the ground or new information gained from reconnaissance patrols.<sup>60</sup> This demonstrated a great deal of development from the start of the inter-war period. This development was not just in the theoretical ideas, and necessary staff, required to provide the army co-operation squadrons with the information on the ground that was required as the battlefield became more complex. It also required developments in technology to allow the necessary two-way communication. This was achieved through the reduction in the size of radio equipment and the ability to communicate orally rather than through wireless telegraphy. Prior to the introduction of two-way radio pilots conducting air support missions would have to be briefed on the ground with as much detail as possible. This reduced the ability of squadrons to react to situations on the ground and attack fleeting opportunity targets.<sup>61</sup> Two-way radio allowed both squadrons and individual pilots to be briefed to attack more than one target and they would be able to receive more updates as to the potentially fluid situation below them, allowing tactical decisions to be made whilst in the air.

The developments **in tactical air power** that did take place emerged from inter-Brigade and inter-Division exercises that explored the theoretical problems associated with supporting ground forces in the field. These exercises could, however, only go so far and the doctrinal ideas that emerged would have to be revised in the light of the operational experience gained fighting in the Second World War. Exercises could not replicate the strain and confusion present in operations against an active enemy and any doctrine or systems developed would

be placed under far greater pressure. The results of the exercises were published annually at the end of each training year and the ideas and conclusions that emerged were combined with other ideas and codified into operational instructions and doctrine manuals such as the *Royal Air Force Manual of Army Co-operation* (AP1176) and the *Royal Air Force War Manual Part One – Operations* (AP1300).<sup>62</sup> These Manuals were published in 1937 and 1928 respectively. Many of the lessons to improve the RAF's air support concerned the command and organisation of air forces rather than any developments in tactics. The major issues involved in utilising tactical air support in the field lay in the co-operation of headquarters to work in unison in the attainment of the overall military objective, communication of targets to forward airfields and in what situation aircraft could best be utilised to support ground troops. The 1927 Army Co-operation Report advised RAF commanders who were responsible for co-operating with the army to 'point out to commanders of formations under whose orders they are working the importance of their selecting their headquarters in relation to possible landing grounds'. In terms of working with ground forces, the report stated that the commanders should keep in the closest touch with the formations with which they are co-operating in order to know fully the requirements of those formations. The report, however, had little to say on the location of air headquarters or whether they were better placed near landing grounds or army formation headquarters.<sup>63</sup>

The problem of having to issue separate orders to both air and ground formations also formed part of the 1927 report. During the exercises, orders were issued to squadrons that were based on orders issued by the army commander. Much time was lost re-writing and then issuing the separate air force order meaning that air support was delayed and therefore not as effective as it could have been, particularly if orders were late arriving from the army commander. It was from this that the importance of co-located air and ground headquarters was discerned. This had first been noted during the First World War.<sup>64</sup> As demonstrated from its frequent

mentions in army co-operation exercise reports, however, it was something that had been lost by both Services. If the army had their way, this would not be an issue as the air force commander would be an integral part of the army's command structure. Similarly, if the RAF were able to end any conflict quickly through strategic bombing, there would be little need to establish joint headquarters in the field. **This meant that both Services, looking at the development of tactical air power through their own perspective, could not agree on either the best way forward or on a compromise solution.** The co-location of headquarters was vital to ensure the timely flow of information so that air crews could be briefed effectively, and an operational plan drawn up that would allow the RAF to be as effective as possible in their support of ground forces. If headquarters were not co-located this would lead to delays in the provision of air support.

In the event of late arrival of army operation orders, it is possible that it may prove difficult to issue a squadron operation order in writing early enough before operations take place. In such a case it is probable that the RAF commander will have attended a meeting at divisional or other headquarters. If this is had occurred, he should have received sufficient instruction to enable him to hold a conference of his subordinate commanders and to issue verbal orders and instructions, supplemented, if necessary, by a table of work for the following day.<sup>65</sup>

The report also considered the effectiveness of fighter aircraft in army co-operation and the conclusion reached was that fighter pilots 'generally did not understand the principle of attacking troops on the ground'. This was attributed to 'the small amount of practice which has been afforded to them'.<sup>66</sup> This demonstrates that despite the RAF's insistence about how much effort was being afforded to army co-operation development and training this was, in fact, a legitimate complaint from the army. The 1928 report highlighted the high turnover of

staff within army co-operation squadrons and the difficulties this posed establishing and maintaining a stable and growing expertise in this area. It also meant that any training conducted outside of the exercises would only ever be of a basic nature as pilots and commanders were not able to gain enough experience to allow more advanced training to be conducted. The high turnover of staff was due mainly to the status that army co-operation squadrons were held in by the RAF as a whole. With the restrictions in manpower caused by the limited defence budgets of the late 1920s and early 1930s combined with the RAF looking to defend its independent status an army co-operation squadron was not the place an ambitious young officer could launch a career.<sup>67</sup> Despite high profile officers who theorised about tactical air power such as Trafford Leigh-Mallory and John Slessor, they are isolated examples that further highlight how army co-operation was viewed within the RAF. Slessor was, however, highly influential in the teaching of army co-operation at the army staff college at Camberley and the lectures he gave there formed the basis of a book published in 1936 entitled *Air Power and Armies*. This work has been described as ‘a serious attempt to instil in army and air officers an understanding of how air power was likely to affect the problems of land warfare in the future.’ *Air Power and Armies* has an interesting take on tactical air power. In it, Slessor argues that interdiction of supplies and matériel would be of more importance than preventing reserves from influencing the tactical level battle. This work expanded further on how the RAF viewed tactical air power at this time and demonstrates that there were personnel with serious, senior command level responsibility who were thinking about how best to apply it in future warfare. Regular courses on tactical air power were also held on a joint Service basis at the Army Co-operation School at Old Sarum.<sup>68</sup> These courses were different to those that had taken place in the 1920s. **As the available aircraft technology developed throughout the inter-war period, particularly the revolutionary use of all-metal, fixed wing, stressed skin monoplanes in the early**

**1930s, the height speed and reach of aircraft increased. This meant that the tactics and concepts utilised to provide air support had to be modified and the courses that taught the new methods also had to be changed. The courses also took account of the developments emerging from the operations being conducted around the Empire. These, however, were seen to be of limited use in a potential European war. The major change in these army co-operation courses, however, was an increased focus on battlefield air interdiction over close air support. This approach was more in line with the RAF rather than army's perspective on air-land integration.** It must be borne in mind that the commanders mentioned above were already well established within the command structure of the RAF during the inter-war period. It was the officers at the lowest level that did not see army co-operation squadrons as the place from which to launch a career.<sup>69</sup>

The 1928 report also made note of lessons highlighted in the 1927 report with regards to the employment of fighter aircraft in a close air support role. Fighters continued to be used against 'unshaken troops'. These were troops that had not come under heavy artillery or ground attack and were not vulnerable to close air support aircraft acting in isolation. The previous year's report, along with the 1928 report made it clear how fighter aircraft should be used when acting in a supporting capacity. 'The use of fighter squadrons should ... be directed towards harassing a retirement or carrying on a pursuit after the exhaustion of the pursuing troops. Low flying attacks should never be launched unless information points to the existence of a definite and suitable objective ...'<sup>70</sup> The RAF had an institutional dislike of what were then labelled low flying attacks but are now known as close air support. Whilst these were the most dangerous of all air support missions for pilots during the First World War, the RAF went out of their way to make them appear **even** more dangerous. This was in an effort to prevent the army from requesting them. The RAF even went as far as manipulating the figures of casualties from the Battle of Amiens in order to justify this

position. **There were other attacks that utilised close air support that did not suffer casualties as great as those at Amiens, yet it was these figures that were utilised by the Air Staff to support their case to limit the use of close air support in future conflicts.**

Alistair McCluskey has argued that

By misinterpreting the casualty data from low-level attack it would appear that the Air Staff were guilty of subjective misuse of the evidence of Amiens which created a false perspective of the facts. This may have been inadvertent but in the debate over support to the army, the RAF was the clear beneficiary. This also contradicts David Hall's belief that the General Staff were to blame for the deterioration in inter-Service relations and the development of tactical air power; the Air Staff played an equal role at least.<sup>71</sup>

The RAF's fundamental belief was that close air support should be used in a defensive emergency or to exploit a breakthrough.<sup>72</sup> In order to achieve this, the RAF would continually cite the close air support action during the First World War that had resulted in the most casualties to pilots as evidence as to why close air support attacks should be limited as much as possible. The RAF were looking to impose their own vision of tactical air power and not to simply dismiss it out of hand. This was at odds with how the army viewed the issue, and they were quick to lay the blame for defeat in the Battle of France at the RAF's door for not providing the correct form of air support, in the form of a defensive fighter umbrella and close air support.<sup>73</sup>

The RAF also did not want the army to view close air support as a panacea to any tactical difficulties they may experience whilst in the field. What the RAF feared most was that air support aircraft would be viewed as flying artillery by the army, despite the potential moral effect close support could have on friendly ground forces.<sup>74</sup> This was how the army viewed tactical air power and saw it operating at the tactical level only. Chapter Three of *The*

*Employment of Air Forces with the Army in the Field*, details how the army expected aircraft to be utilised in support of ground forces. It is here that the army's views on air support become clearer.

The policy for the employment of bomber aircraft to assist an army to achieve its object must rest with the military commander; he alone is able to decide, as a result of all available information and technical advice, which military objectives, if successfully attacked, are likely to cause the most serious dislocation of the enemy's plan.<sup>75</sup>

This was the army looking to retain the control of tactical air resources whilst they were deployed on active operations and being able to use it against targets that would be of most value to them. To the army these targets were those that would be faced by the army in the field when in contact with the enemy and could best be attacked through close air support. They were unwilling to accept the tactical and operational level gains that could be made through the deployment of battlefield air interdiction. The section of the chapter that looks at Air Bombing focuses mostly on attacking targets of a tactical nature, that would be most useful for troops needing to break through enemy lines. There is a passing reference to attacking interdiction targets, but this was superficial in nature and points out the difficulties in attacking targets such as railway lines and bridges instead of the gains that can be achieved.<sup>76</sup>

The difficulties with conducting low flying attacks were brought to a head in the 1934 Army Co-operation Report. There had been increasing calls from army commanders for aircraft to act as targets for small arms anti-aircraft defence training. In order to prevent aircraft being used in this role too often, the RAF imposed certain restrictions, including its use only with regular troops. Requests for this form of support were to be kept to a minimum and attacks would be confined to straight dives only.<sup>77</sup> Whilst the safety of its pilots must have been a

concern to the RAF, and indeed was cited as the major reason to limit this form of training, there were greater concerns for the RAF in terms of army co-operation training. The Air Staff feared that by becoming overly proficient in army co-operation missions, there was a very real danger that they would be expected to conduct these operations over independent strategic missions.<sup>78</sup> This again was a form of self-protection from the RAF. Through focusing on becoming overly competent at missions such as low flying attack, they would face increased demands, and not be able to dedicate the necessary resources to strategic roles. The inter-war exercises, they felt, would allow them to be competent enough without becoming a burden, as they were advancing the RAF's understanding of what was required in terms of a theoretical underpinning. Despite the intellectual work being put in to developing effective tactics in attacking specific targets there were still major fundamental issues that had to be resolved that continued to emerge from the army co-operation exercises of the inter-war period.

The high turnover of army co-operation pilots and commanders had still not been resolved by 1929 and the status of army co-operation within the RAF was made even more clear when the following statement was written:

It is most essential that sufficient attention should be devoted to purely RAF training. Requests from the army for demonstrations or co-operation with formations smaller than a brigade should be carefully reviewed.<sup>79</sup>

This statement was made by an RAF that had a renewed self-confidence as it believed that it had survived the worst of the army and Royal Navy's attempts to have it disbanded and it could now start to fully develop its thinking behind how the next war would be fought in the air.

The report issued in the wake of the 1930 exercises highlighted an issue that caused great consternation and difficulties during the Second World War. This was the location of ground

and air headquarters and the relative distance between the two. The report stated that ‘... it should be an established principle that where possible, corps and, possibly, divisional commanders should site their headquarters in close proximity to land suitable for the squadron aerodrome’.<sup>80</sup> That this principle had to be re-learned and re-iterated on several occasions well into the Second World War, such as during the Battle of France and in the Western Desert, does call into question how well, and how widely, these training reports were read and assimilated into learned doctrine. This is particularly the case with regard the army and the interest that was being shown in these publications particularly in places such as staff colleges where the officers who would be implementing this doctrine were being trained. The notion that these army co-operation reports were not acted upon is supported by the fact that the same point about co-location was made in the 1931 report:

The following notes with regards to the use and nature of advanced landing grounds are issued for guidance: -

- (i) Squadron aerodromes should usually be located near corps’ headquarters and should move with it.
- (ii) The ideal situation for such an advanced landing ground is within a mile or so of the divisional headquarters ...<sup>81</sup>

It appears, from the available evidence, that the army was willing to publish some of the ideas that emerged from the inter-war exercises into their own operational pamphlets, but these ideas were not necessarily implemented when the BEF took the field in 1939.<sup>82</sup>

The inter-service arguments were still very much over the operational control of tactical air resources and the correct way to apply air power at the tactical level. This does not, however, detract from the ideas that emerged during the inter-war period or the work that went into developing them and the guidance they gave to those looking to further develop the RAF’s tactical air support capabilities during the Second World War. The fact that the army were

willing to use some of the ideas and principles that had been developed in the inter-Brigade and inter-Division exercises of the early to middle inter-war period demonstrates their importance in the development of the theoretical basis for tactical air power in the Second World War. This acceptance by the army highlights that they had, at the very least, accepted the RAF's ideas with regard to the basic framework and processes required to enable effective air support to be provided.

When the BEF and the RAF's supporting components left for France in late 1939 there was still a large chasm in how the RAF and army viewed tactical air power, but the reality of war meant that agreements now had to be reached. It also meant that the RAF would go to France with an incomplete doctrine that would require a great deal of improvisation from both individual pilots and lower level commanders to be successful.<sup>83</sup> The improvisation that emerged from the Battle of France 1940 will be subject to greater analysis below. Despite these advancements in the white heat of active operations, the strategic and operational nature of the fighting meant that there was very little impact the RAF could have on the overall result of the Battle of France.

The failings that led to defeat in that campaign were of operational and strategic level thinking, operational speed and mobility and speed of communication.<sup>84</sup> The basis of the agreed doctrine of 1939 was very much based on the lessons and experience of the First World War and the army co-operation exercises of the inter-war period. There were, however, many areas of air support, identified by both Services, that required further development.

The most important of these was the communications system that was to be used by ground forces when calling for air support from bomber squadrons that were based in Britain on an unplanned impromptu basis. It was noted that these communications links may have been unreliable under the stresses of war as 'some [of the] liaison links ...[would] have to

communicate over large distances'.<sup>85</sup> Despite these potential problems, the War Office were happy to agree to this communications system as it was 'the best expedient under [the] present system of control of bomber aircraft'.<sup>86</sup> The War Office detailed the targets that would take priority during operations in France. These priorities were the delay of leading armoured formations, the disorganisation of the movements of reinforcements for the enemy armoured and motorised columns and the interference with mobilization arrangements. These target priorities were of an interdictory nature. This was because it could be easily planned prior to the start of operations whereas close support attacks would rely on a daily assessment of the tactical situation on the ground once operations had begun. It is still noteworthy, however, that the War Office had agreed in principle to the RAF's view of tactical air power rather than the ideas they had propagated throughout the inter-war period. The conclusions and criticisms made in the Bartholomew Report, the investigation conducted by the War Office in the wake of the Battle of France must be understood within this context.<sup>87</sup>

Despite the agreements reached between the two Services in 1939, more changes were made to the organisation of the RAF Component of the BEF and the RAF's strategic striking formation the Advanced Air Striking Force (AASF). Both of these forces were to be commanded by senior RAF officers much to the disappointment of the army who felt that these forces should have been placed under their operational control. The RAF's reasoning against this was that it broke one of the fundamental principles that had been codified by the then Chief of the Air Staff (CAS) Sir Hugh Trenchard and the newly formed Air Staff in 1919. This principle was that all air forces should be under the operational control of an air force commander.<sup>88</sup> The AASF was headquartered and based at Reims as this would allow it to attack targets deep inside Germany.<sup>89</sup> There is evidence, however, that as early as September 1939 plans were being made to utilise the AASF in an air support capacity providing assistance for a French offensive that was planned to take place in the Saar

region.<sup>90</sup> The CAS at the time, Sir Cyril Newall, was against agreeing to this idea whilst active operations were not being undertaken by the French but the fact that they were willing to consider this demonstrates a flexibility that had not been apparent during the inter-war period. This flexibility extended to the Chiefs of Staff who felt that the AASF would be ... suitable for undertaking operations against the enemy's Army, including communications and installations in its immediate rear. This part of the Striking Force [is] suitable therefore, for undertaking that direct action against the advancing German Army which is advocated by General Gamelin ...<sup>91</sup>

Despite being at war and having forces stationed in France the army still continued in their attempts to gain operational control of the RAF's tactical air support capabilities. Their reasoning behind this lay in a misreading of German military organisation and structure after the fighting in Poland.<sup>92</sup> In order to counter these moves by the War Office the Secretary of State for Air, Sir Kingsley Wood, stated that the 'Air Ministry are arranging for a proportion of the bomber forces to receive special training with the Army'.<sup>93</sup> Once operations had begun in France it became obvious to all involved that the slow obsolescent aircraft, such as the Fairey Battle, that made up the AASF would not be able to conduct a strategic striking role against Germany, and 'there was very little doubt that their main employment could be tactical'.<sup>94</sup>

The RAF Component of the BEF was the force that was primarily designed to give British ground forces all the support they would require in the field. The force was originally placed under the command of the General Officer Commanding-in-Chief, General Lord Gort. The senior RAF officer appointed to the Air Component was Air Vice-Marshal C.H.R. Blount.<sup>95</sup> This command situation was changed with the creation of British Air Forces in France when all RAF tactical resources were placed under the command of Air Marshal Sir Arthur 'Ugly' Barratt.<sup>96</sup> The limitations of the Air Component had been recognised by the fact that, whilst

in theory it should be able to provide all the support required, if further support was required a request was to be made through War Office in London who would then pass this on to the Air Ministry who would either approve or deny the request. If the request was approved, it was the Air Ministry's responsibility to pass the orders on to the commanders of the AASF. The War Office believed this system for additional support to be 'dangerously inadequate both in resources and organization'.<sup>97</sup>

With mounting criticism of the communications arrangement in place in France the RAF demonstrated a degree of proactivity in overhauling the organisation and command structure of the RAF in France. These changes were based on the theoretical underpinning of the experience of the inter-war army co-operation exercises and were adapted to suit the specific operational environment of France. That changes were made to the system is not unusual as the basic system developed was adapted according to the varying operational conditions of the various theatres in which the RAF operated during the Second World War. The demand for change was not limited to just the army. Barratt, who had been Air Officer Commanding-in-Chief (AOC-in-C) No.1 Mission, RAF, was fully aware of the potential weaknesses, not only of the communications structure, but of the command and control system as a whole. The AOC-in-C Bomber Command, Air Chief Marshal E.R. Ludlow-Hewitt, was of the opinion that a new headquarters formation was required in France in order 'to button up the divergent or convergent requirements of the French and British forces, the Air Component, the AASF and Bomber Command'.<sup>98</sup> This new command and headquarters organisation would be responsible for all air support conducted in France, including the operations of the AASF and would provide this support to any part of the Allied front, not just the British sector as had been the case previously.<sup>99</sup> Barratt's position as commander was described as being 'similar to that of the C-in-C, BEF, except that he will not be under any French Commander'.<sup>100</sup> These changes were necessary to remove some of the complexities that had

been found in the original systems whilst stationed in France and to allow the system to operate more effectively when required.

Despite the creation of BAFF, the communications system utilised by the RAF remained complex and the role of the AASF within this new organisation was still less than clear as it could be utilised to conduct either a tactical or strategic role. If it was to be used in a strategic role in conjunction with Bomber Command, the command of the force would pass to the AOC-in-C Bomber Command. In this scenario, operational orders would be issued directly to the AOC, AASF by the Chiefs of Staff Committee, with the sanction of the War Cabinet.<sup>101</sup>

This still represented a highly complex communications system even with the removal of one link that had previously existed where orders would be passed from Bomber Command to the AASF.<sup>102</sup> It would also still place a huge strain on the wired and wireless communications systems available to the RAF. This command structure was a move away from the ideas that had emerged from the inter-war army co-operation exercises such as the co-location of headquarters. This can be attributed to the fact that the RAF saw its aerodromes in France as bases from which it could conduct attacks against the German homeland and so saw little need in focusing all its forces on support of the BEF. Despite the work that had been undertaken in the inter-war period demonstrating the importance of co-located headquarters, that this was not followed should not cast a shadow on the efforts to highlight its importance. In fact, the importance of co-located headquarters was something that had to be learnt the hard way in the Western Desert and has had to be subsequently re-learned on several occasions in major operations.<sup>103</sup>

Another area that was transformed by BAFF was the close support communications system that was to be utilised by ground forces when in close contact with the enemy. It would also provide the theoretical and intellectual basis for further development later in the Second World War.<sup>104</sup> The communication headquarters was called the Allied Central Air Bureau

(ACAB). When it was first created, the ACAB was simply a signals headquarters that was 'built on a series of landlines with ciphered Wireless [Telegraphy] back up'.<sup>105</sup> The function of the ACAB was split up into three separate and distinct areas. The first was the sorting of the information that was received from air reconnaissance. Using this information, it would then request further reconnaissance of areas of importance and allotting bombing tasks based on the information received.<sup>106</sup> The ACAB was also 'entrusted with the task not only of maintaining close liaison with General d'Astier, commander of the *Zone des Operations Aeriennes du Nord*, on all points which concerned the two Air Forces in his Zone, but also of studying the whole problem of air action in the event of operations in Belgium and Holland; the plans for which were being prepared by the French High Command'.<sup>107</sup> The ACAB further developed and used to great effect another organisation that had been created whilst the RAF was in France. This was 'Phantom', a specialised ground reconnaissance unit, composed of a joint army/air unit.<sup>108</sup>

Gort was initially apprehensive and critical of the ACAB and highlighted an issue that would cause real problems for the RAF when they looked to conduct impromptu air support missions. This was the potential time delay that could occur between a request for support being received and the attack being conducted.

Last week the board carried out a two-day practice scheme which worked pretty well, but it brought out the delays which now occur between a reconnaissance aircraft sighting a suitable target and the bombers leaving the ground to engage it, delays which **leaves** much to be overcome.<sup>109</sup>

Such a joint communications headquarters came straight from the ideas that had been trialled and tested during the inter-war period. When writing his despatches after the fighting in France, Gort's opinion of the ACAB had changed dramatically. 'The development of the ACAB and of its communication to the headquarters of higher formations in France and to

the Royal Air Force at home, was likewise to prove its worth in the days to come as an organisation for co-ordinating information and requests for air action'.<sup>110</sup>

Despite a relative lack of attention between 1919 and 1939, much good theoretical work was done to advance tactical air power. Amongst the ideas that emerged and would be utilised to great effect during the Second World War, was the importance of the co-location of headquarters, effective communications systems between squadrons and the placement of RAF staff officers at army divisional headquarters. During the inter-war period, the development of tactical air power in Britain was subject to little debate, a great deal of discussion and a lot of disagreement between the RAF and army. That knowledge gained during the inter-war period was not employed in the Battle of France by Britain was due to several reasons. British forces were under the strategic control of the French High Command and so were restricted in how they were able to deploy and operate; the French communication system did not lend itself to the methods of control suggested in the inter-war army co-operation exercises; and the Allies found themselves on the back foot from the beginning of the campaign and so were unable to act as they would have wished as they were always reactive rather than proactive. It also required a level of co-operation between the RAF and army that was simply impossible at this time, and ideas such as co-located headquarters could not be implemented. The RAF felt their independence to be under threat of the acceded to the army's requests, and with the settling of the independent status of the RAF, the army never truly believed it would gain operational control over sufficient air resources to justify developing its thinking to any great extent. This, combined with a continental role being at the bottom of its list of priorities meant that the army could use the development of tactical air power as a political rather than operational weapon.<sup>111</sup> **The army saw the relative lack of tactical air power as a means to place the burgeoning RAF under an immense amount of inter-Service political pressure and to push for what they**

**saw as the correct conduct of war at the tactical rather than the operational level. The army did not know how it would utilise close air support in the event of a major European war but did 'know' that it would only be effective for them as an organisation if it was focused at the tactical level. It was this political battle that was fought by the army and RAF in the inter-war period rather than one over how air support would be utilised in any major future war. This speaks further to an issue that continues to plague tactical air power to this day: the different perspectives of air and land commanders. The air commander is concerned not only with the front line but what is beyond it, within the range of the aircraft deployed. The land commander is concerned only with what can be seen up to the front line and a limited distance beyond this. As this article has demonstrated, the argument that the RAF simply forgot how to support the army in Britain during the inter-war period is incorrect. It would, however, be correct to argue that it was not a priority for either the RAF or the army at this time and its greater and further development suffered as a result. This meant that British forces in 1939 went to France with an incomplete doctrine. It did, however, provide the intellectual basis for further development during the Second World War under the auspices of Army Co-operation Command and the Western Desert Air Force.**

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<sup>2</sup> Richard P. Hallion, *Strike from the Sky: the history of battlefield air attacks, 1911-1945* (Washington, D.C. and London: Smithsonian Institution Press, 1989), pp.37-45. David Jordan, *The Army Co-operation Mission of the Royal Flying Corps/Royal Air Force 1914-1918* (PhD Thesis, University of Birmingham, 1997), pp.260-313 and David Jordan 'The Royal Air Force and Air/Land Integration in the 100 Days, August-November 1918', *Air Power Review*, 11 (2008), pp.12-29. Battlefield air interdiction is the sealing off of the battlefield from reserves and matériel through the destruction of bridges, supply and ammunition dumps and command and control centres.

<sup>3</sup> Stuart W. Peach, 'A Neglected Turning Point in Air Power History: Air Power and the Fall of France', in Sebastian Cox and Peter Gray (eds), *Air Power History: Turning Points from Kitty Hawk to Kosovo* (Oxon: Frank Cass, 2002), pp.145-6. Brad William Gladman, *Intelligence and Anglo-American Air Support in World War Two: The Western Desert, 1940-1943* (Basingstoke: Palgrave Macmillan, 2009), p.21.

<sup>4</sup> John Terraine, *The Right of the Line: The Royal Air Force in the European War 1939-1945* (London: Sceptre, 1985), pp.351-2.

<sup>5</sup> Scot Robertson, *The Development of RAF Strategic Bombing Doctrine, 1919-1939* (Westport, CT: Praeger Security International, 1995).

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- <sup>6</sup> David Ian Hall, *Strategy for Victory: The Development of British Tactical Air Power, 1919-1943* (Westport, CT and London: Praeger Security International, 2008), p.24. The Experimental Armoured Force was the British Army's development of a large-scale semi-independent tank formation. The experiment ceased in 1928 and all development in tank formations ceased.
- <sup>7</sup> Sir Maurice Dean, *The Royal Air Force and Two World Wars* (London: Cassell, 1979), p.151. John Buckley, *Air Power in the Age of Total War* (London and Bloomington, IN: Indiana University Press, 1999), p.82.
- <sup>8</sup> Neville Parton, 'The Development of Early RAF Doctrine' *Journal of Military History*, 72 (2008), pp.1170-1.
- <sup>9</sup> Matthew Powell, 'The Battle of France, Bartholomew and Barratt: The Creation of Army Co-operation Command', *Air Power Review* 18, (2015), pp.90-106.
- <sup>10</sup> Brian Bond and Williamson Murray, 'The British Armed Forces, 1918-1939', in Allan R. Millett and Williamson Murray (eds), *Military Effectiveness Vol.II: The Interwar Period* (New York: Cambridge University Press, 2010), p.111.
- <sup>11</sup> Williamson Murray, 'British and German Air Doctrine between the Wars', *Air University Review*, XXX (1980). Available at <http://www.airpower.au.af.mil/airchronicles/aureview/1980/mar-apr/murray.html>.
- <sup>12</sup> Sir Charles Webster and Noble Frankland, *The Strategic Air Offensive against Germany, 1939-1945* (London: Her Majesty's Stationary Office, 1960). Robin Neillands, *The Bomber War: Arthur Harris and the Allied Bomber Offensive 1939-1945* (London: John Murray, 2001). Peter Gray, *The Leadership, Direction and Legitimacy of the RAF Bomber Offensive from Inception to 1945* (London: Continuum, 2012)
- <sup>13</sup> Andrew Whitmarsh, 'British Army Manoeuvres and the Development of British Military Aviation, 1910-1913', *War In History*, 14 (2007), p.325.
- <sup>14</sup> Shelford Bidwell and Dominick Graham, *Fire-Power: The British Army Weapons and Theories of War 1904-1945* (Barnsley, 2004 [London, 1982]), pp.101-2.
- <sup>15</sup> David Jordan, 'The Royal Air Force and Air/Land Integration in the 100 days, August-November 1918', *Air Power Review*, 11 (2008), p.27.
- <sup>16</sup> Paddy Griffith, *Battle Tactics of the Western Front: The British Army's Art of Attacks 1916-1918* (New Haven and London: Yale University Press, 1994), p.41.
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