

Norwegian Air Power 1900-1923

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Table of contents

Foreword.....	5
Chapter 1	
Introduction	7
Chapter 2	
Background.....	15
Political background	15
1814–1905.....	15
Until 1914	16
1914–1918.....	17
After the War	18
The Military.....	19
Chapter 3	
Air Power in Norway?	22
The propagandists.....	24
Continental Influence	35
The Response from the Establishment.....	37
The Military.....	38
The Political Response	44
Why Should Norway Develop Air Power?	51
Why should Norway not develop air power?	60
Centralisation or Decentralisation?	62
Conclusion	70
Chapter 4	
The First World War.....	73
The Zeppelin Fear	76
Aerial Defence Becomes a Priority.....	86
The Attempts for Greater Jointness.....	91
British Influence	97
Conclusion	100

Chapter 5

The Aftermath of War	102
Epilogue to the Defence Commission	110
Conclusion	112

Chapter 6

Conclusion	114
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Bibliography	116
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Foreword

This study is a slightly altered version of my Thesis in Master of Philosophy in Modern History at the University of Glasgow. The thesis was made possible by the Royal Norwegian Air Force Academy, as this institution believes in giving its staff the opportunity to enhance their knowledge. I would especially like to thank Dr. Nils Naastad, Lieutenant Colonel Bjørn Tore Sneisen and Colonel Rune Bjerås for their personal contribution in formalising studies for Norwegian officers at the University of Glasgow.

I would like to explain deep gratitude also to Professor Hew Strachan, now Chichele Professor of War at the University of Oxford, not only for being my supervisor throughout the project, but also for his dedication to the cooperation between the University of Glasgow and the Royal Norwegian Air Force Academy. It is a great honour of mine to have been given the opportunity to cooperate with one of the world's leading military historians.

I am also grateful to my colleagues at the Department of Air Power and Technology at the Royal Norwegian Air Force Academy, for their help and support throughout this work. At our department the language and feedback is somewhat uninhibited. Lively discussions and honest feedback is hopefully a foundation for quality. I particularly want to mention Dr. Nils Naastad, Lecturer Øistein Espenes, Lecturer Karl Erik Haug, Lecturer Lars Fredrik Moe Øksendal, and Dr. Major John Andreas Olsen. At the Academy, librarian Nina Beck Anderssen has, as always, been most helpful.

When I told people about the topic of this study, I mainly got two questions, the first being how I came to write about this subject? The answer is quite simple; I developed an interest in the subject when I took part in a project concerned with naming the classrooms at the Academy. To my own surprise I discovered that several Norwegian officers had been thinking about and discussing air power as early as 1906. The

second question has been if there is enough material to write a whole thesis about this topic? The answer is YES. The selection of sources has, even with such a limited topic, been a time-consuming task. For anyone interested there is a lot more material to study. In these circumstances, it is also worth mentioning that we who live in what we like to see as the most enlightened period, so easily believe that past times thinking was not very advanced. After completing this study, I have begun wondering if it is not the other way around.

As most scholars will know, the writing of a thesis and marital life do not always go hand in hand. I am still happily married to Oddrun. That is a product of her patience. Thank you.

Chapter 1

Introduction

It was 19 April 1912.¹ In the officers' mess at the Royal Norwegian Navy's main base, Karljohansvern in the town of Horten, three navy officers read that day's newspapers. The senior ranking of them was Lieutenant Commander Carsten Tank-Nielsen, captain of Norway's first submarine *Kobben*. The boat's second-in-command, First Lieutenant Hans Fleischer Dons and the mate on board the supply vessel *Tyr*, First Lieutenant Jens Helge Sem-Jacobsen, were also present.

The newspapers reported that a Swedish Lieutenant, Olle Dahlbeck, planned a new flight in Norway the coming summer. He planned to pass Karljohansvern, and rumour had it that he wanted to bombard the base with oranges, just as he had the old fortress of Kristiansten in the city of Trondheim the year before.

By April 1912 no Norwegian had flown an aeroplane over Norwegian territory. There had been several display flights from 1910 onwards, mainly performed by Swedish pilots, such as the famous Baron von Cederström, who had flown several times over Norway's capital, Kristiania.

The three navy officers discussed the gauntlet that Dahlbeck had thrown down to the Norwegian Navy. They could not tolerate that a Swedish pilot should be the first to fly over

¹ This story is based on Dons 1935; Henriksen 1994, pp. 13–17; Thoresen 1986, pp. 14–22.

Karljohansvern, the Navy's pride. It was only seven years since the dissolution of the union with Sweden. They decided that the first to fly over Karljohansvern was to be a Norwegian. They established a committee, which they named after their submarine. The aim was to forestall Lieutenant Dahlbeck. They were in quite a hurry, as their goal was to get airborne by the end of May.

The *Kobben* flight committee did not lack initiative. It was decided that Dons was to travel to Germany to acquire an aeroplane and try to get himself some training as a pilot. Tank-Nielsen was to head a fund-raising campaign that would pay for everything. Dons was therefore given immediate leave by Tank-Nielsen, and left for Germany the same evening. The fund-raising campaign went ahead splendidly. They needed about 30,000 Norwegian kroner (NOK),² and after appeals in several newspapers they quickly managed to get that amount. The King of Norway, Haakon VII, gave 3,000 NOK.

In Germany Dons did not have that great a time. The weather was quite bad, resulting in a queue at the pilot training school. He flew, however, several times, and already on 24 April he sent a telegram to Tank-Nielsen that just read: "All my worries have gone to hell. Get the money."³ But the weather was still a major problem, and by late May Dons was not ready to take his pilot's exam. He decided to return without a pilot's certificate. Dons had bought a Rumpler Taube, a two-seat monoplane, and had it shipped to Horten. The aircraft arrived in late May. *Kobben's* second engineer, Kristian Jacobsen Snekkestad, had been in Germany on a crash course, and was responsible for assembling the aircraft. Dons arrived on 31 May. They decided to try to fly the next day from the Gannestad field, outside Horten. At the last minute they named the aeroplane *Start*.

² The exchange rate before the First World War was approximately 18 NOK to the pound. In the rest of the period the exchange rate fluctuated more.

³ Quoted in Henriksen 1994, p. 14, author's translation.

In the early morning of 1 June 1912 Dons, without a pilot's certificate and with just a few solo trips, seated himself in *Start*. Some seamen held the aeroplane back, since it was not fitted with brakes, and one rotated the propeller so that the engine started. The next minute *Start* flew over Karljohansvern, crossed the Oslo Fjord, and landed after a 35-minute flight at Øra by the town of Fredrikstad. During the flight Dons had taken his first ever turn to the right.

Why begin a study on the Norwegian debate on air power doctrine and organisation – a theoretical theme – with this practical story of the first Norwegian flight? First, to stress the differences between the practice of flying and debates on air power, thus elaborating on the topic of this study. Secondly, to make a point about the available literature. These two aspects will be outlined in what follows.

The story of the first Norwegian flight is a matter of pride, and has been told elsewhere. But, a theoretical approach is necessary in order to explain the development rather than describe it. This study will therefore focus on the air power debate that took place in Norway in the period from 1900 until 1923. The emphasis will be less on the development of Norwegian military flight, but on the doctrinal and organisational underpinnings of that development.

It will be argued that there was extensive development of doctrinal views on air power. The inspiration for this development came first from the continent, and later from Great Britain. The concept of air power met little resistance in the military and political establishments, although none of them was particularly enthusiastic. The problems of developing Norwegian air power surfaced, however, when the question of organisation had to be solved. When the

theoretical possibilities of new technology approached reality, opposition emerged.

The starting point for this study is around 1900. Although some officers had considered the use of balloons for military purposes before that,⁴ it was not until the turn of the century that some saw flight as having an influence upon military operations. The study ends in 1923, when the Defence Commission of 1920 submitted its report on military aviation in Norway. A short epilogue will be given to explain the fate of the Commission's recommendations.

Two conceptions are central to this study: debate and doctrine. The term debate is understood as a more or less public discussion on a subject, created against the background of disagreement. A debate or discussion demands at least two active participants, but this was not always the case. Several of the articles used as sources did not get a direct reply, but nevertheless they were part of a larger debate. It follows from this that a debate has to be carried out in a public forum. This view informs the use of sources. The main ones have been public documents and journal articles.

The term doctrine is commonly used in military establishments today. NATO defines it as: "Fundamental principles by which the military forces guide their actions in support of objectives. It is authoritative but requires judgement in application."⁵ In Norwegian the English term has its direct counterpart in the term "doktrine". However, the term was not used in any of the sources of this study. But principles for the employment and use of air power were, of course, debated. Although nobody referred to these

⁴ Amongst others, a First Lieutenant Bonnevie had held an address on "Balloons for Warfare" in 1869 in the Kristiania Military Society, see Rørholt 1925, p. 287. Captain S. Jenssen held two addresses on military ballooning in the Trondheim Military Society in 1899, see Holtermann and Haanæs 1900, pp. 58–59.

⁵ NATO, *AJP 1(A), Allied Joint Operations Doctrine*, September 1997, Glossary-5.

discussions as a debate on doctrine, that is what we would call such discussions today.

Very little is written on the subject of this study. Not much scholarly work has been done on Norwegian air power at all. As John H. Morrow observes in the introduction to his book on aviation before and during the First World War, most of the literature about aviation is written with such a passion for the concept of flight that the analytical perspective disappears.⁶ David Edgerton writes that almost every detail about every aircraft the British have ever flown is covered in the literature.⁷ Another aspect of military history in general is that most of it describes military development as a military concern *per se*, and often fails to take into account the cultural, social and political influences on that development (and *vice versa*). As Michael Paris argues, this has been a feature of British aviation history, and the same can be said about the case of Norway.⁸ The literature is mainly of a narrative nature without any analytical perspective. A lot of the authors are by definition pro-flight.

To make my point about the literature, the story about Dons and his aircraft *Start* has been told in several books and articles. One can find out almost everything about it; how the weather was; when the aeroplane was baptised etc. But hardly any of the authors makes a huge point out of *why* this flight came about. Dons and his fellow officers in the Norwegian Navy had no special interest in flying or in aeroplanes.⁹ It was the relationship between the big brother Sweden and the little brother Norway that triggered the initiative of the Norwegian navy officers. They just wanted to beat the Swedes, who, as always for a Norwegian, were the best to beat.

⁶ Morrow 1993, pp. xiv–xv.

⁷ Edgerton 1991, p. 122.

⁸ Paris 1992, p. 3.

⁹ None of the officers involved in the procurement of *Start* was involved in military aviation at a later stage, with the temporary exception of Dons, who until 1913 flew *Start*, see Arveschoug 1962, pp. 160–161.

Some works have, however, been helpful to this thesis. Vera Henriksen has written the official history of the Army and Navy Air Arms for the period.¹⁰ It is basically descriptive, and does not give much attention to question of doctrine development. Henriksen focuses on the personalities, and although she shows quite clearly that the development of Norwegian aviation was a story of accidental development, she does not put this development into any broader picture. The same can be said about an earlier book by Fredrik Meyer.¹¹ A particular debate in the period from 1912 until 1944, when the Royal Norwegian Air Force were formed was whether the two air arms should join in an independent air force. Olav Riste has written a short article on this subject,¹² and Bjørn Magne Smedsrud has submitted a thesis at the Royal Norwegian Air Force Academy.¹³ Both argue that the reason for not having an independent service was that the Navy opposed the idea. Fredrik Tiller's thesis on the procurement of British fighters during the Great War has been helpful, although he has looked little into the doctrinal background for the procurement.¹⁴

Rolf Hobson and Tom Kristiansen's volume three of the ongoing work on Norwegian Military History covers this period, although with little emphasis on aerial development.¹⁵ The book gives, however, a brilliant background of military development in the period. On Norwegian foreign politics, Roald Berg's volume on the history of Norwegian foreign policy has been helpful, although it contains little about military questions.¹⁶ On Norwegian culture in the period, Hans Fredrik Dahl's volume on the period from 1905 to 1940

¹⁰ Henriksen 1994.

¹¹ Meyer 1973.

¹² Riste 1985.

¹³ Smedsrud 1998.

¹⁴ Tiller 1997.

¹⁵ Hobson and Kristiansen 2001.

¹⁶ Berg 1995.

in the Norwegian history of ideas gives good insights into contemporary debate.¹⁷

To put the Norwegian debate into an international perspective, several books are available on German, French and British air power. John H. Morrow's book on military aviation from 1909 to 1921 gives a comparative overview.¹⁸ On Britain, Hugh Driver illuminates technological aspects before 1914, and shows why Britain was not the leading country in pre-war Europe.¹⁹ Malcolm Cooper gives the background for the creation of the RAF in a brilliant book on British air policy during the Great War.²⁰ David Edgerton's essay is written as an anti-thesis to the general acceptance of Britain as backward in aeronautical development. Michael Paris' splendid book on the literature and theory of aerial warfare in Britain has been a great inspiration.²¹ On Germany, Peter Fritzsche's *A Nation of Fliers* shows how German nationalism and aviation became intertwined from 1908 onwards.²² Robert Wohl's *A Passion for Wings* is an excellent more general cultural study on the development of air power, and has also inspired this thesis.²³ Wohl puts aviation and modernity in a broad cultural and ideological context in the years before and during the Great War. The same can be said about Azar Gat's *Fascist and Liberal Visions of War*.²⁴

The study is chronologically structured, and divided into six chapters. Chapter two provides a brief political and military background. Chapter three focuses on the period before the First World War, while chapter four concentrates on the period of the First World War. The fifth chapter investigates

¹⁷ Dahl 2001.

¹⁸ Morrow 1993.

¹⁹ Driver 1997.

²⁰ Cooper 1986.

²¹ Paris 1992.

²² Fritzsche 1992.

²³ Wohl 1994.

²⁴ Gat 1998.

the lessons learnt in Norway from that war. Chapter six contains the conclusion.

Chapter 2

Background

A debate on air power does not take place in a vacuum. Both international and national developments formed the Norwegian debate on air power. Some of the international developments within air power doctrine will be commented on throughout the study. This chapter will therefore give a national background against which the debate on air power took place.

The first part of the chapter will give the political background. The newly independent Norway was not struggling for power on the international scene. As a small nation on the outskirts of Europe in a period of accelerating rearmament, the Norwegian authorities did their best to stay out of the way.

To understand the debate on air power in Norway, it is important to have some knowledge about the military system. The Army and the Navy operated quite independently both in military and political terms. The second part of this chapter will give a brief overview of the system.

Political background

1814-1905

Since 1814 Norway had been in a union with Sweden. Norway had an autonomous position in the union, and its own constitution, parliament, cabinet, army and navy, but no

foreign service. Parliament had control over all funding within the state. After a harsh dispute with the king, the parliamentary system was introduced in 1884.

In 1895 Norway suffered a bitter defeat when the Swedes threatened war to discipline the Norwegian authorities on a question about who should control the foreign service. The Norwegians had to back down, partly because their armed forces were in no condition to fight the Swedes. This led to an increase in armaments in Norway over the next ten years, with the result that Norway entered the 1905 union crisis with both a relatively modern Army and Navy. The break up of the union, however, ended peacefully.

Until 1914

In the first years as an independent nation, Norway prospered. The development of hydropower led to the industrialisation of more parts of the country. This created a labour force that radicalised politics. The period showed little stability, since governments changed quite often between three major political parties, the Conservatives (Høyre), the Liberals (Venstre) and the Liberal minority party (Frisinnede Venstre).

The first years of Norwegian foreign policy have been characterised as: “neutralism, non-alignment and a strong taint of isolationism.”²⁵ The first Norwegian minister of foreign affairs, Jørgen Løvland, worked for a treaty, by which the great powers of Europe would guarantee the integrity and neutrality of the country. Great Britain, Germany, France and Russia signed the so-called Integrity Treaty in November 1907. Great Britain had been critical, because the Treaty could create problems for their freedom of action in the North Sea. The formal Treaty only contained a guarantee from the signatories that they would respect Norwegian *integrity*. On request, they would protect it.

²⁵ Riste 1985, p. 129.

Great Britain was portrayed as the implicit guarantor for Norway. Norwegians expected that Great Britain, in its own interest, would see to it that Norway, with its long coast and harbours, was not occupied by another great power. Roald Berg argues that the Norwegian security system was based upon three pillars: 1. The military, 2. International law and 3. The implicit guarantee from Great Britain.²⁶

The budgets of the armed forces declined after the immediate threat of war disappeared. A new plan for a modern and well-equipped army was, however, sanctioned by Parliament in 1909, but the budgets to follow it up did not materialise. From around 1911 the Liberals were forced to change their military policy, partly as a result of the strengthened anti-militarism of the Labour Party (*Arbeiderpartiet*). Labour was, however, still too weak to have a major influence in Parliament. Thus, in 1912 a new navy-plan was sanctioned. It would have modernised the navy, but it was set back by the outbreak of the First World War, since ships being built in Great Britain for the Norwegian navy were not released.

1914–1918

Initially, Norway followed a line of strict formal neutrality during the war. Politically the period was characterised by stability, since the Liberals headed the government throughout the war. The Prime Minister from 1913 until 1920, Gunnar Knudsen, was not, however, interested in security or military questions but in social welfare. It was the Minister of Foreign Affairs, Niels Claus Ihlen, who was the important war politician. Political opposition was almost gagged, since the Liberals had the majority in Parliament from 1913 to 1918.

Norway's neutrality created increasing problems as the war lengthened. From the autumn of 1916 Norway drifted towards the Allies and especially Great Britain. This has led

²⁶ Berg 1995, pp. 48, 91.

Olav Riste to call Norway "The Neutral Ally".²⁷ Although most of the country's trade before the war had been with Great Britain, parts of the academic and cultural elite had close bonds with Germany. Norway was dependent upon import and its merchant fleet, the fourth largest in the world. The Entente saw this large fleet as a weapon in the war. The war brought Norway closer to Britain in almost all aspects of life.

Defence budgets rose. The entire navy, several fortresses and parts of the army had been mobilised at the outbreak, and, as guarding neutrality was not an easy task, especially given the long coastline of the country, claims for higher spending were sanctioned by Parliament. A strong and somewhat non-political minister of defence, Lieutenant Colonel Christian Theodor Holtfodt, led the development of the armed forces in the period.

After the War

As the Great War ended, and the League of Nations rose out of the ashes, Norwegian politicians began fighting for and against participation. The League was used to question the need for armed forces. The Government set up a committee in 1919 to look at all aspects of Norway's armed forces, including total disarmament. A possible Norwegian participation in the League also challenged Norway's long tradition of isolationism, as well as the question of neutrality.

In 1920 the seven-year reign of the Liberals and Gunnar Knudsen ended, and in the next four years Norway had four different governments, since neither the Conservatives nor the Liberals could establish a government based on a solid parliamentary basis. The growing Labour Party was radicalised by the Russian revolution and the establishment of the Third Communist International of which, for some years, it was a member.

²⁷ Riste 1965.

By 1921 the Norwegian economy was in major trouble, troubles that would last well into the 1930s. From 1920 to 1935 Norwegian industry was in almost constant crisis. The leading economic theory was to save in harsh times, and hence the budgets of the armed forces kept on decreasing.²⁸

The Defence Commission of 1920 published its views on Norwegian defence policy in several reports from 1921 onwards. The majority of the Commission rejected disarmament, thus securing the basis of the armed forces.

The Military²⁹

The formal head of both the Army and the Navy was the King. This arrangement was mostly formal. The political leader was the minister of defence, who was responsible to Parliament. Norway had formed a joint defence ministry as early as 1885, but this jointness did not amount to much. The only joint position in the ministry was that of the minister himself; all others were placed in either of the two departments for the Army and the Navy. Leading each of these departments were respectively the commanding general and the commanding admiral.

The ministers of defence changed quite often in the period, with the exception of the five-year period in office of Lieutenant Colonel Holtfodt (August 1914 until February 1919). All of the men who held the position between 1900 and 1923, with one exception, were officers.³⁰ Some officers were also members of Parliament.

In an attempt to establish joint leadership of the armed forces, Parliament created the Commission on Defence Issues in 1900. This Commission consisted of the Minister of Defence, the Commanding General, the Commanding Admiral, the Chief of the General Staff and the Chief of the

²⁸ Bull 1978, pp. 38, 256.

²⁹ This part is mainly based on Hobson and Kristiansen 2001.

³⁰ Only one of the Ministers of Defence was an officer of the Navy.

Admiral Staff. As Rolf Hobson and Tom Kristiansen have shown, the Commission did not function as planned, and had little practical value.³¹

The most important part of each of the two services was respectively the general staff and the admiral staff. Although both were formally subordinated to the commanding officers, they had a somewhat independent position. There were great differences between the two staffs. The general staff had a stronger position within the army than its counterpart in the navy. The general staff was also the larger: in 1907 37 officers were employed, whilst only five in the admiral staff. There were ongoing disputes on competence between the staffs and their respective commanding officers.

The army was also by far the larger of the two services. The structure of the army was clearly based on what it saw as the potential threat to Norway, which was an attack from the east, most probably from Sweden. The threat from Russia was never that seriously treated in Norwegian army circles. The army depended heavily upon conscription and reserve officers. Only a small part of the officer corps and some non-commissioned officers held full peacetime positions. Until 1909 the army was organised according to the plan of 1887, and consisted of five infantry brigades. The supporting arms, such as the cavalry, the artillery, and the engineers, were each led by an inspector general, and normally organised in independent units. They were to support the infantry brigades when necessary. With the new army plan of 1909 the army was organised in six combined brigades with organic support weapons. They were geographically spread throughout the country, the 6 Brigade being formed in Northern Norway.³² The positions of the inspectors general of each of the army's arms were, however, kept.

³¹ Hobson and Kristiansen 2001, pp. 28–29, 171.

³² In 1916 the term brigade was changed to division.

The Norwegian Navy was faced with two questions. First, was the navy to be a fighting navy that was organised to attack an invading fleet or was it to guard the country's neutrality? Secondly, was the navy to support the army's threat evaluation of a possible attack from the east, or should it to prepare to shore up neutrality during a war in the North Sea between Germany and Great Britain? Until a new plan for the navy was approved by Parliament in 1912, the navy's structure was a compromise between these two scenarios. The new plan was very ambitious, partly as a result of the perceived threat to Norway during the Moroccan crisis of 1911, when large parts of the German fleet trained off the Norwegian coast. The North Sea scenario was chosen as the most likely, but the navy's structure was still a compromise between a war-fighting organisation and an armed coast guard. The plan of 1912 was never carried out, due to both the outbreak of the First World War, which made the procurement of ships abroad difficult, and the lack of funding. The plan was important, though, in a doctrinal perspective, since it so clearly chose one scenario.

Chapter 3

Air Power in Norway?

Although air power was new technology which had the potential to change war fundamentally, the Norwegian air power debate in this period cannot be termed speculative at all. It has not been possible to find any literature of the kind that Michael Paris has written about.³³ Moreover, there is no Norwegian parallel to the British science fiction writer H.G. Wells' book *The War in the Air* from 1908.³⁴

Mostly officers participated in the debate. Probably this created a debate that never contained very speculative thoughts on future warfare. Air power was mainly seen as a new means for waging the wars of yesterday.

In addition to this, most of the debate had a land and not a naval perspective, which enhanced this view of warfare. The aircraft had an inherent potential for observation, and this was therefore to be its purpose. The fighting would be done by men on the ground, not by machines in the air. As both Ståle Ulriksen and Karsten Friis have pointed out, the mental picture of the citizen soldier with his rifle has been very strong in the Norwegian army.³⁵ This picture of the Norwegian as a common man and hence a common soldier who would fight

³³ Paris 1992.

³⁴ Kåre Fasting has pointed out, however, that Wells' book was published in Norwegian serials, but claims that most people did not take his book that seriously, see Fasting 1959, p. 36.

³⁵ Ulriksen 2002; Friis 2000, pp. 119–143.

in the harsh parts of Norway, made it difficult to argue for one of the most important symbols of the machine age – the aircraft.

This mental picture had its opposite in the belief in modernisation. The belief in a better society and future through science, technology and the enlightenment of the people was strong. The development in communications especially inspired people's fantasies. Some even claimed that when the new communications had torn down the imaginary walls surrounding mankind, they would bring peace and prosperity to mankind, and make war impossible. As Per Fuglum points out, the fascination for new technological achievements was huge, and the aircraft was among the new developments that created the largest sensations and bravest expectations.³⁶ In the early summer months of 1914 a huge exhibition was held in Kristiania to celebrate the 100th anniversary of the Constitution. The exhibition glorified technology and the belief in the future.³⁷ The famous Norwegian author, Bjørnstjerne Bjørnson, expressed this belief when he received the Nobel Prize for literature in 1903:

I see the development of mankind as an endless journey on a path forward – if not in a straight line, indeed forward. An irresistible desire drives it, from the beginning by instinct alone, but thereafter ever more consciously.³⁸

The tension between these two views had a clear impact on the air power debate. There were three officers whose engagement in air power made them propagandists of the new weapon, Einar Sem-Jacobsen and Severin Christian Holm Simonsen of the Army, and Halfdan Gyth Dehli of the navy. They all argued for the need to develop Norwegian air power, but were reluctant to use too speculative a vocabulary. These

³⁶ Fuglum 1978, pp. 133–168.

³⁷ Alnæs 1999, p. 63.

³⁸ Quoted in Fuglum 1978, p. 136, author's translation.

three men and their ideas will be discussed more closely in what follows. Thereafter the reactions from the establishment will be examined, including the arguments for and against the development of air power, before the chapter will end with a discussion on organisation.

The propagandists

Air power was in this period seen first and foremost as an instrument of observation. In most of the articles no other use of airspace was commented on or foreseen. The foremost exponent of this view was Einar Olaf Sem-Jacobsen.

Sem-Jacobsen was born in 1878, the son of a Lieutenant Colonel in the army. He became a student in 1896, graduated from the War Academy (Krigsskolen) in 1899, and the Staff College (Den Militære Høiskole) in 1901. He was an engineer officer of the army, and became inspired by aeronautics quite early. He gave the first of his many lectures on air power at the Kristiania Military Society (Kristiania Militære Samfund) in 1904, the most important rostrum for military speakers in Norway.³⁹ In 1909 he talked about the man-lifting kites, which he was in the process of constructing for the polar explorer Roald Amundsen.⁴⁰ In 1911 he lectured on the latest French military aircraft,⁴¹ and he spoke on 25 March 1912 about the military use of aeroplanes.⁴²

Sem-Jacobsen wrote several articles on air power. The main body of them was factual, giving reports on developments in continental Europe. He also wrote articles on the technicalities of airships and aircraft, as well as articles advocating the development of Norwegian air power.

³⁹ "Aarsberetning for Kristiania Militære Samfund 1904", *Norsk Militært Tidsskrift*, 2/1905, p. 122.

⁴⁰ "Aarsberetning for Kristiania Militære Samfund 1909", *Norsk Militært Tidsskrift*, 2/1910, p. 99.

⁴¹ "Aarsberetning for Kristiania Militære Samfund 1911", *Norsk Militært Tidsskrift*, 2/1912, p. 203.

⁴² Sem-Jacobsen 1912, pp. 231–247.

In 1909 he wrote his first of many articles on air power.⁴³ This article is a clear example of Sem-Jacobsen's ideas on air power before the Great War, and will therefore be used to illustrate his views. The article focused upon the military use of all the types of aerial vessels; captive balloons, free-balloons, kites, airships and aircraft. He began the article with the negative outcome of the second Hague peace conference with regards to the ban on bombardment from the air, and used this as an argument to foresee military use of the air without limitations in a coming war.⁴⁴ He was of the opinion that balloons would mainly be used for signalling, reconnaissance and observation purposes. The captive balloon would be used as an observation platform for an army in the field and the free balloon for signalling from an entrenched army or city. But he concluded that the airship would take over the balloon's role as a platform for observing and signalling.

Sem-Jacobsen also commented on the problems concerning the downing of captive balloons. This was not easy with ordinary artillery guns: one had to have weapons specially constructed for this purpose. To solve this problem, however, he had an original idea. He claimed that an airship could do the job quite easily, running into the captive balloons one by one. Sem-Jacobsen here foresaw the air-to-air battle, although only one of the battling parties would be able to manoeuvre.

Sem-Jacobsen gave some attention to the offensive aspects of air power. He pointed out that thoughts on the offensive use of air power were strictly theoretical, since it had not yet been tried in war. He saw the aeroplane mainly as a means of observation or for the transportation of commanding officers, due to its limitation in tonnage. The airship would, however,

⁴³ Sem-Jacobsen 1909, pp. 505-512.

⁴⁴ The second Hague conference was conducted between 15 June and 18 October 1907. The attempts to ban bombardment from the air did not succeed.

be a terrible offensive weapon, spreading severe damage to the targets it would attack. Sem-Jacobsen had opinions on the targets too, although he did not argue for this selection. He did not see armies in the field as suitable targets. Airships would rather attack targets behind the front – the bases of the army. The targets would therefore be the enemy's seaports, his depots, his railway junctions and his fleet. In other words, Sem-Jacobsen was referring to what we today term interdiction, defined as operations “conducted to destroy, disrupt, neutralise or delay the enemy's military potential before it can be brought to bear effectively against friendly forces.”⁴⁵

Sem-Jacobsen's view on the offensive potential of air power developed along with its technological development. Already in 1913 he suggested that there be three small units of offensive aircraft in the Norwegian air power inventory. The reasons for this suggestion were not given, however, and it is quite difficult to see what development Sem-Jacobsen's ideas had gone through to make him suggest this. One did not have to be that visionary to believe in air power's potential as an offensive weapon in 1913, but it was a great leap to put such a vision into practice by establishing three offensive units within such a small air arm. The Defence Ministry seems not to have taken the suggestion seriously, since it was no more than mentioned in their proposition to Parliament.⁴⁶

Sem-Jacobsen wrote about the moral aspect of air power several times. Although he seemed somewhat sceptical of air power's capacity to hit and destroy targets, he pointed out that offensive air power at least would have a great moral impact on the enemy. Troops attacked from the air – or troops who had only seen an aircraft – would be frightened, and thus do their job worse. The moral fibre within the armed forces of a country without aeroplanes, if the enemy had

⁴⁵ Royal Air Force, *AP 3000. Air Power Doctrine*, 2nd Edition, 1993.

⁴⁶ Stortingsproposisjon 147/1913, 15.

many, would break. Sem-Jacobsen foresaw that air power would not be a precise weapon, and used air power's long lasting but never conclusively proven argument – that bombs from the air would have a moral impact.

Sem-Jacobsen made a point of explaining that air power would bring warfare to a new dimension and that this would mean that the traditional boundaries of warfare would become obsolete. The 1909 article concluded that “[w]ith the airships of war the existing boundaries of military operations will vanish.”⁴⁷ Although Sem-Jacobsen claimed this, his views on the development of air power cannot be categorised as very visionary. He was, however, amongst the few Norwegians who foresaw the development of aerial bombardment as early as 1909, but he had a practical focus and seemed not to be too interested in speculations about the future. It could be that this lack of vision about future developments stemmed from a wish not to emphasise air power's possible contribution to warfare. Too visionary ideas could lead to a lesser impact in the defence community.

Sem-Jacobsen was most definitely the person writing on air power who reached the broadest audience. Although most of his articles were published in the Norwegian Military Journal and most of his speeches were probably given to military audiences. He wrote for other journals as well. When the Norwegian Aeronautical Association launched its journal, Aeronautics (*Luftseilads*), in 1910, Sem-Jacobsen was the most frequent contributor. The same year he also wrote a series of articles for Technology Weekly (*Teknisk Ukeblad*), a magazine that focused on technical development, and had a wide audience throughout the country.⁴⁸ These richly illustrated articles are quite an impressive run-through of all the different types of airships. In addition to his writing, he addressed different audiences throughout the country. Sem-

⁴⁷ Sem-Jacobsen 1909, p. 510, author's translation.

⁴⁸ Sem-Jacobsen 1910.

Jacobsen spoke at least twice to the Polytechnic Association, the foremost technological association in Norway.⁴⁹

When H. Aschehoug published a six volume monumental encyclopaedia from 1907 to 1913, Sem-Jacobsen was the expert on aerial subjects.⁵⁰ The historian Hans Fredrik Dahl has termed this a pioneering encyclopaedic work written by the foremost experts in all fields of knowledge in Norway.⁵¹ This suggests that Sem-Jacobsen was not only the foremost expert on these issues, but also known to be that. The government also used Sem-Jacobsen several times as an expert on air power. He also assumed this role with the Inspector General of the Engineering Arm on several occasions. As such, Sem-Jacobsen had a great influence on Norwegian aerial policy at several levels of government. Since the Defence Ministry was the body that was to evaluate the proposals from the different Inspectors General, Sem-Jacobsen had a dual role both as the one who proposed new ideas and as an evaluator of the ideas of others.

Sem-Jacobsen became the central aerial pioneer in the Army. He flew in the first captive balloon at Fredriksten in 1906, and took the initiative to form the Norwegian Aeronautical Association in May 1909, becoming its secretary and definitely most eager member for the next ten years.⁵² He qualified as a certified balloon pilot in 1910. With his own funding he was educated as an aeronautical engineer in Paris in 1911. He was one of four officers who got a scholarship from the government to become a pilot in 1912, obtaining the international flying certificate on 21 July 1912. He became the

⁴⁹ 6 April 1909 he spoke on the development of flight in the Polytechnic Association. The address mainly dealt with the technological development, and is thus not that important to this study. Parts of the address is given in Fasting 1959, pp. 18–20.

⁵⁰ Nyhus 1907–1913.

⁵¹ Dahl 2001, p. 138.

⁵² The pioneer years of the Norsk Luftseiladsforening and Sem-Jacobsen key role within that organisation is described in Fasting 1959, pp. 1–200.

main developer of the Norwegian Army Air Arm from 1912 onwards, and served as Chief of the Army Air Arm Technical Branch and the aircraft factory at Kjeller.⁵³

Sem-Jacobsen was a stubborn and short-tempered man. This was combined with loads of enthusiasm on air power matters and plenty of ideas about the development of Norwegian air power. Norwegian bureaucracy disappointed him on several occasions, and, as he protested quite loudly, his influence slowly waned.⁵⁴

Sem-Jacobsen visited Germany for aeronautical purposes both in 1909 and 1910. In 1909 he flew as a passenger with Orville Wright and in 1911 he visited the aeronautical exhibition in Turin.⁵⁵ Despite this, he seems to have been most interested in the development in France. The obvious reason for this was that France was the leading nation with regard to aircraft before 1914. Sem-Jacobsen visited France several times – in 1911 he attended the famous military aircraft competition in Reims.⁵⁶ He also represented the Norwegian Aeronautical Association at the international conference arranged by *Fédération Aéronautique Internationale* (FAI) in Paris in October 1910.⁵⁷ It was respectively Parliament, which awarded Sem-Jacobsen a small scholarship to study air power, and the Norwegian Aeronautical Association that paid for these trips.

⁵³ Sem-Jacobsen wrote about these innovative years in Sem-Jacobsen and Arnesen 1930.

⁵⁴ Amongst others, Sem-Jacobsen was very disappointed and wrote a lengthy letter threatening to leave the Army to the Defence Ministry when they nominated his fellow airman, Henrik Thaulow, as the first Chief of the Army Air Arm Tactical Branch on 15 August 1913. This happened in spite of the fact that Sem-Jacobsen from January 1913 temporarily had been appointed chief at the air base at Kjeller, which meant that Sem-Jacobsen led military flight in the Army.

⁵⁵ Henriksen 1994, pp. 19–20.

⁵⁶ Sem-Jacobsen 1912, pp. 37–65.

⁵⁷ Engelstad 1910, 24.

Sem-Jacobsen's impact on the ideas of air power in Norway was quite large. He was the central figure in the military and at the political level as an adviser, and he influenced public opinion through his works in the encyclopaedia and also in other popular writings. His sobering influence was probably one of the reasons why the Norwegian air power debate never took the speculative form it did in other countries. The historian Kåre Fasting has indeed described Sem-Jacobsen as a "sober enthusiast".⁵⁸ Although he was extremely enthusiastic about the development of manned flight, he did not fantasise about it.

The other army officer who wrote extensively on air power in this period was Severin Christian Holm Simonsen. He spent his entire military career in the Fortress Artillery Arm. Like the Engineering Arm, this was not an arm that led to high-ranking commands.⁵⁹ He became an officer in 1901, and was thirty years old and a First Lieutenant when he began writing about air power issues in 1906. In 1907 he visited Germany, most probably on a study trip in an aeronautical context, and witnessed tests with different types of balloons.⁶⁰ From 1906 to 1910 Holm Simonsen wrote on air power and other technological issues of war. Three articles on air power were published in 1906–07 in the Norwegian Military Journal. He was the first to write on military aviation in *Aeronautics (Luftseilads)* in 1910.⁶¹ In addition, he wrote about other technological developments and how they would influence warfare.⁶² He also gave addresses on these matters. On 21 December 1909 he conducted a discourse on military

⁵⁸ Fasting 1959, p. 19.

⁵⁹ In 1917 none of Norway's 12 generals was a fortress artillerist. Of the colonels, only two out of thirty were from this arm, and amongst a total amount of 39 Lieutenant Colonels, only five were fortress artillerists. See *Militærkalender for den norske Hær og Flaate 1917* (Kristiania, 1917), pp. 167–169.

⁶⁰ Holm Simonsen 1910, p. 15.

⁶¹ *Ibid.*

⁶² Holm Simonsen 1908; Holm Simonsen 1909.

aeronautics in the Norwegian Aeronautical Association.⁶³ Near the end of 1910 or the beginning of 1911 he delivered another lecture at the Bergen Military Society where he again talked about the influence of air power on warfare.⁶⁴

Holm Simonsen was probably the author of the first article written by a Norwegian to comment on the offensive potential of air power in 1906.⁶⁵ He saw air power mainly as a platform for observation and reconnaissance. In this rather visionary article he was possibly the first to use the term air power,⁶⁶ and he claimed that technological development would lead to air power becoming as influential as land and sea power. He focused on the use of the airship as an offensive weapon, and used experiments in France on bombardment from the air to underline this argument. Airships were able to carry explosives that could be thrown against targets on the ground, and they would therefore be used for such a purpose. Holm Simonsen argued that this was a temporary problem. The main point of the article was, however, that air power had come of age with the invention of the airship, especially as a means of observation.

In 1909 Holm Simonsen wrote a lengthy article which was published over four editions of the Norwegian Military Journal.⁶⁷ The article dealt with the development of fortress guns and tried to evaluate which types of guns would be used in the future. Holm Simonsen named one section air power. He pointed out that aircraft could now be a possible target for the guns of a fortress. He also stressed that the future lay in the airship. Holm Simonsen again argued that the main use of airships would be for observation purposes, but referred to tests in both France and Germany to conclude that they would also be used for offensive purposes. He also mentioned the

⁶³ Engelstad, 1910, p. 4.

⁶⁴ "Bergens militærforening", *Norsk Militært Tidsskrift*, 12/1911, p. 746.

⁶⁵ Holm Simonsen 1906, pp. 653-662.

⁶⁶ The Norwegian term is "luftmakt".

⁶⁷ Holm Simonsen 1909.

conclusion of major Gross, head of the Prussian airship battalion, that Germany must now develop its own anti-aircraft artillery. Holm Simonsen concluded: "In other words, the modern air force engages itself not only in observation and reconnaissance missions, but also in the provision of weaponry that can be used from the airships."⁶⁸

Holm Simonsen repeated this message in an address in the Norwegian Aeronautical Association in December 1909. He concluded the address with his more general view on air power: "The development of military aeronautical vessels will most likely lead to no fundamental change in the steady development of warfare."⁶⁹ In many ways this quotation sums up Holm Simonsen's writing on air power in the period. Although he was the first Norwegian officer to write about air power's offensive potential, his arguments were somewhat ambiguous. He claimed that air power would alter the course of modern wars, but he still saw it mainly as a new method to fight old wars. The two quotations above show Holm Simonsen's ambiguity. If air power was more than simply a support weapon for the purpose of reconnaissance and observation, it is difficult to see that it was just another technological feature in "the steady development of warfare". If one looks at Holm Simonsen's technological views he may be called a visionary. But his visions about the future did not inspire him to go beyond the view that air power was just another tool for the wars of his days. In his 1910 article, he therefore claimed that "in this context one has to stick to the present, not to what a near or distant future might bring."⁷⁰

Holm Simonsen followed the international development quite closely, and he was mostly influenced by Germany. He referred to German publications several times, and only on a

⁶⁸ *Ibid.*, p. 449, author's translation.

⁶⁹ Engelstad 1910, author's translation. The address was printed, see Holm Simonsen 1910, pp. 9–10, 14–15, 19–20, 31–32, 33–34.

⁷⁰ *Ibid.*, p. 14, author's translation.

few occasions British.⁷¹ He was a strong believer in the airship as the best platform for military use of airspace, a belief common in Germany in this period.

Holm Simonsen seems never to have had any practical knowledge of flight. He was selected as a reserve when the Norwegian Aeronautical Association was about to educate two balloon pilots in 1910, but he probably never obtained the certificate.⁷² Shortly thereafter he moved to Bergen, and apparently he then left the aeronautical environment. At least he appears to have stopped writing and lecturing about these issues around that time.⁷³

It is not easy to say what impact Holm Simonsen's ideas had in Norway. He could be considered a technocrat – at least fascinated by new technology – and may therefore not have been very influential. When looking at the debate on both defence politics and military doctrine in this period in Norway, the lack of a technological focus is striking.

Halfdan Gyth Dehli was the only naval officer to write extensively on air power before 1914.⁷⁴ The bulk of his articles was printed in the Norwegian Maritime Journal (*Norsk Tidsskrift for Søværnen*) and was of a technological

⁷¹ He referred to books by major Balck (*Taktik*), major Schmiedecke (*Die Verkehrsmittel im Kriege*), major Mödebeck (*Taschenbuch für Flugtechniker und Luftschiffer*) and major von Parceval (*Motorballon und Flugmaschine*). He also referred to journals like *Zeitschrift für Luftschiffahrt und Physik der Atmosphäre*, *Militär Wochenblatt* and *Kriegstechnische Zeitschrift*. The British references were to the *Journal of the Royal United Service Institution* and to *The Journal of the Royal Artillery*.

⁷² Engelstad 1910, p. 4.

⁷³ The reason for this sudden stop in engagement is not known. Holm Simonsen had left the south-eastern part of Norway, where the most intellectually stimulating aerial environment in Norway was developing, and this could be the reason. By 1917 he had not advanced beyond captain, and was still a commander of a fortress artillery company in Bergen, see *Militærkalender 1917*, p. 130.

⁷⁴ Personal details from Keyser Barth 1930, p. 114.

nature.⁷⁵ He had studied physics and electronics in Paris in 1904–05 and again in 1906–07, the latter at L'Ecole d'application du Génie Maritime.⁷⁶ He obviously had a profound interest in the technology of flight, and this led him to get an officer scholarship to study at the L'Ecole supérieure d'Aéronautique et de Construction mécanique in 1910/1911.⁷⁷

The technical articles written by Gyth Dehli do not contain doctrinal views, and are therefore not particularly interesting for this study. What is shown through them, though, is that he was up to date with international developments, especially in France.⁷⁸ He also held, however, views on air power doctrine. An article printed in November 1910 summarised how the French had used airships and aeroplanes during an exercise conducted 9–18 September 1910.⁷⁹ Aeroplanes and airships had shown their importance for military operations within three areas:

- carrying orders or information
- observation and reconnaissance
- spotting for artillery

Gyth Dehli concluded with his main view on air power: “We will, however, state that it is too early to make any assumptions or have hopes that airships or aeroplanes will have any other role in a war than carrying orders and conducting reconnaissance.”⁸⁰ Gyth Dehli’s engagement with air power had a practical outcome. He was educated as a pilot on a scholarship from Parliament at the Farman pilot school

⁷⁵ See for instance, Gyth Dehli 1910, pp. 1–24; Gyth Dehli 1910, pp. 74–89; Gyth Dehli 1911, pp. 302–310, 349–362.

⁷⁶ A school in practical maritime engineering.

⁷⁷ The first school for educating engineers on aeronautics in the world.

⁷⁸ The same point is made by a series of short news articles that he wrote regularly from around February 1910, see for instance Gyth Dehli 1910, pp. 129–130; Gyth Dehli 1910, pp. 277–278; Gyth Dehli 1911, pp. 50–55.

⁷⁹ Gyth Dehli 1910, pp. 666–668.

⁸⁰ *Ibid.*, p. 668, author’s translation.

in 1912, became the first Chief of the Navy Air Arm in 1914, and the Director of the Navy Aircraft Factory in 1917. In 1919 he left the aeronautical milieu of the Navy, as he began three years of service in the Admiral Staff. He left the armed forces in 1922. He was also involved in one of the first attempts to establish a civil aviation firm in Norway, as he was technical director of the Norsk Luftfartsrederi (Norwegian Airline Company) in 1919-20.

Gyth Dehli falls into the same category as Sem-Jacobsen and Holm Simonsen as a thinker on air power. He was not willing to speculate on the future of air power, and stated that one had to concentrate on what air power could already do. Having said that, he was convinced that military commanders would benefit tremendously from having such a capacity for observation.

Continental Influence

German and French thinking mainly influenced the officers writing about air power issues in the period. German and French were the second languages of Norwegian officers. In the public schools and at the University of Oslo, German was the foremost second language.⁸¹ In the military, however, it was French.⁸² The concrete references point towards the continent, except for a few British ones, and the bulk of the literature in the library of the General Staff was French and German.

The Library of the General Staff was the central library and reference for officers writing on military matters. It had a profound continental approach, and the bulk of the literature was of French, Austrian and German origin. By June 1912 the

⁸¹ Dahl 2001, p. 42.

⁸² Norwegian officers mastered several languages. At least that was the case for the officers of the General Staff. As early as 1850, one had to master German and French, and have knowledge of English, to become an adjunct of the second class in the General Staff, see Haffner 1914, p. 69.

library had 28 books on air power. Of these 28 books, 16 were published in Germany, 11 in France and the last was the Norwegian Army's directive for its captive balloon.⁸³

This orientation was not unusual in Norway in the period. French was still in many ways the language of the elite, and parts of the officer corps still lived in this tradition. It was even stated in the 1901-plan for the War Academy that "it is unfortunate if there is anyone amongst the officers of the Army who does not have any knowledge of the French language."⁸⁴

At the same time German influence upon the Norwegian military was clear. As in other parts of society, such as engineering, the Army learned from Germany. The most important writer on military strategy in Norway during this period was Gudmund Schnitler. Schnitler became famous for his book on the Great War which was published in 1924,⁸⁵ and later translated into German, Dutch, French and Danish.⁸⁶ He had also written a book on Helmuth von Moltke the elder in 1896.⁸⁷ Besides being a historian, Schnitler was also a strategist. In 1911 he published his book on strategy.⁸⁸ It appeared in a revised edition in 1914.⁸⁹ It was clearly influenced by contemporary German thought, and was received well within the Norwegian Armed Forces.⁹⁰ It was used as *the* book on strategy in the courses of the Staff College at least until the 1930s. In his obituary it was stated that he

⁸³ In 1908 a catalogue was published on the contents of the library, see Generalstaben, *Katalog over Generalstabens bibliotek* (Kristiania 1908). In addition *Norsk Militært Tidsskrift* published lists with new titles in each quarter of the year.

⁸⁴ Quoted in Hosar 2000, p. 173, author's translation.

⁸⁵ Schnitler 1924.

⁸⁶ Schnitler 1926; Schnitler, Den Haag, publishing year unknown; Schnitler 1928; Schnitler 1939.

⁸⁷ Schnitler 1896.

⁸⁸ Schnitler 1911.

⁸⁹ Schnitler 1914.

⁹⁰ Lowzow 1914, pp. 617–620.

“had exercised an exceptional influence upon several classes in the Staff College”.⁹¹ Schnitler himself served almost his entire military career in the General Staff, and taught war history and strategy at the Staff College from 1903 to 1925. He also travelled widely. He had studied for several years in Vienna, Berlin, Copenhagen and Paris. Moreover, he had served with the German General Staff for two years, and spent half a year at the German Military Academy.⁹²

The small Norwegian air power environment before the Great War mirrored the German and French influence. Holm Simonsen followed most of his contemporary colleagues in the Army and found inspiration from Germany. This is shown in his belief in the airship as the platform for air operations. Whether it was the fascination for the airship that drove him towards Germany or *vice versa*, is an open question. Sem-Jacobsen and Gyth Dehli believed in the aircraft as the primary platform for air power. Thus they were inspired by, and came under the influence of French solutions. Time was passing out on Holm Simonsen’s view. The airship was very expensive, and thus almost unrealistic that a small country like Norway could have some. The aeroplane, as in most other European countries, was the preferred machine.⁹³

The Response from the Establishment

The three officers did not meet with enthusiasm from the established elements of Norway’s military and political system. As Rolf Hobson and Tom Kristiansen point out, a small group ran Norway’s defence establishment.⁹⁴ The men of this group almost alternated between the most influential

⁹¹ “Oberst Gudmund Schnitler” (obituary), *Norsk Militært Tidsskrift*, 1925, p. 778.

⁹² Schnitler got a scholarship from Parliament and served in Germany, with both the General Staff and the War Academy from November 1898 to October 1900. See Haffner 1914, pp. 165–166; With 1916, p. 796.

⁹³ Wohl 1994, p. 97.

⁹⁴ Hobson and Kristiansen 2001, p. 71.

positions, both in politics and in the military. The leading defence politicians were without exception officers, and the main body of the Defence Ministry was all officers. This created an environment of agreement in defence policy, which was inherently conservative. For analytical purposes, however, the response from the establishment will be separated into two bodies. The military, represented by the General and Admiral Staff, and politics, represented by the Defence Ministry and Parliament, with special emphasis on the Military Committee.

The Military

The General Staff seems not to have been particularly interested in air power in the period. Only one of the writers on these issues was a General Staff officer. In 1913 and 1914 First Lieutenant Edvard Samuel Larsen Os, an aspirant in the Staff, wrote two short articles on air power in the wars in Tripoli and the Balkans.⁹⁵

The history of the General Staff is not yet written, but it will briefly be described, so as to explain why it could be claimed to be a self-recruiting conservative organism. Until 1912 the mission of the General Staff was based on regulations established in 1872. The Staff was to be the main think-tank of the Army. Although it was not specifically requested to follow international military developments, this was nevertheless one of its goals. It seems, however, that the General Staff and the officers working there were not the ones who were in the forefront of development.

In an organisational plan of 1900 the Staff had a total of 33 officers, of whom 12 were aspirants. In 1911 this number was increased to 41, of whom 14 were aspirants.⁹⁶ The General Staff was based on the system of passage, and the career system of the Staff had five levels. Between each level the officers served with their regular arms in the Army. The

⁹⁵ Os 1913, pp. 163–177; Os 1914, pp. 138–152.

⁹⁶ Moe 1964, pp. 338–339.

officers of the Staff took precedence over the officers in the rest of the Army, and officers who had served in the Staff manned almost all important positions in the Army.⁹⁷

To become an officer of the General Staff one had to be a graduate from the Staff College. Normally the top 50 per cent from a class were considered as aspirants.⁹⁸ The aspirants served for four years, in all departments of the Staff. After serving as aspirants, the officers went back to positions in their own arms, and waited for a vacant position as adjunct, the next level in the Staff. This was also held for four years. When the four years as adjunct were over, the General Staff Officer exam was held. After passing this exam, he became a captain, and was qualified to be Chief of Staff at one of the six Norwegian Army brigades or a captain in the General Staff.

The officers of the Staff were recruited not only from within the system of the Army, but also from within the system of the General Staff itself. The eight years of service in the Staff to become a General Staff officer were formative for the young officers. Since the ones running the Staff were the ones educating and qualifying new members for their own organisation, the organisation became a near perfect self-recruiting oligarchy.

One of the reasons why the General Staff did not involve itself in air power matters could be that the organisation did not encourage creative young officers to look into matters of new technology. Gudmund Schnitler had for instance no chapter on air power in his book on strategy, published in 1911. In his revised edition published three years later, an amended chapter dealt with air power, but Schnitler saw it only as a means of observation and reconnaissance. The aerial

⁹⁷ Of Norway's 13 Army Generals in 1917, ten were or had been officers of the General Staff.

⁹⁸ Of the officers enlisted as aspirants in a twenty year period, only two were enlisted with lower grades than the average for the Staff College, see Moe 1964, pp. 343-344.

battle was mentioned, but the offensive potential of air power was not.⁹⁹

Although the General Staff or its personnel did not take the initiative in the development of air power in Norway, the picture is somewhat qualified by the fact that the General Staff made statements on air power matters on several occasions from 1909 onwards. These statements came, however, as answers to specific questions from, for instance, the Defence Ministry. The responses from the General Staff were not always negative towards air power; they were simply answers to questions they had received.

As with the General Staff, the Admiral Staff was not in the forefront of development. There was only one officer writing on air power in the Admiral Staff, Edgar Otto. He wrote a prize-winning article on air power in 1910. The Norwegian Admiral Staff was a lot younger and smaller than the General Staff was. It had been established in 1899, and in 1908 it consisted only of six officers. The Admiral Staff was to give advice and pursue planning with special emphasis on defence and mobilisation plans, organisation and exercises.¹⁰⁰ The history of the Admiral Staff has neither been written. But the main points made about the General Staff are probably as valid for the Admiral Staff.

The Norwegian General Staff thus played quite a different role in the development of Norwegian air power than was the case in Germany and Austria-Hungary. As John H. Morrow has shown, the German General Staff, and its counterpart in Austria-Hungary, put constant pressure upon their governments to develop air power in the years before 1914. In those countries it was the political authorities that were sceptical.¹⁰¹ In Germany the War Ministry's view on air power changed in 1912, possibly as an effect of the Morocco crisis in

⁹⁹ Schnitler 1914, pp. 271–274.

¹⁰⁰ Meyer 1914, p. 154.

¹⁰¹ Morrow 1976, pp. 115–117.

1911 and the Balkan Wars in 1912. In Austria-Hungary this change never occurred, being the main reason for that country's unpreparedness in air power when the war began. In Norway, the situation was the opposite. As will be shown, it was the Defence Ministry that engaged first in the matter, in 1909.

Although the General and Admiral Staff were slow regarding the development of the new air weapon, some high-ranking individual officers showed a special interest in air power. The foremost of those was Haakon Ditlef Lowzow. His engagement as a Minister of Defence is covered below. Towards the end of 1911, he served as the General Inspector of the Cavalry, and proposed to the Defence Ministry that Norway should educate pilots immediately. In October 1911 the Commanding Admiral, Karl Friedrich Griffin Dawes, sent a proposal to the Defence Ministry recommending the purchase of an aircraft and the education of pilots. This was also a part of his initial proposal for the new plan for the Norwegian Navy, the so-called Fleet plan of 1912, but when the proposal became policy, air power was not part of it.¹⁰²

When the Norwegian Aeronautic Association was formed at a meeting in Oslo in May 1909, Lieutenant General Christian Wilhelm Bredal Olsson became its deputy chairman.¹⁰³ Olsson was at that time Inspector General of the Fortress Artillery. The year after General Olsson left the position, but was followed by Major General Johan Christopher Ræder, then the Inspector General of the Engineering Arm. It seems, however, that neither of the two generals was that active in the work of the Aeronautical Association. General Ræder had, however, as a part of his proposal regarding the restructuring of the Engineering Arm

¹⁰² Henriksen 1994, p. 20.

¹⁰³ Feiring 1957, p. 278.

in connection to the Army Plan of 1909, proposed to establish a military ballooning unit within that Arm.¹⁰⁴

That the military establishment in Norway was not that interested in the development of military flight needs also to be qualified by the fact that the two central journals within the military showed interest in the matter. Both the Norwegian Military Journal and the Norwegian Maritime Journal printed articles on air power issues. In addition the yearly article prize contest in the Norwegian Military Journal was used to inspire officers to write on air power. The committee that suggested the titles was formed by the Kristiania Militære Samfund, and was constituted by high-ranking officers from different arms.¹⁰⁵ Each year the contest was announced in the journal. The committee suggested between 15 and 30 titles. The first time air power was suggested was in 1905, when the committee proposed the following title: "Should a balloon service be a part of the Army, and if so, how should such a capacity be organised?"¹⁰⁶ In 1906 this title was repeated. In 1909 the committee again suggested an air power theme: "Shooting from and against balloons and airships".¹⁰⁷ The title suggests that the committee saw a possible offensive weapon in air power as early as 1909. This title suggestion was repeated in the announcement of the prize contest both in 1910 and 1911, although aeroplanes had

¹⁰⁴ Stortingsproposisjon 50/1909, p. 141.

¹⁰⁵ As an example, the committee in 1912 consisted of the following members: Major General Lowzow (Inspector General of the Cavalry); Major General Bull (Commandant at Akershus Fortress and the 2nd Combined Brigade); Colonel Færden (Commandant of the 1st Field Artillery Regiment); Lieutenant Colonel Munthe (Commandant of the Valdres Infantry Battalion); and Lieutenant Colonel Sejersted (Head of the Communications Department in the General Staff).

¹⁰⁶ "Det militære tidsskrifts prisopgaver for 1905", *Norsk Militært Tidsskrift*, 2/1905, p. 128, author's translation.

¹⁰⁷ "Det militære tidsskrifts prisopgaver for 1909", *Norsk Militært Tidsskrift*, 2/1909, p. 126, author's translation.

been added to the text by 1911.¹⁰⁸ In 1913 three of the suggested 18 titles were on air power.¹⁰⁹ One or several titles on air power continued each year also after 1913, but it was not until 1922 that an officer delivered an article on air power.¹¹⁰ First Lieutenant Einar Haganes wrote on the development of the Army Air Arm.¹¹¹ In the Army, most officers sending in articles were officers of the General Staff. The lack of articles on air power in the contest enhances the argument that the General Staff was not very interested in air power matters.

The Norwegian Maritime Journal also had an article prize contest. From 1911 until at least 1917 the committee suggested the following title: "What influence will airships and aeroplanes have on our Navy?"¹¹² It seems as though nobody replied to the challenge from the committee, although Halfdan Gyth Dehli had submitted an article on air power to the contest already in 1909, without winning an award.¹¹³ The year after Captain Edgar Otto of the Admiral Staff also delivered an article on "Aeronautics and the Navy", and earned a silver medal.¹¹⁴

Why then did the pilots not write articles? As shown, the first Norwegian pioneers did, but the next generation of airmen did not. Such a question can have only speculative answers, but the breed of men joining up for the first pilot training courses of the Army and Navy were definitely not

¹⁰⁸ "Det militære tidsskrifts prisopgaver for 1910", *Norsk Militært Tidsskrift*, 2/1910, p. 105; "Det militære tidsskrifts prisopgaver for 1911", *Norsk Militært Tidsskrift*, 3/1911, p. 176, author's translation.

¹⁰⁹ "Norsk militært tidsskrifts prisopgaver for 1913", *Norsk Militært Tidsskrift*, 3-4/1913, pp. 222-223.

¹¹⁰ Christophersen 1930, pp. 209-222, gives an overview of all articles found worthy of a medal.

¹¹¹ The article was awarded with the silver medal, see Haganes 1922, pp. 324-380, 399-419, 455-466, 519-528, 587-597.

¹¹² Author's translation.

¹¹³ Gyth Dehli 1910.

¹¹⁴ Unfortunately, it has not been possible to find this article.

academics. As an example, Tancred Ibsen, a Lieutenant within the Army, and grandson of both Bjørnstjerne Bjørnson and Henrik Ibsen, joined the pilot school at Kjeller in 1917. Ibsen later became a famous film director, and wrote his autobiography.¹¹⁵ Reading it, one is struck by the fact that the only thing Ibsen writes about his military career is his adventures. There are details about his record-breaking flights, his trip to Trondheim over the mountains, his first looping-the-loop and his first Immelmann. The book says almost nothing about military pilot training. This could be due to several reasons. It could be that Ibsen, thinking such stories would be too boring, did not write about them. Or it could be that life in the Army Air Arm was seen as an adventure, risking one's life in the hunt for the skies. The answer may lie somewhere between these two hypotheses. What is quite certain is that men like Tancred Ibsen, did not write articles on air power development or doctrine. If the men of the early days of Norwegian military flight were of Ibsen's breed, no wonder that there was not much thought on the development of doctrine or strategy within the air arms.

The Political Response

When Minister of Defence Lowzow, at that time a Lieutenant Colonel in the Army, forwarded his budget proposition for the fiscal period June 1909–June 1910, he had made his ministry write an annex on air power. Lowzow proposed that Parliament vote 10 000 NOK for the study of aerial warfare and the testing of guns to shoot down aircraft. Lowzow believed that developments in Europe were bringing war to the air, and that Norway had to follow this development. Lowzow was a stubborn cavalry officer with a reputation in the corps as being too creative. He was controversial in both political and military circles and heavily engaged in the nationalist defence organisation Norwegian Defence League

¹¹⁵ Ibsen 1976.

(Norges Forsvarsforening) from its beginning in 1886.¹¹⁶ In military circles he was deemed too fast and too different. During an exercise in 1901 he had “disappeared” with his cavalry company for eight days; telling his superiors nothing.¹¹⁷ In 1936, his military biographer, General Laurantzson, stated that Lowzow was controversial because “he came up with too many new things.”¹¹⁸ When this creative and unorthodox officer became Minister of Defence, he immediately proposed to look into the issue of air power.

Lowzow mainly used a defensive argument for his proposal. If Norway could be attacked from the air it would have to create a defence. Lowzow appealed to the central proposition of Norwegian defence doctrine, that its sole task was to engage attackers against Norwegian soil. Lowzow got no support in the Military Committee. Although the Committee thought it necessary for Norway to follow carefully developments in aviation, it considered the budget to be too small to tolerate such a grant. Lowzow took the rostrum in Parliament the day the budget was debated. He did not raise his proposal for funding again, but made a lengthy argument for his views on air power. He repeated his point about defence against air attack – and claimed that Norway would have to prepare itself for what was to come in a possible war. That was probably also the reason why he specifically mentioned trials with the use of land-based guns for shooting down airships and aircraft.¹¹⁹

Lowzow was the first politician actually to propose funding for air power in Norway. He lacked, however, political talent,

¹¹⁶ For more on Lowzow’s controversiality, see Agøy 2001, pp. 55–56, 78–86, 189; Castberg 1953, pp. 17–18.

¹¹⁷ Agøy 2001, p. 189.

¹¹⁸ Laurantzson 1938, p. 463, author’s translation.

¹¹⁹ Stortingsforhandlinger/1909, VIIa, 2323. The suggested amount was small, considered the size of the whole budget for the Army. The Army budget for 1909 totalled 13,5 million NOK. Lowzow’s proposal amounted to about 0,7 per thousand of the total budget.

and was constantly in trouble with Parliament in his 16 months as Minister of Defence.¹²⁰ Hobson and Kristiansen have termed him “inflexible and incautious in parliamentary matters.”¹²¹ But he got retrospective admiration for his views on air power from one unlikely source – the eager anti-militarist and socialist Adam Egede-Nissen.¹²²

The offensive potential of air power naturally brought its corollary, the question of how one would defend oneself against an attack from the air. The defensive aspect of air power suited Norwegian defence policy quite well. In the eyes of the Army, war would be fought against an invading Army from the east, most likely from Sweden. This view dominated Norwegian threat evaluation at least until around 1911, in the Army possibly longer.¹²³

If Sweden were to attack Norway the most obvious axis would be from the area along the Swedish border towards the capital Oslo, and in the countryside in Trøndelag. Both these areas of operation suited the observation role of air power well. The countryside was relatively flat, at least by Norwegian standards. This evaluation also lay behind the positioning of Norway’s first two airbases. The first positioned at Kjeller was close – but not too close – to both the capital and the Swedish border. Værnes, the second land-based airbase established was positioned in the middle of Trøndelag, the other main axis in case of a Swedish attack.

The propagandists for the development of Norwegian air power met a problem when arguing for a defence against aerial attacks. To argue that a defence against aerial warfare could be established with air defence artillery could be counterproductive if one wanted aeroplanes. The point was therefore stressed, especially by Sem-Jacobsen, that it would be very

¹²⁰ Nissen 1933, pp. 267, 271.

¹²¹ Hobson and Kristiansen 2001, p. 42.

¹²² Egede-Nissen 1945, pp. 136–137.

¹²³ Hobson and Kristiansen 2001, p. 71; Berg 1995, p. 65.

difficult to shoot down moving objects in the air. Rifle fire was not suitable; the bullets were too small and did not go high enough. Air defence artillery was the only possible solution, but that too would be very difficult, because the targets were moving. The propagandists for the development of Norwegian air power capabilities had to strike a balance in this respect. They could not argue that air power was an offensive weapon *per se*. At the same time they could not overemphasise the defensive aspect, since that might lead to the development of air defence artillery, which presumably would lead to a lesser development of military flight. A focus on the use of air power mainly as a means for observation therefore fitted very well for both the propagandists and Norwegian defence doctrine.

After Lowzow's proposal in 1909, two years elapsed before the Defence Ministry again considered funding for air power. The Inspector General of the Engineering Arm, General Ræder, proposed to allocate funding for the purchase of an aeroplane. The Ministry, however, considered the development of aircraft immature, and did not propose any funding when the budget was announced.¹²⁴ The Military Committee in Parliament agreed with the Ministry, but found it necessary that Norway follow international developments, suggesting the grant of 1000 NOK as a scholarship for the study of aerial flight and wireless.¹²⁵ The proposal was sanctioned by Parliament after a rather short debate. The majority in Parliament was, however, very small, 55 voted for, 51 against.¹²⁶ The scholarship was awarded to Sem-Jacobsen, who was already in France to become an aerial engineer. In the same budget, the Defence Ministry proposed and the Military Committee and Parliament agreed to give 1500 NOK

¹²⁴ Stortingsproposisjon 1/1911, p. 94.

¹²⁵ Indst. S. X./1911, p. 30.

¹²⁶ Stortingsforhandling/1911, VIIa, pp. 878-880.

to the work of the Norwegian Aeronautical Association. Thus, the first official funding for air power was awarded in 1911.

In 1912 the scenario was nearly repeated, but now the Defence Ministry itself proposed to grant 1000 NOK for a scholarship.¹²⁷ The Military Committee agreed, but raised the amount to 2000 NOK in its proposal to Parliament. The Committee also stated that "it was very interested in the purchase of aircraft and the education of pilots", and it therefore asked the Ministry to try to find money for those purposes in next year's budget.¹²⁸ In the debate that followed in Parliament, Prime Minister Jens Bratlie himself took the rostrum, and said that he was very eager that Norway acquire aircraft as soon as possible. Therefore, he had arranged a proposition to Parliament for the education of pilots and the study of air power. Parliament sanctioned the proposal for 2000 NOK for a scholarship. Only eight members voted against.¹²⁹ In the treatment of the Navy budget the same year, the Commanding Admiral, Admiral Dawes, proposed to allocate money for the purchase of an aeroplane, but the Defence Ministry did not put this proposal to Parliament, allegedly for economic reasons.¹³⁰ The Military Committee again repeated its wish that the Ministry find money for the purchase of aeroplanes in next year's budget.¹³¹

Only six days after Dons' flight in June 1912, the Defence Ministry announced proposition 107, proposing to award at least three scholarships to officers to become military pilots.¹³² The Ministry began by referring to international developments, and concluded that military flight now had come of age as a means of observation, both for the Army and Navy. Norway ought therefore to take the first steps towards

¹²⁷ Stortingsproposisjon 1/1912, p. 154.

¹²⁸ Indst. S. X./1912, p. 43, author's translation.

¹²⁹ Stortingsforhandling/1912, VIIb, pp. 1923–1928.

¹³⁰ Stortingsproposisjon 1/1912, p. 45.

¹³¹ Indst. S. II./1912, p. 18.

¹³² Stortingsproposisjon 107/1912.

the development of military aviation. The Ministry saw these scholarships only as a first step. The proposition mentioned the creation of a pilot school, the possible purchase of aircraft, and a future military flying corps. In a short proposal to Parliament the Military Committee, with the exception of Egede-Nissen, agreed with the Defence Ministry.¹³³ Only twelve days after the Ministry's proposal, it was sanctioned by Parliament with only eight votes against.¹³⁴

The political authorities were not unfriendly towards the development of air power in Norway. But neither can they be deemed eager in their efforts to allocate money to the cause. As to the doctrinal issues debated in political documents and sessions in Parliament, they were few. Air power was regarded by most as an instrument for observation. Member of Parliament Johan Hestnes spoke of the possibility of aerial bombing in the debate in 1911, and he saw it as such a terrible weapon that it could abolish war. Hestnes meant that air power, without anything to stop it, would bomb cities, castles and history itself to pieces. If nations got that capacity, they would think twice before waging war. None of the other representatives commented on Hestnes' view.¹³⁵

The next year, the Defence Ministry forwarded proposition 147, the largest and most detailed proposition on air power before the First World War. They now raised several doctrinal questions about the development of air power. The Ministry saw in the air weapon first and foremost a means for observation and reconnaissance. It referred to international developments and also to the experiences of the Italian-Turkish War of 1911-12 and of the first and second Balkan Wars of 1912-13. Air power had been important, especially as a means for observation and reconnaissance. The Ministry also saw the possibilities for air-to-air combat and for

¹³³ Tillæg 4 til indst. S.X./1912.

¹³⁴ Stortingsforhandling/1912, VIIb, p. 2335.

¹³⁵ Stortingsforhandling/1911, VIIa, p. 879.

bombing from the air. With regards to bombing, the Ministry mentioned in particular rear-area targets such as headquarters, depots and railways. The Ministry concluded this discussion by making the point that military flight was immature regarding offensive use and, because of that, Norwegian air units were to be established primarily for observation and reconnaissance purposes. Aerial observation was deemed especially suitable for Norwegian terrain and topography, since the cavalry had limitations in the fjords and mountains of western and northern Norway.¹³⁶ The Ministry's view on air power was exactly the same as Sem-Jacobsen's. This parity is so striking that it is hardly coincidental. It is not unlikely that Sem-Jacobsen wrote the introduction to the proposition. If that was not the case, it is quite obvious that the officials in the Ministry had read Sem-Jacobsen's articles.

Debates in Parliament also saw air power as a means for observation and reconnaissance. This was especially clear when Parliament debated proposition 147. The Defence Minister, Wilhelm Keilhau, emphasised this role, along with representatives Kragtorp (Liberal) and Michelet (Conservative).¹³⁷ In addition to this, several members of Parliament realised that this would lead to air power taking over some of the other arms' roles. When the Military Committee delivered its recommendation to the proposition, it wanted the Ministry to evaluate whether other arms of the Army could save the amount of money spent on the development of air power, thus not increasing the total Army budget.¹³⁸ On several occasions in 1912–14, some Members of Parliament pointed out that an evaluation was lacking from the Defence Ministry on what the Army could save on its traditional arms when air power was introduced.¹³⁹ The

¹³⁶ Stortingsproposisjon 147/1913, pp. 3–4.

¹³⁷ Stortingsforhandling/1913, VIIb, pp. 2651–2667.

¹³⁸ Tillæg 9 til indst. S.X./1913, p. 5.

¹³⁹ See for instance the debate in Parliament 24 July 1913 when proposition 147 was debated. Especially Gausdal (Labour), meant that the Defence

Ministry seems, however, never to have given any such evaluation.

Although both military experts and politicians considered the observation/reconnaissance role to be the primary role for aircraft in this period, several speakers in Parliament mentioned the offensive role of air power. Most of them had a defensive perspective – i.e. how Norway would defend itself against this new threat.¹⁴⁰ There is little indication that there existed any thoughts in political circles on developing offensive air power in Norway.

Why Should Norway Develop Air Power?

In the debates on how air power would be used in the Norwegian armed forces, several arguments were used to show that the development of Norwegian air power had to be different from that of the larger nations of Europe. This argument was partly based on facts. Norway was a small nation that could not compete with France, Britain and Germany. It could, however, also be argued that Norwegians in this period had a profound interest in showing how special Norway was. At least until 1914 a strong nationalist wind blew in Norwegian life, debate and culture. It was important to show how unique the Norwegian way of life was.¹⁴¹ As both Peter Fritzsche and Robert Wohl have pointed out, nationalism and the development of aviation went hand in hand in pre-war Europe, in Germany exemplified by the willingness of the German people to contribute money to Graf Zeppelin's wrecked airship L.Z.4 in 1908.¹⁴²

Ministry should have considered what could be saved in the Cavalry Arm, see *Stortingsforhandlinger/1913*, VIIb, pp. 2651–2667.

¹⁴⁰ See for instance the debate in Parliament 24 July 1913 when proposition 147 was debated. Both Mjøen (Working Class Democrats, a small labour party associated with the Liberals) and Michelet (Conservative) mentioned the offensive potential of air power, see *ibid.*

¹⁴¹ For more on Norwegian nationalism, see Sørensen 1998.

¹⁴² Fritzsche 1992, p. 2, 15–18; Wohl 1994.

Several scholars have recently claimed that this influenced Norwegian defence doctrine in particular.¹⁴³ The Norwegian way of life – non-urban and close to nature – was reflected in the Norwegian view on warfare. As Nina Witoszek has shown in her study of Norwegian cultural history, Norwegians preferred nature instead of culture.¹⁴⁴ In addition the egalitarian Norwegian farming societies were considered as the real Norwegian way of life. This led Norwegian doctrine to emphasise such an aspect as conscription, which fitted very well into Norwegian society. The view also trickled down to the tactical level of war. Troops were to exploit the harsh topography and climate to attack the less mobile enemy in his flanks. Although the Norwegian Army trained mainly during the summer, Norwegian topography and climate was seen as a major force multiplier, since all Norwegians were capable of surviving under such conditions, implying that foreigners could not. A mechanised technological and professional Army could not do that job, since such a development would lead to Norwegian forces fighting on the invaders' terms. Lieutenant Colonel Sophus Christensen's study of Norwegian defence policy from 1911, pointed out that topography was the Norwegian Army's foremost ally.¹⁴⁵ The mental picture was strengthened by the images of men such as Fridtjof Nansen and Roald Amundsen, the most popular Norwegians of the period. Although Amundsen especially was eager to exploit new technology – he was the first to get a Norwegian pilot's certificate in 1914 – the picture of men on skis fighting the powers of nature was strong in the Norwegian mentality – and hence in the Norwegian Army. Parts of the Norwegian military doctrine of the period could be characterised as anti-modernist.

¹⁴³ Ulriksen 2002; Friis 2000.

¹⁴⁴ Witoszek 1998.

¹⁴⁵ Christensen 1913, p. 13 in amendment.

This doctrine was, however, problematic. The country's most densely populated areas, as well as most of its industry, were situated in the south and southeast, where the countryside is flatter, although with large forests. Thus a Norwegian Army that was to fight in the mountains would not defend what can be termed the country's obvious centre of gravity. Ken Booth has argued that one cannot free thinking on strategy from the broader cultural impact of the nation state and period in which it is developing. He is of the opinion that the impact of culture on strategy has been underdeveloped. His book can be read as a reaction to the creation of the rational actor in strategic studies. He claims that the idea of rationality is at the centre of western strategic thinking, and that the *rational* strategic man has to be replaced by the *national* strategic man, and argues for what he terms strategic relativism.¹⁴⁶ He writes that:

If strategic studies are to be improved, it is necessary to embrace more completely the idea of strategic relativism, the idea that truth in strategy is relative to the individual or group in question and to the time and place in which the individual or group acts.¹⁴⁷

This argument is most certainly valid regarding the Norwegian development of strategy in this period.

This anti-modernist aspect of warfare stood in sharp contrast to other military thinkers of the period. Technology was seen by some as the ultimate weapon of such a small nation as Norway. Technology could compensate for the lack of numbers. This would be important, since no matter whom Norway would fight it would almost certainly be outnumbered. Norway ought therefore to have armed forces of good technological standard. Air power fitted very well in

¹⁴⁶ Booth 1979, especially pp. 16-18, 63, 152.

¹⁴⁷ Ibid., p. 139.

this doctrine, especially since aircraft were relatively cheap compared with other military equipment.

Thus, the Norwegian view on the aeroplane as a medium of war was rather paradoxical. A clear anti-modernist tradition within parts of the population and parts of the Army was coupled with a fascination for new technology. An enemy equipped with modern weapons could be defeated on land by the Norwegians if they exploited Norway's topography. This was not possible with an enemy having aerial weapons. Air power would not be that limited by topography. The Norwegian way of warfare was thus threatened by the invention of the aeroplane, since an enemy using air power could only be defeated in the same environment.

To persuade the public opinion that air power was important, the argument most frequently used was that Norway would soon be the only country without any capacity in the air. Usually this referred to developments in the larger nations of Europe claiming that Norway was not following developments. Sem-Jacobsen wrote in 1912: "We are already considerably outdistanced in comparison to those with whom we may have to fight".¹⁴⁸ Who was Norway going to fight? In the years after 1905, Sweden was portrayed as the main threat towards Norway. By 1912 this picture had changed, and the possibility of a war between the great powers in Europe, with a possible war in the North Sea, emerged as the central challenge to Norwegian sovereignty. It should be mentioned, though, that parts of the Army clung to the Swedish scenario, in the words of Rolf Hobson and Tom Kristiansen, "for institutional reasons".¹⁴⁹ The new threat assessment culminated in the Fleet Plan of 1912, which made the Navy better suited to defend Norway's neutrality in case of a war in the North Sea. The lack of proper defences in Northern-Norway against Russia was, according to Roald Berg, a reflex

¹⁴⁸ Sem-Jacobsen 1912, author's translation.

¹⁴⁹ Hobson and Kristiansen 2001, p. 71, author's translation.

based upon the most likely scenario, a major war in the North Sea. The Morocco crisis of 1911 had enhanced this scenario. When the crisis peaked, large parts of the German fleet had been in Norwegian waters, a fact that worried Parliament and public opinion. The Defence Minister, Karl Sigwald Johannes Bull, had drawn the conclusion that the Norwegian Navy needed to face west and north – in defence against the great powers. However, such a war was not seen as very likely. Few believed in a major war in Europe. Roald Berg explains the reason for this in two dimensions, first that the great powers would fight over their colonies, and second that the general positivism encouraged the belief that war between civilised nations was both impossible and irrational.¹⁵⁰

In 1913 Lieutenant Colonel Sophus Christensen wrote a book on Norway's strategic situation.¹⁵¹ The book was printed in 2000 copies, but not published for sale, since Christensen himself was of the opinion that it contained material that could hurt Norway in intelligence matters. The book was revised in 1915,¹⁵² and has been interpreted as one of the main reasons for a defence friendly movement in the years before the First World War.¹⁵³ Even key politicians, such as Johan Castberg, had come across Christensen's views.¹⁵⁴ Christensen was extreme in his militaristic views. He got his inspiration from Germany and Prussia, and claimed that radical reforms had to begin in the Army. His study also represented, however, the change in Norway's threat assessment. Although Sweden was mentioned as a possible foe, the dominant scenario was a possible war in the North Sea. Christensen claimed that both Great Britain and Germany would try to secure a base on the southern or southwestern coast of Norway. Christensen also emphasised the possibility of war

¹⁵⁰ Berg 1995, pp. 65–68, 181.

¹⁵¹ Christensen 1913.

¹⁵² Christensen 1915.

¹⁵³ Ulriksen 2002, p. 107; Selboe 1952, pp. 68–83.

¹⁵⁴ Castberg 1953, p. 80.

with the Russians, and claimed that they would have to pursue their advance towards the Atlantic through Norway.¹⁵⁵ Another example of the same threat evaluation was found in Lieutenant Commander Christian Meyer's book of 1914, where he argued that Norway was unprepared for the most possible scenario, a war between the great powers in the North Sea. Meyer was of the opinion that both the Germans and the British would want to establish some sort of base on the Norwegian coast.¹⁵⁶

In his attempts to convince public opinion that Norway alone was soon to be without aircraft, Sem-Jacobsen exaggerated somewhat. The only countries that by 1912 had what can be termed an air power capability in Europe were France and Germany. Only three years had elapsed since France had established its first military aircraft units. At the beginning of 1912, the French had about 150 aircraft, not all of them operational. Germany followed as Europe's second largest air power nation, but it had directed its main effort to the development of airships. The British were sadly behind, while the Russians at this point had only training aircraft.¹⁵⁷ If the comparison had been with more similar countries, such as Sweden or Denmark, Norway would not have looked like a straggler. In Sweden the first military flight took place in February 1912. It was Lieutenant Dahlbeck who flew the Swedish Navy's first aircraft. The Swedish Army got its first aircraft during the summer of 1912.¹⁵⁸ The Danes had started a civilian flying school partly sponsored by the military in 1911, but there was no organised military aerial activity before the summer of 1912, when the Danish Armed Forces got their first two aircraft as private gifts.¹⁵⁹

¹⁵⁵ Christensen 1913, pp. 14–15, 118.

¹⁵⁶ Meyer 1914, especially pp. 96, 124.

¹⁵⁷ Morrow 1976, p. 1–57.

¹⁵⁸ Annerfalk 1996, pp. 17–22.

¹⁵⁹ Schröder 2001, pp. 5–7.

The development of air power in Norway was also seen in a broader cultural perspective. Norway was striving to become a modern state alongside other European nations. As a newborn independent nation it was important to show that it was becoming a modern industrialised state. The Minister of Defence from February 1913, Wilhelm Keilhau, used this argument to try to convince Parliament of the necessity of developing an Army Air Arm when he put forward proposition 147.¹⁶⁰ Keilhau argued that Norway had already participated in socio-cultural and technological developments for decades, and that the development of flight was an area of such great importance that Norway ought to participate. He claimed that the plan for an air arm of the Army therefore had to be considered from a broader perspective. Norway had not been sitting on the fence watching progress in Europe in other areas. Manned flight was a large breakthrough for mankind. He played on the strings of nationality, and explicitly referred to the achievements of both Nansen and Amundsen. Against this background Keilhau argued that “we should be obliged to and feel the commitment to participate in the effort to conquer the air.”¹⁶¹ In the same debate, Member of Parliament Lasse Torkelson Trædal (Liberal) stated that there would be more honour and glory for those who were in it from the beginning, than those who joined when the development had matured.¹⁶² Both Keilhau and Trædal argued directly against the epigonism that was present in Parliament, an epigonism that will be discussed later.

Aviation was in the beginning driven by civilians in most countries. Although they usually saw its military potential quite quickly, as the Wright brothers did, aviation was also seen as a major cultural development for mankind. Man would be rid of his earthly bounds. A long-held dream of

¹⁶⁰ Stortingsforhandling/1913, VIIb, pp. 2653–2655.

¹⁶¹ *Ibid.*, p. 2654, author’s translation.

¹⁶² *Ibid.*, pp. 2651–2667.

humanity had come to life. As the arguments above show, several Norwegians argued that Norway therefore ought to take part in this development from the very beginning. The development of aviation in Norway was, on the other hand, quite different from that of other nations, since it was mainly officers who were involved. Aviation quickly acquired a military dimension, but Norway was not at the forefront of military development in the world. Therefore this combination of the military and aviation could lead to a problematic symbiosis for the development of aviation itself. But it can be claimed that the greater cultural meaning of manned flight itself to some degree removed this possible problem. For small nations like Norway, this could mean a position amongst the greatest in some aspects. The country could not compete with the great powers in Europe in the military field. But being small was no hindrance to being great in other areas in which mankind was prospering. As W.C. Brøgger and Nordahl Rolfsen put it in their seminal biography of Fridtjof Nansen in 1896 "It is not in the area of war that the small nations can compete and defend their sovereignty. It is in the area of culture, civilisation, science and art."¹⁶³

The aeroplane offered the possibility of both at the same time. It was just what Defence Minister Keilhau was arguing. The development of military aviation in Norway had two dimensions – air power and as a task for mankind in the name of civilisation and modernity.

Two other arguments in favour of air power development were profound in Parliament. Both had their foundation in the fact that air power relied on relatively cheap technology.

First and foremost, some considered technology a tool that could compensate for inferiority in numbers. Member of Parliament Ivar Aavatsmark made this point in a debate about the development of Norwegian flight in 1912,¹⁶⁴ and repeated

¹⁶³ Quoted in Stenseth 2000, p. 133, author's translation.

¹⁶⁴ Stortingsforhandling/1912, VIIb, p. 1924.

it in the debate on proposition 147 in 1913.¹⁶⁵ Aavatsmark, who represented the Liberal party, was one of the leading politicians on military questions in the period from 1905 to 1925. The Military Committee also used this argument in its recommendation to Parliament about the development of the Army Air Arm in 1913.¹⁶⁶ Both Aavatsmark and the Committee pointed to a constant problem in Norwegian defence planning: whomever the country was going to fight, it would almost certainly be outnumbered.

Enhancing this argument was the low price of aeroplanes. Compared to the two dreadnoughts Norway was planning to purchase, the price of an aeroplane was negligibly low.¹⁶⁷ Because of this, air power was argued to be a cost-effective means for a small nation. The Defence Ministry made this point in proposition 147. Air power was an area of military armament where small nations were able to compete with the larger nations of Europe, at least to some degree.¹⁶⁸ The Military Committee followed this line of argument, claiming that “The majority of the Committee see in the Air Arm a possible future weapon that, with not too extensive funding, could make a great contribution to the country’s defence.”¹⁶⁹

Other politicians also used the cost-effectiveness aspect of air power as an argument in Parliament. Both Alf Mjøen (Socialist) and Christian Fredrik Michelet (Conservative) mentioned this aspect in the debate about proposition 147.¹⁷⁰ Michelet claimed that in the future, it would be quite easy to sink a dreadnought with bombs from an aeroplane, and that

¹⁶⁵ Stortingsforhandlinger/1913, VIIb, p. 2661.

¹⁶⁶ Tillæg 9 til Indstilling S. X./1913.

¹⁶⁷ When the Army Air Arm planned to purchase its first aircraft in 1914, the price was estimated to be 20000 NOK, see Stortingsproposisjon 1/1914, p. 183. The price of one of the small dreadnoughts that Norway planned to acquire from Britain in the fleet plan of 1912 was 7,5 million NOK, see Stortingsproposisjon 26/1912, p. 18.

¹⁶⁸ Stortingsproposisjon 147/1913, p. 3.

¹⁶⁹ Tillæg 9 til Indstilling S. X./1913, p. 5, author’s translation.

¹⁷⁰ Stortingsforhandlinger/1913, VIIb, pp. 2655–2656, 2660.

this would be a very cost-effective way of warfare that Norway ought to pursue.

Why should Norway not develop air power?

The politicians who argued for the development of air power met some, but not much opposition. With the exception of the anti-militaristic Labour Party, it is not possible to see any difference in the political parties' views on air power.

Some early Norwegian thinkers argued that the aeroplane would be so terrible a weapon that it would make an end to war. No sane politician would go to war, having created such a fiery weapon, which, if its potential was brought to its maximum could endanger civilisation itself.¹⁷¹ This argument was also used by the first man who actually flew in Norway, the Swedish Baron Carl von Cederstrøm, who, after being invited by the Norwegian Aeronautic Association in 1910, flew several display flights in the autumn of that year in Oslo. He claimed that air power would be such a dangerous weapon that it would make war impossible.¹⁷²

Labour was strongly anti-militaristic in this period, and its representatives in Parliament used every occasion to promulgate this view, both as members of the Military Committee and in Parliament. Thus the Labour Party was in principal negative to developments in air power. For instance, in a debate in Parliament in 1912, Adam Egede-Nissen stated "I find it a lot more important to teach people how to brush their teeth than to teach them to become aviators."¹⁷³ The political influence of Labour was, however, not that strong in this period. Although it was a fast growing political party, it had not much actual power in Parliament. Almost all decisions in military matters went against them. Labour did not reflect the more general view of Parliament in this period.

¹⁷¹ This view was for instance put forward by Aars 1910, pp. 522–527.

¹⁷² Meyer 1973, p. 13.

¹⁷³ Stortingsforhandling/1912, VIIb, p. 1928, author's translation.

The attitude of Parliament towards air power is better described as a mixture of curiosity and positivism coupled with a huge amount of what can be termed epigonism.

In 1901, engineer officer Clare Sewell Widerberg wrote about the development of the Engineering Arm.¹⁷⁴ The article contained a lengthy section on the use of balloons for military purposes. Widerberg pointed to the fact that Norway was one of the very few countries in Europe without any balloons in service. What is interesting is that he devoted a large part of the article to argue against the scepticism that had been shown towards balloons. He argued that such scepticism was no longer valid, since balloons were in extensive use in the rest of Europe. Widerberg's effort against this scepticism is an indication that such scepticism must have been profound.

The epigonism materialised in the form of an argument that Norway was a small country with scarce resources and that it could not be a leader in developing new technology. Norway ought to wait until the larger nations had developed and tested the technology before it procured balloons, airships or aircraft. Holm Simonsen argued against such a view in an article of 1910:

many people are sceptical as to the practical value of aviation. Such scepticism is only valid when it is used to argue against those who are too visionary and see in aviation a revolution of society. The scepticism is, however, based on obdurate conservatism and ignorance, when it results in statements such as that 'the practical value of aviation is too small for the small and poor nations to be part of this development'.¹⁷⁵

Debates in Parliament underlined this point. Already in one of the first debates on air power in 1909, Bastian Tomas Lauritz Eidem (Liberal) claimed that a war in the air would be more dangerous for the people in the airships than for the people on

¹⁷⁴ Widerberg 1901, pp. 186–202.

¹⁷⁵ Holm Simonsen 1910, p. 9, author's translation.

the ground. He stated that as far as he knew the best airship in the world was a Zeppelin, and that he was informed that such an airship had crashed into a pear tree and had been destroyed. He also claimed that Norwegian fortress guns could quite easily shoot down these ships.¹⁷⁶

Thus, many argued for epigonism in Norway. The country was too small to be a part of the development; it should only harvest the seeds when the time and the price were ready. This wait-and-see attitude was long lasting within Parliament and the Defence Ministry. Those who argued for such an approach did not state, however, when the time would be right. Their views were in many ways a rather naive interpretation of technological development, since it almost never stops – or rarely even takes a short pause.

Centralisation or Decentralisation?

The first aircraft, which were gifts from private persons or institutions, were given to the Army and Navy in 1912. The Army got two aircraft, the Navy one. These aircraft initiated thoughts on how to organise air power in Norway. Once the Army and the Navy had obtained aircraft, both the military itself and the Defence Ministry saw the necessity of formalising the activity. Traditional military opinion was that everything had to find its position somewhere in the existing military hierarchy.

The Defence Ministry's first attempt to organise military aviation came in 1913. It was Parliament that had the authority to change the organisation of the military establishment in Norway. But, it was the Ministry that formed the organisation of military aviation. The Ministry wanted two air arms. Although this was not sanctioned by Parliament until 1927, this was in practice embodied by 1913. Since Parliament refused to accept the proposal on military aerial

¹⁷⁶ Stortingsforhandlinger/1909, VIIb, p. 2325.

activity put forward by the Ministry in 1913, and did not vote for another solution, the Ministry had to find temporary solutions. Thus, Parliament had what can be termed a negative power: since it did not sanction any solution at all, the power was vested in the Defence Ministry.

The debate on how best to organise air power contained two main doctrinal questions. First was the question of whether there should be two air arms or an independent air force. From a comparative international view, it is interesting that the Defence Ministry as early as 1913 considered the establishment of an independent air force. By 1913 no independent air force existed in the world, and Norway had a total of four aircraft. It is almost impossible to see how such a small force could be considered an independent service. Second was the question of how to organise the aircraft within the two services. Were they to be distributed and put under the command of the chiefs of the army brigades, or were they to be centralised directly under a chief of the air arm? These two questions and the viewpoints in the debate are the main issues in what follows.

As Prime and Defence Minister, Jens Bratlie, had promised during the budget debate in the summer of 1912, the Defence Ministry in January 1913 forwarded a proposition that dealt mainly with military flight.¹⁷⁷ The main theme of the part of the proposition that discussed air power was the practical arrangements that had to be taken care of in the Army. The organisational question was also discussed, but no conclusion was reached. One of the reasons for issuing the proposition was probably that Parliament had not yet sanctioned the ongoing development. The Army had established its activity at Kjeller, while the Navy had established some activity with their only aircraft *Start* at Karljohansvern.

In the proposition Parliament was informed that military flight in the Army had been established under the supervision

¹⁷⁷ Stortingsproposisjon 31/1913.

of the Inspector General of the Engineering Arm. The Inspector, General Ræder, had been given the opportunity to give his advice on a more formal solution. Ræder did not want, however, to give detailed advice because of the rapid development within the field of military aviation. He therefore only mentioned possible solutions.

The Ministry did not comment extensively on Ræder's possible solutions. On two occasions the possibility of a combined Army and Navy pilot training school was mentioned, but not concluded. The rest of the proposition dealt with more practical issues regarding the established air unit at Kjeller, such as the lease of the field, the procurement of a third aircraft and salary for the personnel.

Proposition 31 from January 1913 was withdrawn the next month, because of a change of government. The new Defence Minister, Wilhelm Keilhau (Liberal), did not share all the views of Jens Bratlie, and the new government withdrew the proposition.¹⁷⁸ Minister Keilhau forwarded proposition 147 in June the same year.¹⁷⁹ It discussed the question of an independent air force or two separate air arms. The Ministry had made inquiries about this to the authorities of both the Navy and the Army, and also to the four Norwegian military pilots.¹⁸⁰ None of them was of the opinion that an independent air force was the best solution. The main reason for this was operational. Hydroplanes were to operate together with the Navy, and land-based aircraft together with the Army. Both for training and operational purposes, it was seen as best if each of the existing services established its own air arm.

The only argument in favour of an independent air force was economics. One air force would be cheaper because this meant one aircraft factory, one pilot training school, and only one administration.

¹⁷⁸ Stortingsmeddelelse 4/1913.

¹⁷⁹ Stortingsproposisjon 147/1913.

¹⁸⁰ *Ibid.*, p. 4–6.

The reason for reviewing the idea of an independent air force was not based upon the need for independent air operations. This is supported by the fact that few of the authorities on air power envisaged the possibility of any independent operations. The fact that the Ministry concluded that the development of the aeroplane as a weapon-carrying platform was immature, both in defence and offence, also points towards the same conclusion. If military aviation was to be used only as a means of observation or reconnaissance it was obvious that it should be seen as a support element of the Army or Navy.

Several instances also argued that the already established bases – the Army's at Kjeller and the Navy's at Horten – were not of a joint nature. Sem-Jacobsen explains in his memoirs that they had been looking for a field in the Lillestrøm area from the early autumn of 1912.¹⁸¹ The two pilots Captain Thaulow and First Lieutenant Sejersted, had found the field at Kjeller after a bicycle tour of the area in September. The Defence Ministry agreed to the hiring of the field, and thus Norway's first land-based air base had been established. It seems, though, that nobody had thought of a joint air base. The use of hydroplanes from Kjeller was problematic, although Lake Øyeren was a possibility. When Dons returned with his aircraft in May 1912, it was natural for the Navy to use Karljohansvern as its base. When *Start* got floats in January 1913, it could use the harbour at Karljohansvern. At Horten there was no nearby possibility for a land-based air base. Thus, the rapid development in 1912/13 had created a practical obstacle to the creation of an independent air force. Norwegian air power developed almost by happenstance.

The Ministry's conclusion in proposition 147 was quite clear. Norway was to organise all of its aerial resources in two separate air arms. Even the basic pilot training schools should

¹⁸¹ Sem-Jacobsen and Arnesen 1930, pp. 47-48.

be separate.¹⁸² Some parts of the proposition were used to explain why the Ministry had used funding that Parliament had not approved to finance some of the activities that were going on in both the Navy and the Army. In 1912 Parliament had committed the use of some 20.000 NOK to train pilots. The Ministry had, however, used some 45.000 NOK, and accordingly asked for Parliament's approval of this use of unsanctioned money. The majority of the Military Committee approved both the spending and the Ministry's conclusion that an Army Air Arm was to be established. They did not, however, approve the detailed plan of this arm, as they concluded that this was premature.¹⁸³

A minority of the Committee did not share these views. They believed that Norway had too few aircraft and pilots to establish any arm within the Army. This minority consisted of the representatives Kragtorp (Liberal) and Svendsbøe (Liberal minority party). They claimed that such small-scale activity did not need a formal organisation. Especially in a period when the Army was restructuring (according to the Army Plan of 1909), and when finances were not in place for this restructuring, new arms within the Army should not be established. They were, though, of the opinion that military flight should continue within the Army.¹⁸⁴

The Committee did not debate the question of one air force or two air arms. They questioned, however, why the Ministry had discussed an independent air force, concluded with two air arms, and then put forward a plan for only one – the Air Arm of the Army. They awaited a plan for the Navy Air Arm.

That a plan only for the Air Arm of the Army was forwarded was most likely due to the way the Defence Ministry was organised. As mentioned in chapter two, Norway had established a joint Defence Ministry as early as

¹⁸² Stortingsproposisjon 147/1913, p. 8.

¹⁸³ Tillæg 9 til Indst S. X./1913, p. 5.

¹⁸⁴ *Ibid.*, pp. 6–7.

1885. The Defence Ministry continued, however, with separate Army and Navy divisions. This led for instance to no joint defence budget. Most propositions forwarded to Parliament were of a one-service nature. The description of the Ministry in the Official Yearbook of the Norwegian State, began with a note telling the reader that mail being sent to the Ministry had to be addressed either to the Army or Navy division. If the mail was of a joint nature, one had to send a separate copy to each of the divisions.¹⁸⁵ In addition to this, the two divisions were led by respectively the Commanding General and the Commanding Admiral.

The proposition on how to organise military aviation was written by the Army division, and was therefore not of a joint nature. Thus, the problem of cooperation between the two services – and indeed the possibility of inter-service rivalry – was a part of the Ministry's organisational solution.¹⁸⁶ It was not until 1917 that the Defence Ministry established a joint Military Aerial Commission.¹⁸⁷

The minority's argument was raised in Parliament. It was claimed that one did not want to establish a military organisation for such small-scale activity, since such organisations tended to live their own lives and thereby began growing uncontrollably. The Defence Ministry was also criticised for the use of unsanctioned funding. These arguments seem to have won the day in Parliament. The proposal from the majority of the Military Committee did not pass (69 against, 50 for), while the minority's proposal was carried by a clear margin (96 for, 22 against). Thus, Parliament concluded that a plan for the development and organisation of the air resources in the Army was premature. But it also concluded that the ongoing training and flying

¹⁸⁵ Leganger 1915, pp. 78–82.

¹⁸⁶ It could be that the two divisions were physically separated as well, and if that were the case, that would probably hinder cooperation to a great extent. The answer to this question has, however, been difficult to find.

¹⁸⁷ Henriksen 1994, pp. 167–168.

should continue both in the Army and in the Navy, and some funding was allocated. The question of one air force or two air arms was not debated in Parliament.¹⁸⁸

Once the question of an independent air force or two air arms had been concluded, the question on how to organise these air arms was raised. During the spring of 1912 Einar Olaf Sem-Jacobsen wrote several articles on air power issues, and all of them included arguments on organisation. Sem-Jacobsen, who at this point knew that the arrival of aircraft was imminent in the armed forces, wanted two air arms. Sem-Jacobsen was an Army officer, and his more detailed views on organisation therefore dealt with that service alone. He meant that a detailed plan was premature, but made some recommendations. He was fascinated by and detailed the French solution. This meant that all aerial means and personnel were to be organised in the Engineering Branch, but in a rather independent position.

In proposition 31 from 1913, General Ræder was willing to give some advice on how military flight was to find its place in the Army. As a temporary solution he recommended that it should be organised as a part of the Engineering Arm, but he foresaw a development that would lead towards an air arm of the Army. This was, according to Ræder, only to be a peacetime solution. In wartime each of the six combined brigades of the Army was to have its own flying unit.¹⁸⁹

When during the spring of 1913 the Defence Ministry worked on proposition 147, it made inquiries of several commands in the Army as to their views on the organisation of air power. The Commanding General, the General Staff, the Inspector General of the Engineering Arm and the four Norwegian pilots were asked to give their advice. There was

¹⁸⁸ Stortingsforhandlinger/1913, VIIb, pp. 2651–2667.

¹⁸⁹ Since Norway had a conscripted army, the wartime and peacetime solutions had to differ. The mission in peacetime for the commander would be to produce operational units for the wartime organisation.

an interesting disagreement between the General Staff and the Inspector General of the Engineering Arm. The latter repeated his views given in proposition 31 some months earlier. He was still of the opinion that it was premature to give advice on any detailed organisation of an air arm. The General Staff was, however, of the opinion that the aircraft were to be placed directly under a chief of the air arm, subordinated only to the Commanding General (and hence the General Staff) during wartime. No aircraft were to be permanently distributed to the brigades. The reason for this was that it was in strategic not tactical reconnaissance that the aircraft were most useful. The Commanding General supported the view of the General Staff, but also added that it was the possible theatres of operation within Norway that ought to be the guideline when the flying units were to be distributed throughout the country.¹⁹⁰ The central command in case of war in Norway would be the General Staff, wherever that war was to be fought. That central element should therefore have control over the resources for strategic reconnaissance and observation.

The Defence Ministry concluded by laying out a rather detailed plan for an Army Air Arm, with its own chief who was to be placed directly underneath the Commanding General both in peacetime and wartime. The air arm was to be organised in two flying groups, one in southern Norway and one in central Norway (Trøndelag). These flying groups were not to be subordinated to the six combined brigades.¹⁹¹ Thus, the Defence Ministry followed the proposals from the General Staff and the Commanding General. The aerial resources were to be centralised.

In Parliament this issue was never debated. And, since the proposition was not carried by Parliament, the question of centralised or decentralised aircraft within the Army was not

¹⁹⁰ Stortingsproposisjon 147/1913, pp. 14-16.

¹⁹¹ *Ibid.*, pp. 21-25.

concluded. For the peacetime organisation of the Army Air Arm, the Defence Ministry concluded that it should be divided in two units: "The Tactical Branch" and "The Technical Branch". They were not placed under the same command. Henrik Thaulow, who became chief of the Tactical Branch on 15 August 1913, was subordinated to the Inspector General of the Engineering Arm. Sem-Jacobsen, appointed chief of the Technical Branch the same day, was subordinated to the Director of Ordnance Services.¹⁹² This organisation was probably based on the German ideal that operational activity should be split from logistics and research.¹⁹³

One might expect that a debate on how to organise military aerial activities would reveal views on air power doctrine. This is, however, only partially true for the Norwegian case. Although the Defence Ministry actually considered an independent air force alongside the Army and the Navy, this did not reflect a belief in independent air operations. The reason was purely economic – one air force would be cheaper than two. Both the military and aerial authorities argued that the economic potential of a cheaper air force was not enough to establish a third service. The reason for having two air arms instead of an independent air force was mainly due to the claimed difference in operational demands. Since the role of the aircraft was mainly reconnaissance and observation, it was natural that they were established in two separate air arms. Since there were to be no independent aerial missions, there was no need for an independent air force.

Conclusion

The role of air power was seen in this period in three different ways. Observation was considered the most important role. This was of course due to the inherent elevation of aircraft, airships and balloons, which made observers capable of

¹⁹² Meyer 1973, p. 27.

¹⁹³ Driver 1997, p. 193.

viewing a larger part of the battlefield than the traditional observer on horseback. In naval operations air power were also seen mainly as better platforms for observation than the lookouts on ships. This followed the international pattern. As John H Buckley states: "The military establishments up to 1914 saw only limited roles for aircraft in war – essentially reconnaissance and artillery spotting."¹⁹⁴ Secondly air power was seen as a potential offensive weapon. But, none of the participants in the debate made this the foremost role of air power. Thirdly the new air weapon was considered a necessary defensive weapon. The defensive aspect of air power had a particular impact on the Norwegian debate. The defensive aspect of air power was introduced quite early, through the Minister of Defence, Haakon Ditlef Lowzow, in 1909.¹⁹⁵ What he did not say anything about, however, was what should be defended. Thus it is unclear whether Lowzow foresaw any bombing from the air on civilians, or whether he was speaking about the defence of an army or a navy.

Relatively young but ambitious officers with a technological focus wrote on air power in the period. They were without exception not established as career officers in the Norwegian Army or Navy. The early pioneers of Norwegian aviation would suffer the same fate as the British ones. As Malcolm Cooper has argued: "Many of Britain's early airmen were possessed of strong, not to say headstrong personalities. As perhaps befits their positions as pioneers, they did not work easily within the established service hierarchy."¹⁹⁶ This quotation can be directly transferred to the Norwegian situation. This created a situation where the pioneers were not that influential. Conservative organisations do not make a habit of listening to people with unconventional views. The

¹⁹⁴ Buckley 1999, p. 40.

¹⁹⁵ Stortingsforhandling/1909, VIIb, pp. 2322-2326.

¹⁹⁶ Cooper 1986, p. 21.

pioneers were quite clearly influenced by developments in Germany and France.

The Defence Ministry and Parliament several times stressed the importance of air power. These expressions of importance led to few practical efforts to develop Norwegian air power. The Ministry and Parliament did not sanction such a development for two reasons. Most important was the everlasting question of funding. The period was characterised by tight budgets, especially in the years 1908–1911. Neither the Ministry nor the Military Committee could find any room for new activities in a period when both the Army and Navy were reorganising. Secondly the establishment displayed epigonism in matters of new technology. In Parliament some politicians mocked the idea of Norway becoming an air power nation. Although these politicians may have been few, even the Military Committee expressed concerns whether technological developments had come far enough for Norway to begin its air power development. The best explanation of the lack of connection between the expressed importance of the matter and the lack of practical effort lies in the combination of these two hypotheses. There was no room for spending money on uncertain new technologies in a period when the budgets were tight.

The few aircraft were organised in two separate air arms. The need for independent air operations was, however, soon to arise. The perspective was the same as the situation that created the Royal Air Force in Great Britain, in the Norwegian case the possibility of a German air attack. By the autumn of 1916 both air arms considered such an attack a possibility, and defensive air operations against such an attack was an overarching and independent role for the two air arms.

Chapter 4

The First World War

The First World War changed Norwegian air power doctrine. The role of aerial defence became a major task for both air arms. The views on how to organise aerial military activity also changed, as the Defence Ministry proposed greater jointness for the air arms.

This change followed the international pattern. The role of aerial defence had not been considered a main role for aircraft by any nation before the war.¹⁹⁷ It grew out of the experience that one had to fight for mastery of the air, both in offensive and defensive terms. The British mostly used fighter aircraft as offensive weapons on the western front, hunting down German aeroplanes over the German side. They also used fighters in a defensive role, against the Zeppelin airships and Gotha aircraft that attacked the British Isles throughout the war. The Germans mostly used their fighters to defend airspace on the front and to protect their observation aircraft.

Hence, the Norwegian change in doctrine might be explained as a product of international developments. This chapter will argue, however, that the change in Norwegian doctrine came quite quickly as opposed to other areas where Norway could learn from the Great War, and that this quickness was a direct product of the fear of an aerial attack

¹⁹⁷ Morrow 1976, pp. 1-57.

on Norway. It was the possibility of German aerial attacks that created the need for aerial defence in Norway.

The structure of the two air arms also changed during the war. The Defence Ministry put forward two different plans for the organisation of the air arms, but neither was accepted by Parliament. The pattern from 1913 repeated itself. The development of the air arms happened at the discretion of the Defence Ministry.

The Norwegian air arms entered the war influenced by French aerial development. Their aircraft were mainly of French origin and the pilots and engineers had mainly been educated in France. At the end of the war, both air arms were under heavy British influence. Their most modern aircraft were British, a lot of the pilots had visited Britain during the war, and thus the main influence came from Britain.

As the major powers in Europe went to war in August 1914, Norway and Sweden issued a common statement of neutrality, also promising not to attack each other.¹⁹⁸ Militarily, Norway was quite well prepared, since Parliament had followed a defence-friendly movement within the public opinion. In 1913, when Gunnar Knudsen (Liberal) again had become Prime Minister, he devoted large parts of his first announcement to Parliament to defence issues. This was a clear sign of a new policy on defence issues, both from the Liberals, and from the Prime Minister himself.¹⁹⁹ Parliament allocated a lot of time to defence issues during its spring session in 1914, and in February 1914 it agreed to sanction higher budgets and longer service time for the conscripts.²⁰⁰ Although some parts of Labour were advocating pacifism and unilateral disarmament, both the Liberals and the Conservatives were willing to strengthen the Armed Forces.

¹⁹⁸ Fuglum 1978, p. 480.

¹⁹⁹ Nissen 1933, p. 300.

²⁰⁰ *Ibid.*, p. 308; Fuglum 1978, p. 481.

The Norwegian aerial forces, however, were very small. The Navy had no operational aircraft, while the Army had four. For some time into the war, the situation got even worse. By new year 1915 the Army had no operational aircraft, due to several accidents.²⁰¹ The main doctrinal emphasis in both air arms was on aerial observation.

At the end of the war the Navy Air Arm could be termed a modern air force, equipped with the fighter aircraft Sopwith Baby. Its main emphasis was thus on air defence, although observation was still considered a major task. The Army had not been able to acquire any fighters. However, the effort from the Army to do that from the autumn of 1916 and throughout the rest of the war shows that its emphasis was also on air defence. A clear doctrinal change had taken place. This chapter will look in more detail at why and how this happened.

To write about the debate on air power doctrine in Norway during the Great War is rather difficult. This is due to the fact that Norwegian officers were not allowed to express their views freely in journals or to the press during the war. In addition, most debates in Parliament about the development of the air arms were held in closed and classified sessions, and the documents produced were also classified. These were not printed in the Parliamentary proceedings, and a lot of the sources disappeared during the Second World War, probably to Germany. Since there were no open debates this chapter will take a different approach from the rest of this study. It will be based more upon what actually happened than the previous chapter, because this is one of the ways in which it is possible to establish the doctrinal emphasis of the two air arms.

²⁰¹ Henriksen 1994, p. 101.

The Zeppelin Fear

A debated question regarding the First World War is to what extent war threatened Norway. Was it likely that Norway would have to give up its neutrality and join one side in the war? When reading the Foreign Minister's statements to Parliament – held in closed sessions – one learns that the concrete threat of war was not what worried Niels Claus Ihlen the most.²⁰² What worried him was the constant British pressure upon Norway to reduce its exports to Germany, along with the question of what such a decrease would mean to the German-Norwegian relationship. Ihlen was a pragmatic politician; he balanced Norwegian foreign policy throughout the war, always with the goal of keeping Norway out of the war. The other central issue in Norwegian foreign policy during the war was the country's need to import both food and coal from Great Britain and the USA.

Norway's dependence on imports from Great Britain was the country's main problem. The British were most willing to use this to apply pressure to stop Norwegian exports to Germany. Norway did not import important goods from Germany. Thus, the only reason for the Norwegian government to please the Germans was the fear of war. Trade was the overarching issue in Norwegian-British relations, but Britain was also the only country in a position directly to threaten Norwegian territory. There was much talk in the years before the war as to whether a major power, in the case of a war, would try to seize a bridgehead in the south-western part of Norway, thus being able to control a large part of the North Sea.²⁰³ But only Britain was capable of performing such

²⁰² Riksarkivet, UD, boks 5543, several statements. The statements were long thought missing, but Karl Erik Haug located them in the Norwegian national archives. The author wishes to express his regards to Haug for the loan of these documents.

²⁰³ Fuglum 1978, p. 482. The possibility of a huge naval battle in the beginning of the war also worried Ihlen, see Riksarkivet, UD, boks 5543, P 12-A 01/14.

an operation, as it would probably stop anybody else who tried. Norway's drift towards Britain during the war was not based on a fear of war, but on having a good relationship with this major supplier of food and other important goods. During the Napoleonic Wars, Great Britain had enforced an effective blockade of Norway, which led to famine. The Norwegians had not forgotten this. The poet Henrik Ibsen captured Norwegian problems in his epic poem *Terje Vigen*, first published in 1862. The poem is about a Norwegian sailor who rows to Denmark and back to bring food to his wife and child, and is stopped by the British Navy. His wife and child die in the famine. Norwegian policy was quite clear. Adjustment to please the British, but not in such a manner that it would lead to war against Germany.

The drift in neutrality worried many Norwegian politicians. They were uncertain of the German reactions to these policies, as Norwegian exports to Germany kept decreasing. The fear of warlike reprisals from Germany was common, at least in three periods, not only among politicians, but also in the population. The first incident happened during the late summer and autumn of 1916, when the Norwegian government issued a resolution restricting the movement of foreign submarines in Norwegian waters. The sinking of Norwegian merchant vessels had reached new peaks during the early autumn that year, and the newspaper *Tidens Tegn* led the campaign that eventually made the government issue a submarine resolution on 13 October.²⁰⁴ The resolution was interpreted by the Germans to be unfriendly. In an interview with the central newspaper, *Aftenposten*, on 21 October the German Under Secretary of State said that Germany could not let this happen without reacting. Many believed this to be an unspoken threat of military punishment. In Kristiania, the demand for insurance against aerial attacks reached new

²⁰⁴ Berg 1995, p. 215.

peaks.²⁰⁵ After diplomatic contact with the German authorities, the text in the resolution was slightly changed in January 1917. The second incident came during the spring of 1917, when Norway was secretly negotiating with Great Britain about the possibility of lending the Entente the Norwegian merchant fleet. The fleet was at that time the fourth largest in the world.²⁰⁶ The third incident occurred in early 1918, when the Norwegian, German and Austrian governments negotiated a treaty on trade. There was fear of the possibility of German attacks in case the negotiations broke down.²⁰⁷

The overriding fear during the war was the threat of a German U-boat campaign against the Norwegian merchant fleet in Norwegian waters. The possibility of attacks from Zeppelins on the Norwegian capital and/or industry was also considered a possible threat. Olav Riste claims in his study on Norway's relations with belligerent powers during the war, that these fears were exaggerated, since Germany never planned to use force against Norway. He even states that "serious military measures could with reasonable confidence be discounted by Norway from the very beginning".²⁰⁸ Riste claims that the main reason was that the German government did not want to push Norway into the hands of the Entente.²⁰⁹

Karl Erik Haug has shown that Germany did not plan a war against Norway when the fears peaked in Norway during the autumn of 1916.²¹⁰ Haug shows that what some historians have interpreted as a crisis that could lead to war with Germany, was actually a political conflict. He writes:

²⁰⁵ *Ibid.*, p. 216; Furre 1972, pp. 78–79.

²⁰⁶ Only the British, German and American were larger.

²⁰⁷ Berg 1995, p. 238.

²⁰⁸ Riste 1965, p. 126.

²⁰⁹ As Riste demonstrates, a neutral Norway best served both Germany and Great Britain, although several British agencies, among them the Admiralty, on several occasions considered options that would bring Norway into the war.

²¹⁰ Haug 1994 I, p. 79.

In this perspective, the conflict between Norway and Germany in the autumn of 1916 in connection with the Norwegian resolution on submarines was not a crisis which threatened to end in war, *as it was perceived in Norway at the time.*²¹¹

The point is, however, that what shaped Norwegian politics was the contemporary understanding. The fear of German Zeppelin attacks was definitely real. Both Riste and Haug make a point of exactly this in their studies, that Norwegians interpreted the crises to be more serious than historical sources have since proved them to be.²¹² As Riste explains:

Germany's reactions to the submarine decree evidently made a deep impression in Norway at the time. There are indications that business circles began preparing for a war; many owners of houses in the capital took out insurance against bombardment and war damage; some Norwegian diplomats made dispositions for the safety of their families if the worst should come to the worst.²¹³

Thus, as Riste himself shows, even fears that were exaggerated were important, because they explain Norwegian policy. One of the products of the fear of German attacks was that Norwegian air power doctrine changed, as it initiated the process of creating an aerial defence for the country.

A threat assessment, as one would believe Norwegian authorities made in the autumn months of 1916, constitutes an evaluation of two factors, your potential enemy's intention and his capacity. In what follows these two factors will be discussed.

In 1916–17 Norwegian authorities were uncertain as to the German intentions. The Norwegian authorities had no civil or military intelligence organisation to support their threat

²¹¹ Haug 1994 II, 22, author's translation and emphasis.

²¹² Riste 1965, p. 143; Haug 1994 I, p. 26.

²¹³ Riste 1965, p. 143.

assessment, but the General Staff acted as the central intelligence agency of Norway. On 31 October 1916, as the problems peaked in the Norwegian-German relationship, the General Staff ordered the army divisions to prepare the blackout of the cities of Kristiansand, Bergen and Trondheim, because, as the General Staff concluded: We are [...] helpless in the case of aerial attack.²¹⁴

In a report on the air force delivered in 1936, Colonel Otto Ruge, analysing possible aerial threats against Norway, referred to what he termed the Zeppelin-threat of 1916. He stated that "We have ourselves a First World War experience of how straining threats of such aerial attacks can be."²¹⁵ In 1916 Ruge was an adjunct of the General Staff, and can therefore be considered a valid source as to what were the feelings in the General Staff.

Central Norwegian politicians feared war with Germany in the busy days of late October. In the middle of the turmoil concerning the submarine resolution, a meeting was held on 28 October 1916, arranged by the Foreign Minister. All party leaders within Parliament participated. No minute of this meeting seems to exist, but Johan Castberg has written about it in his diaries.²¹⁶ Castberg's report was written on 5 November 1916, only eight days after the meeting, and is therefore considered a reliable source. The meeting shows clearly that several politicians feared war with Germany, and also that the government took some precautions, since Defence Minister Holtfodt briefed on the military situation. Holtfodt stated, according to Castberg, that, if Germany were to attack, it most probably would launch an air attack and a U-boat war against Norwegian shipping. He claimed, however, that, as long as Sweden stayed neutral, Norway

²¹⁴ Riksarkivet, PA 616, pakke 8, 31.10.1916, "Generalstaben til 1., 2., 5., og 6., div. m.v.", here quoted from Berg 1995, p. 221.

²¹⁵ Bilag 2 til Stortingsmeddelelse 38/1937, p. 72, author's translation.

²¹⁶ Castberg 1953, pp. 109–130.

would cope with such an attack. Kristiania and Kristiansand could not be attacked by U-boats, and, as long as the British were masters of the sea, Germany could not try a bridgehead operation on the Norwegian coast. Because of this, Holtfodt said that Norway could not tolerate any speculation about the British or French being allowed a stronghold on Norwegian territory, since this would put Sweden in a very difficult position. Johan Ludwig Mowinckel, who headed the Liberals in Parliament, did not agree with Holtfodt. Mowinckel stated, according to Castberg, that Norway at once ought to find out what help the Entente could give if Germany attacked. Foreign Minister Ihlen then reported several telegrams from Norwegian foreign stations, which stated that both France and Great Britain were holding Navy vessels and aircraft capable of shooting down airships ready in the event of a German attack.²¹⁷

Defence Minister Holtfodt worried about the consequences for the civilian population in case of aerial attacks upon Norwegian cities. Therefore he sent an inquiry to the Norwegian embassy in London, asking if they could explain what measures the British were taking. Holtfodt was also worried about the possibility of gas being used in such operations.²¹⁸ Holtfodt got several replies from the attaché, giving brief information on how the British tried to defend themselves.²¹⁹

In early 1918, Gunnar Knudsen, on several occasions feared that a possible break in the negotiations with Germany and Austria would lead to war. In retrospect, Knudsen remembered that:

²¹⁷ Riksarkivet, UD, boks 510, G14C 3/15, 13.11.1916, Vogt til Ihlen, J. nr. 33888.

²¹⁸ Riksarkivet, FD, FD til 1940, boks 2, 27.11.1916, FD til UD, J. nr. 3616/1916, p. 1.

²¹⁹ Riksarkivet, FD, FD til 1940, boks 2, 06.12.1916, Militærattacheen til FD, J. nr. 1203/1916, p. 5.

If there was a break with Germany, we could have risked that a few hours later we would be visited by some Zeppelins attacking Kristiania, Rjukan and the power stations on the river Glommen with the most terrible consequences.²²⁰

What about the perceived German capacity to attack Norway? Karl Erik Haug has argued that this was modest. Haug has a valid point here. It is correct that the German capacity by 1916 was somewhat modest. Peter Fritzsche has demonstrated that the Zeppelin attacks on Great Britain from 1915 until the end of the war were a military catastrophe.²²¹ The Zeppelins were taking a high loss rate, not proportional to the damage they did. But there is clear evidence that this was not known in Norway. As in Great Britain, many Norwegians exaggerated the capacity of the Zeppelins. In the autumn of 1916, probably as a response to the fear of Zeppelins, Sem-Jacobsen wrote about the giant airships. The article was strictly technical. Sem-Jacobsen did not write about the possibility of an attack. He based his knowledge on pre-war writings on the Zeppelins, but also on facts given by British and French authorities. He emphasised the great development that had taken place during the war, and made the point that the new Zeppelins had a far better potential for creating havoc than earlier models. He even termed the Zeppelins "monsters of the air", and concluded with the claim that the oceanic journey (the flight across the Atlantic) would soon be unproblematic.²²²

It could be claimed that Sem-Jacobsen had his own agenda in exaggerating the capacity of the Zeppelins. When he wrote the article, he was leading the Army Air Arm, which in this period sought to procure fighter aircraft. It would therefore be in his own interest to inflate the capacities of the Zeppelins. Sem-Jacobsen may, however, serve as an example of the fact

²²⁰ Fuglum 1989, p. 331, author's translation.

²²¹ Fritzsche 1992, pp. 43–58.

²²² Sem-Jacobsen 1916, pp. 571–578, author's translation.

that the capacity of the Zeppelins was interpreted to be that they would be able to attack Norway.

Karl Erik Haug makes the point that Norway was helped by its climate, as the Zeppelins could not withstand high winds. Haug uses the crash of the L-20 in May 1916 at Jæren on Norway's southwestern coast as an example of this.²²³ But Zeppelins were sighted on several occasions on the southern and southwestern coast of Norway. They were spotted off the Norwegian coast at least four times in July and August 1916. In 1917 the Navy registered five sightings of airships.²²⁴

Although there is some uncertainty regarding the purpose, or possible lack of purpose, of the Zeppelin's visits to the Norwegian coast, the L-20 was not representative of the airships that were seen. Roald Berg has turned Haug's argument upside down, by claiming that the L-20 was a signal that the next time such an airship could attack Norwegian nitrate factories.²²⁵ Haug also makes the point that the Germans lacked aerial maps of Norway during the war, but this was not known in Norway.

In April 1917 Parliament was again concerned about the possibility of a German aerial attack. Johan Castberg wrote in his diaries that Defence Minister Holtfodt on several occasions was asked whether the Norwegian military was prepared for an attack. According to Castberg, particular emphasis was put on aerial defence. But Holtfodt was silent, and in spite of several appeals in Parliament, he would not answer the question, since that would turn the debate into a question of defence policy. Castberg himself then replied that what Parliament needed was a clear statement that Norway was prepared to defend itself. Holtfodt was silent, and,

²²³ Haug 1994 I, p. 91.

²²⁴ Admiralstaben, *Marinen. Nøitralitetsvernet 1914-1918, samt nøitralitetsvernets utvikling 1918-1919*, (Kristiania, 1921), pp. 18-34.

²²⁵ Berg 1995, p. 227.

according to Castberg, this was a silence that spoke for itself.²²⁶

An interesting question about the fear of war with Germany is how it came into being. That Germany was thought to have the capacity to attack Norway with airships is already established. Germany never explicitly threatened to attack Norway, and it is possible that Norwegians over-estimated their own role in Germany's foreign affairs. Robert Jervis has argued that this is a tendency in international affairs, and described the phenomenon as "Overestimating One's Importance as Influence or Target."²²⁷

It is also an interesting feature of the fear that the Norwegians feared something they knew very little about. Malcolm Cooper has argued that the British felt the development of military aerial flight as more threatening than other countries in Europe, as the British had felt shielded by the Royal Navy.²²⁸ This argument can also be used with respect to the Norwegians. Although many people, especially those in close contact with the Norwegian sailors manning the merchant fleet, had felt the effects of war, Norway was still a peaceful corner of Europe. The main reason for this peacefulness was geography. Norway was a European outpost, divided from the continent by the Skagerrak, and from Great Britain by the North Sea. The creation of the aeroplane and the airship threatened the advantages of being an outpost. War could be brought to Norway in a matter of hours. In addition, nobody had any experience in this new kind of warfare. The possible effects of aerial attacks on cities or industries could only exist in people's imaginations. Zeppelins were giant monsters of the air. Peter Fritzsche has argued that not only was the sheer size of the Zeppelins frightening and somewhat superhuman, but also that "the

²²⁶ Castberg 1953, p. 194.

²²⁷ Jervis 1976, p. 369.

²²⁸ Cooper 1986, p. 2.

streamlined zeppelin itself seemed inaccessible, closed, without showing even a trace of the crew, added to the sense of the unknowable, possibly extraterrestrial power."²²⁹

The Norwegian fear during the autumn of 1916 thus has clear parallels to the Zeppelin fear in Great Britain in 1909.²³⁰ The ocean and the distance to the battlefield no longer protected Norway, and Britain was no longer the only country that seemed able effectively to threaten Norway. The importance of the British Navy as Norway's implicit guarantee was still considered to be huge in Norwegian security policy, but it had been somewhat modified by the invention of aeronautics.

The fear of the airship was about the unknown, somewhat "otherworldly, all-seeing, all powerful."²³¹ But unlike the British in 1909, the Norwegians knew that cities and industries had been bombarded from the air in the ongoing war. In a sequential Danish/Norwegian publication about the development of the war, a 1915 issue concerned air power. They listed fifteen missions for air power, amongst them "Attack on the enemy's main cities."²³²

But, the Norwegian situation also is a clear parallel to the British policy on aerial defence during the First World War. Several scholars have shown that the fear of Zeppelin and Gotha attacks was out of proportion to the amount of damage that these vessels could create. But this fear shaped British aerial policy both before and during the war.²³³ Reactions to the German attacks, however modest their results, created the first independent air force in the world. As Malcolm Cooper has argued, the creation of the RAF was not

²²⁹ Fritzsche 1992, p. 49.

²³⁰ For an outline of the Zeppelin-fear of 1909, see Gollin 1989, pp. 49-63.

²³¹ Fritzsche 1992, p. 49.

²³² Jenssen-Tusch, Ewald, Lindbæk and Styrmer 1915, pp. 93-94, author's translation.

²³³ See for instance Gollin 1989, pp. 49-63, 230-260; Powers 1976, pp. 11-52.

a military, but a political necessity. The British government had to show its population that it had done something both to protect them and to retaliate against Germany.²³⁴

Aerial Defence Becomes a Priority

By the summer of 1916 Norway had almost no defence against aerial attack. The two air arms had no fighter aircraft and no ordinary air defence artillery guns. The only defence was some observation aircraft equipped with light machine guns, and some artillery guns that had been modified through a new carriage.²³⁵

The Norwegian authorities, faced with the threat of German aerial attack, began improving their air defences during the autumn of 1916. Although the General Staff in 1915, in a proposal for the further development of the Army Air Arm, had mentioned the importance of fighters,²³⁶ it was not until the concrete fear of German attacks that Norwegian air power doctrine changed. The work would be successful, although the time it would take to acquire fighter aircraft and air defence guns was rather long. This was, of course, because the belligerent countries were not eagerly awaiting customers for equipment they needed themselves. The Navy and Artillery eventually succeeded. The Navy Air Arm obtained several Sopwith Babies from Great Britain, while the Artillery acquired both mobile and stationary guns from France and Great Britain.

Before looking into these procurements, it is necessary to recapitulate the status of the Norwegian air power doctrine by the summer of 1916. Given the procurement policy of the two

²³⁴ Cooper 1986, pp. 10, 65.

²³⁵ Early in the war, work had begun on converting some of the field artillery's 7,5 cm M/1901 Rheinmetal and Hotchkiss machine guns, see Asbjørnsen 1983, pp. 2, 18, 57–58.

²³⁶ The General Staff only mentioned the importance of fighters, but proposed to have none, see Riksarkivet, GS, boks 114, 15.11.1915, Generalstaben til Kommanderende General, J. nr. 2232/15.

air arms, it will be quite clear that the aerial authorities did not consider aerial defence a major priority until the autumn of 1916.

In the Navy, the aircraft factory at Horten had been building several types of aircraft from 1915 onwards. All these types were of pre-war Farman design, and designed for reconnaissance and observation, although they could be equipped with machine guns and small bombs.²³⁷ At the Army aircraft factory at Kjeller Farman-type aircraft were also being built.²³⁸ As Vera Henriksen has shown, both Sem-Jacobsen and Gyth Dehli kept on constructing obsolete aircraft based on the Farman design. Since those two were the only aircraft engineers in the country at the beginning of the First World War, it could not be expected that they could keep pace with the rapid development in the rest of Europe.²³⁹

During the summer of 1916, the Navy aircraft factory sent about ten inquires to the United States, Britain and Sweden, as to the possibility of acquiring a seaplane for reconnaissance purposes. The Army also received some reconnaissance aircraft from France, the first two arriving at Kjeller by August 1916.²⁴⁰

The change in priorities came during the autumn of 1916. In the Army Air Arm, the acting chief, Sem-Jacobsen got the task of putting together a policy for the procurement of aircraft from abroad. In October a list was ready. Three different types of aircraft were listed. Sem-Jacobsen wanted 25 Farman 40s equipped with machine guns and light bombs which could be used against airships, ten Sopwith or Nieuport fighters for aerial defence against high-manoevrable targets, and 20 flying boats which should be used at the fortresses,

²³⁷ For a description on aircraft types built by the Navy, see Høver 1975, pp. 7-51.

²³⁸ In Norway ten different types of Farmans were built to a total of 45 aircraft, see Lillevik 1984, p. 30.

²³⁹ Henriksen 1994, p. 104.

²⁴⁰ *Ibid.*, pp. 71, 105.

mostly for reconnaissance.²⁴¹ The list thus clearly shows a change in the priority of the tasks of the aircraft.

The military attaché in London, Major Gulbranson of the Army, began the work of acquiring aeroplanes in the beginning of November 1916.²⁴² The first hope was to buy modern fighter aircraft from the British, but the only plane the British were willing to sell was the BE2e, a two-seat reconnaissance aircraft. The BE2e was only a modest improvement on the BE2c, the famous Fokker-fodder aircraft that had been produced in great numbers, which was obsolete by at least the middle of 1916.²⁴³ The aircraft were thus of a quite different type than the ones Sem-Jacobsen wanted. But the embassy in London was told on 9 December 1916 to order 20 of these aircraft. Not until the middle of June 1917 did the Air Arm get the promise of 20 aircraft used and of different types. The Army pilots already in England recommended the aircraft, as the best available option. One of the pilots, Tellefsen, later claimed that they had tried to get either Sopwith or Bristol fighters, but without any luck.²⁴⁴

Sem-Jacobsen himself went to England to inspect the aeroplanes in July 1917. As he probably knew that the Navy was getting new fighters from the Admiralty, he was furious. The BE2e did not satisfy the Air Arm's need. He protested loudly, worsening his already bad relationship with Colonel Grüner and making the military attaché in London, Major Gulbranson, write a rather angry letter to his superiors.²⁴⁵ The British had by then pulled back most of its BE2s from frontline service, although the type had proven useful in aerial

²⁴¹ *Ibid.*, 108–109.

²⁴² Riksarkivet, UD, boks 510, G14C 3/15, 08.11.1916, FD til UD, J. nr. 33284.

²⁴³ Cooper 1986, p. 34.

²⁴⁴ Henriksen 1994, pp. 122–123.

²⁴⁵ Riksarkivet, UD, boks 510, G14C 3/15, 07.08.1917, Militærattacheen til Forsvarsdepartementet, J. nr. 26354.

defence against airships over Britain.²⁴⁶ This possibly should have made Sem-Jacobsen less furious about the purchase. It is not unlikely that it was envy of the Navy Air Arm, which out of the blue had become a modern air force that was most difficult to tolerate for him.

The Norwegian navy attaché in London suddenly got the offer to buy modern Sopwith Babies from the British Admiralty in July 1917.²⁴⁷ The purchase was hastily arranged, as ambassador Benjamin Vogt in London stated that "Since the situation here changes almost on a daily basis, I recommend immediate decision."²⁴⁸ By late July 1917 the Navy Air Arm had received their first four Sopwith Babies. Six more aircraft arrived in April and August 1918. The First Sea Lord, Commodore Pain, had met with Riiser-Larsen and Horgen, two Norwegian navy pilots, and, according to Vera Henriksen, had almost by-passed his superiors, and ordered ten Sopwith Babies for Norway. Pain said that they could be more useful there than in Britain.²⁴⁹ The planes were modern fighters; they were equipped with one or two Lewis machine guns that fired through the propeller, and could carry nine small bombs (9 kilos) or one larger 50-kilo bomb.

Vera Henriksen wonders what the British got in return for both their most modern fighters and also giving Norwegian pilots training during the war. Could it be that these aircraft were considered a "long arm" of the Royal Naval Air Service, fighting German U-boats on Norwegian territory? It is quite clear that what the Norwegians wanted was fighter aeroplanes, but could it be that the British had other plans as to the possible tasks of the Babies?

²⁴⁶ Lillevik 1984, p. 31.

²⁴⁷ Riksarkivet, Utenriksstasjoner, boks 389, 01.06.1917, Marineattachéen til FD; RA, UD, boks 510, G14C 3/15, 18.07.1917, Vogt til Ihlen, J. nr. 24338.

²⁴⁸ Riksarkivet, UD, boks 510, G14C 3/15, 22.07.1917, Vogt til Ihlen, J. nr. 24438.

²⁴⁹ Henriksen 1994, p. 72.

The Norwegian Navy had not been able to hinder totally the traffic of submerged German U-boats through Norwegian waters. And the Navy stationed their newly acquired aircraft not only in Kristiansand, on Norway's southernmost coast, but also near Karmsundet, a small narrow waterway inside Norwegian territory often used by German U-boats.²⁵⁰ The official explanation for this new air base was to search for mines, but according to its chief, Hjalmar Riiser-Larsen the main emphasis lay on chasing U-boats.²⁵¹

What the Norwegian Navy wanted were fighter aircraft that in addition could hunt U-boats. But, the Sopwith Baby was not the best aircraft to do that job by July 1917. It therefore seems unlikely that the sole argument behind the British decision to sell the Sopwiths to Norway was that it wanted the Norwegian Navy to chase U-boats. If that had been the case, they probably would have offered aircraft of other types.

With regards to the air defence artillery, the authorities were of the opinion that the converted field artillery guns were not satisfactory. In the autumn of 1916 Captain Richard Osmundsen was sent to both Britain and France to try to procure guns. He succeeded in procuring quite modern guns. The Army got British guns of 7,6 cm, both mobile and stationary types, and the French 7,6 cm stationary gun. In 1916 the Navy had also bought anti-aircraft guns from Sweden to be installed on their small dreadnoughts.²⁵²

The use of the guns, and the possible targets they were to protect, gives insight into what the military authorities feared most regarding aerial attack. Norsk Hydro's factories at

²⁵⁰ Meyer 1973, p. 47.

²⁵¹ Riiser-Larsen 1958, p. 73.

²⁵² His travel bill created some difficulties. He had hosted several receptions and parties, and the bill reached 60 000 NOK. None of the bureaucrats in the Defence Ministry dared to sign it, and it went all the way up to Defence Minister Holtfodt, who signed it when he saw what Osmundsen had achieved, see Asbjørnsen 1983, pp. 18, 24–37, 41, 259–260.

Rjukan and Notodden, which were both owned by French investors, were equipped with privately financed British and French guns in the autumn of 1916.²⁵³ The factories were intertwined in the war economy, since they produced nitre for French munitions.²⁵⁴ The personnel at the factories manned the guns, although officers from the Army made up a small corps of leading men. Thus, the military did not need to situate its new guns to protect the central factories in southern Norway. The 12 mobile guns, which had been acquired from Great Britain, were put into the defence of the capital, Kristiania. The stationary guns were to protect the fortresses in southeastern and southern Norway.²⁵⁵

The Attempts for Greater Jointness

When in the spring of 1916 the Military Committee treated the Defence Ministry's budget proposal for the Army, it stated that "The Committee will, regarding the Air Arm in general, note that one has the impression that the development of this new and important weapon leaves a lot to be desired."²⁵⁶

The Committee concluded, however, that it knew that the Ministry was finally about to propose an organisational plan for both air arms, and that it therefore did not want to use this opportunity to comment more on the matter.²⁵⁷ In April 1916, the Ministry forwarded the awaited proposition.²⁵⁸ Proposition 84 was classified, and was characterised by a lot of proposals, but few arguments.

The Defence Ministry found the situation in the two air arms unsatisfactory. It proposed to employ a joint Inspector General of both air arms, which clearly shows that it was dissatisfied with the cooperation between them. The Ministry

²⁵³ Furre 1972, p. 79.

²⁵⁴ Bull 1978, p. 26.

²⁵⁵ Asbjørnsen 1983, p. 90.

²⁵⁶ *Indst S. X./1916*, p. 10, author's translation.

²⁵⁷ *Ibid.*, p. 10.

²⁵⁸ *Stortingsproposisjon 84/1916*.

pointed towards Britain to explain that it was necessary for the development of the two air arms that this became the responsibility of a single officer.²⁵⁹

Both Fredrik Meyer and Bjørn Magne Smedsrud have claimed that the Defence Ministry through proposition 84 proposed an independent air force.²⁶⁰ This is not correct. What the Ministry wanted was a common Inspector General for the two air arms. The Inspector was not to have operational command over any aircraft, but was supposed to become responsible for procurement, education and maintenance in both arms, as well as being the Ministry's foremost advisor on aerial policy. Although the Ministry did not mention to whom this Inspector General of the Air Arms was subordinate, it was most probably their intention to establish the Inspectorate as a part of the Army. An officer of either the Army or the Navy could man the position of Inspector.

The aircraft were to be organised in small groups, consisting of one to four aircraft, which were to be organised within the six divisions of the Army, or the six different Navy districts. Thus, aerial development would be put under a centralised leadership in peacetime, while the aircraft was to be distributed throughout the armed forces for operational use.

The Ministry wrote nothing in particular about the role of the aircraft. Each aeroplane was, however, to have both a pilot and an observer, pointing to the conclusion that the Ministry still saw aerial observation and reconnaissance as the main role for air power. They mentioned the need to educate aerial gunners and bombers, but concluded that Norway ought to obtain more experience in these matters before it was possible to conclude how many men were needed for these purposes.²⁶¹

²⁵⁹ Ibid., p. 54.

²⁶⁰ Meyer 1973, p. 25; Smedsrud 1998, p. 24.

²⁶¹ Stortingsproposisjon 84/1916, pp. 56–57.

The proposal from the Defence Ministry had been discussed in the permanent Commission on Defence Matters. The Commanding General and the Chief of the General Staff agreed to the entire proposition, while the Commanding Admiral and the Chief of the Admiral Staff did not want a common Inspector General of the two air arms. This was probably because the Inspector General was to be subordinate to the Commanding General, thus becoming a part of the Army and not directly influenced by the Navy. The Navy feared that naval air would lose priority.

Another argument has, however, to be mentioned. The Navy was, to a greater extent than the Army, involved in neutrality guard operations. In this respect, the small Navy Air Arm had proven itself a good asset. The Norwegian Army was, on the other hand, a war-fighting organisation, with only a small part performing neutrality guard operations. Thus, the Navy's arguments for a Navy Air Arm probably referred to the military as a neutrality guard force. The Army was structured for war, and thought of air power in that respect.

It has not been possible to find out in detail what the Military Committee and Parliament felt about the proposition. In his report of 1936, Colonel Otto Ruge gave short explanations to documents that are now missing.²⁶² He there stated that the Military Committee, in its secret recommendations to Parliament, proposed to postpone the matter. Parliament followed this advice.²⁶³

The Defence Ministry kept on pushing for a joint leadership of the air arms. In a letter to the Military Committee in November 1916, it repeated the necessity of joint leadership, and referred to letters from both the Commanding General and the General Staff who were of the same opinion. The Military Committee answered the Defence Ministry in a letter of 9 December. Although the Committee was to some degree

²⁶² Bilag 2 til Stortingsmeddelelse 38/1937, p. 57.

²⁶³ Meyer 1973, p. 43.

split on this question, it did not want to go against the advice of the Ministry.²⁶⁴ Both authorities thus wanted a common leadership.

This was, however, not to be the case. The Defence Ministry answered the Military Committee in January 1917. The situation had now changed. The Ministry stated that it saw no possibility of solving the personnel issues regarding a joint leadership, and that therefore, as a temporary solution, it wanted to establish positions as inspectors of the two air arms.²⁶⁵ It has not been possible to find out why the Ministry changed its policy so soon, or what were the personnel questions that were insoluble. It could be that the Defence Ministry did not find the individual who would have trust within both air arms. The Military Committee followed the reasoning of the Ministry, and the temporary positions as inspectors of the air arms were established. It is paradoxical that personnel question was able to hinder organisational development.

Since Henrik Thaulow's death in March 1916, Sem-Jacobsen had more or less headed the Army Air Arm. Through a resolution of 18 August 1916 the Defence Ministry had made this arrangement official policy. Based on proposition 84, the Defence Ministry established the position of Weapons Inspector of the Army Air Arm and Air Defence, and appointed Colonel Gustaf Grüner to the position from 12 February 1917.²⁶⁶ Thus, the heavy anti-aircraft artillery was organised within the air arm.²⁶⁷ Commander Jack von der

²⁶⁴ Bilag 2 til Stortingsmeddelelse 38/1937, p. 57.

²⁶⁵ *Ibid.*, p. 57.

²⁶⁶ Meyer 1973, p. 41; Henriksen 1994, p. 110.

²⁶⁷ This arrangement only lasted about 18 months, since a Royal Decree of 6 September 1918 decided that the Air Defence Artillery was to be transferred to the Field Artillery (mobile guns) and the Fortress Artillery (stationary guns), see Asbjørnsen 1983, p. 91; Henriksen 1994, pp. 129–130.

Lippe was temporarily appointed Chief of the Navy Air Arm on 13 September 1916.²⁶⁸

Grüner was a man of great energy who instantly set about improving the situation in the Air Arm. He is described as an energetic person with loads of enthusiasm. Vera Henriksen writes that it was typical of him that he obtained his pilot's certificate in 1918, at the age of 53.²⁶⁹ Grüner and Sem-Jacobsen almost instantly clashed. Grüner entered the scene without any experience of aviation, a field dominated by Sem-Jacobsen. Grüner demanded, for instance, strict calculations about the production rate at the aircraft factory at Kjeller, while Sem-Jacobsen was always optimistic. A lot of letters back and forth show that the relationship between the two central men in the Army Air Arm was an unhappy one that to some degree prevented progress.²⁷⁰

The Defence Ministry took a step towards integration in February 1917, when it established the Permanent Commission on Aviation. The mission of this Commission was to enhance the cooperation between the two air arms. Colonel Grüner headed the Commission, and Commander von der Lippe was deputy.²⁷¹

In 1917, a massive increase in the funding of both air arms was sanctioned by Parliament. Through proposition 102, the Defence Ministry proposed giant leaps in the budgets of military aerial activity in Norway. The money was mostly to be used for procurement of new aircraft, as well as for the construction of several new air stations, especially on Norway's southern and southwestern coast. Some funding was intended for the procurement of 21 anti-air artillery guns. The guns were to be used to protect the Army in the field, the fortresses, the cities of Kristiania and Trondheim, and the

²⁶⁸ *Ibid.*, p. 107.

²⁶⁹ *Ibid.*, p. 121.

²⁷⁰ *Ibid.*, p. 132.

²⁷¹ Meyer 1973, p. 54-55.

factories of the Army.²⁷² As with most propositions during the war, 102 from 1917 included very few arguments. The Ministry stated again, however, that the new weapon of air power was developing so rapidly that it was difficult to conclude what the best solution would be. The Military Committee forwarded and Parliament sanctioned the proposals of the Ministry.²⁷³

In June 1918 the Defence Ministry again tried to convince Parliament to sanction a plan for the two air arms, through proposition 165.²⁷⁴ The Ministry's major goal was to make sure that the country's military aerial resources were spread throughout the country, and not centralised around the capital. Colonel Grüner warned against the rapid change of the organisation. He claimed that the threats of war and the unusual situation in which the air arm was developing should lead to only small changes. More fundamental changes would lead to a temporary downturn in the organisation's efficiency, a downturn that was not wise in such harsh times.²⁷⁵ Therefore, his suggestions were almost similar to the proposed plan in proposition 84.²⁷⁶ The Commanding General and the General Staff agreed with Colonel Grüner, and thus the Defence Ministry concluded that a plan for the Army Air Arm was still premature. The Ministry wanted more experience before concluding on this matter, but proposed to Parliament to allow the Ministry to follow Colonel Grüner's plan.²⁷⁷ One wonders when the Ministry would have been ready to decide on the organisation of Norway's aerial forces.

When discussing the establishment of air bases throughout the country, the Ministry stressed that the bases at

²⁷² Stortingsproposisjon 102/1917, p. 10.

²⁷³ Indst. S. LXXII./1917; Printout of "Stortingets forhandlingsprotokoll 1917", p. 70.

²⁷⁴ Stortingsproposisjon 165/1918.

²⁷⁵ *Ibid.*, p. 2.

²⁷⁶ Henriksen 1994, p. 124.

²⁷⁷ Stortingsproposisjon 165/1918, p. 3.

Kristiansand in southern Norway (two bases) and Bergen in western Norway be made operational as soon as possible, due to what they termed “the current situation”. Thereafter, the base in northern Norway was to be given priority. Again the priority for defensive action against aerial attack was shown.

The proposition did not contain much on the Navy Air Arm. The Navy’s air bases at Kristiansand and Bergen were mentioned, as was the expected arrival of six new fighters from Britain. The Ministry used the proposition to inform Parliament that these aircraft would be stationed in Kristiansand, another clear sign of priorities. Indeed this was where, on Norway’s southernmost tip, all fighter aircraft within the country were to be stationed.

British Influence

When working on proposition 84 of 1916, the Ministry had tried to get information about developments from other countries. But it complained that this had not proven possible because of the secrecy with which such questions were treated.²⁷⁸ However, the attempt shows the government’s determination to follow international developments in air power.

Norway educated its flight engineers abroad in this period. Before the war they had been sent to France, but this of course created trouble after the war began. Therefore the authorities arranged for First Lieutenant Arne Køltzow to attend an engineering school in Lausanne. Køltzow’s knowledge of how things could be different abroad had a rather peculiar effect. On his return to Norway, he wrote to the Defence Ministry on 5 December 1916, asking to leave the air arm immediately. The reason was that he could no longer tolerate working in such a mediocre organisation. His conscience said that he could not be indirectly responsible for the development of the

²⁷⁸ Stortingsproposisjon 84/1916, p. 54.

Army Air Arm. Køltzow was an employee at the Army Aircraft Factory at Kjeller, which was headed by Sem-Jacobsen. Amongst others, Køltzow criticised the Air Arm for not emphasising the tactical lessons from the ongoing war and for the lack of air defence artillery to defend the airbase at Kjeller. Sem-Jacobsen was given the opportunity to answer the criticisms. He pointed to the lack of funding and employees, and stated that the Defence Ministry had tried to get, but not obtained, approval from any of the warring nations to send officers to study their air arms. The belligerent countries were of course not willing to share their war secrets with a neutral country.²⁷⁹

This changed, however, as the procurement of British aircraft began. From 1916 onwards most Norwegian pilots visited Great Britain. The British insisted that pilot training on new aircraft types was a necessity, and thus this was the most common reason for officers visiting Great Britain.²⁸⁰ But some pilots were also sent during the autumn of 1916 to try to negotiate a purchase of aircraft. The Norwegian Army also sent officers to study the development of aircraft at British factories.²⁸¹ The number of personnel leaving for Great Britain was so high that it created problems for the pilot school at Kjeller. Tancred Ibsen mentions in his autobiography that he and the chief of the pilot school were the only pilots left at Kjeller, since the rest were in Croydon in England for educational purposes.²⁸²

Other sources also mention trips to Great Britain for educational reasons. Pilots Hjalmar Riiser-Larsen and Emil

²⁷⁹ Henriksen 1994, p. 114–115.

²⁸⁰ Riksarkivet, FD, FD til 1940, boks 2, 06.12.1916, Militærattacheen til FD, J. Nr. 1203/1916, 5; RA, UD, boks 510, G14C 3/15, 02.12.1916, Vogt til Ihlen, J. nr. 37557.

²⁸¹ Riksarkivet, UD, boks 510, G14C 3/15, 02.12.1916, Vogt til Ihlen, J. nr. 37557; RA, FD, FD til 1940, boks 2, 06.12.1916, Militærattacheen til FD, J. nr. 1203/1916, 5.

²⁸² Ibsen 1976, p. 43.

Andreas Horgen of the Navy were in Britain during the summer of 1917 to perform pilot training, study aerial development in general, and seaplanes especially.²⁸³ They were used as authorities by the Norwegian embassy in London when the sudden offer of Sopwith Babies came.²⁸⁴ By June 1917, Captain Trygve Klingenberg, First Lieutenant Kristian Hellesen and First Lieutenant Arne Tellefsen were in Great Britain, for educational purposes.²⁸⁵ In March and April 1918, Lieutenant Commander Halfdan Gyth Dehli and First Lieutenant Leif Ragnar Dietrichson from the Navy were on a similar trip.²⁸⁶ There are also indications that British officers came to Norway during the war, to train the Norwegians in operating their new aircraft, although it has not been possible to find out how many.²⁸⁷

These visits had a tremendous impact upon the two small air arms. In addition, their most modern aircraft, and thus their training manuals and technical publications, were British. When the war ended, the air arms were under heavy British influence.

The influence can clearly be seen in the proposal from colonel Grüner regarding the use of fighters. Grüner wanted to fight the aerial battle in an offensive manner. It is not unlikely that this was based on the doctrine of the British on the western front. The British Royal Flying Corps under Trenchard, subordinate to the British Expeditionary Force under Haig, was using its fighters in an offensive role at least from the Battle of the Somme and throughout the war.²⁸⁸ The Germans had learnt that to fight outnumbered meant to fight

²⁸³ Riiser-Larsen 1958, p. 66.

²⁸⁴ Riksarkivet, UD, boks 510, G14C 3/15, 30.07.1917, FD til UD, J. nr. 25153.

²⁸⁵ Riksarkivet, UD, boks 510, G14C 3/15, 30.06.1917, Vogt til Ihlen, J. nr. 25573.

²⁸⁶ Henriksen 1994, p. 72.

²⁸⁷ Riksarkivet, UD, boks 510, G14C 3/15, 03.05.1917, Vogt til Ihlen, J. nr. 14732; Berg 1995, p. 215.

²⁸⁸ Cooper 1986, pp. 71-81.

defensively. Grüner seems not to have taken into consideration the fact that the Norwegian situation was more like that of the Germans than that of the British. To fight like the British, with very heavy casualties, the Norwegians would need numerical superiority, not only in operational aircraft, but also in the supply of new aircraft and aircrew. This would most likely not be the case.

Conclusion

Malcolm Cooper has argued that when the effects of strategic bombing in the First World War are evaluated, it is not enough to look at the concrete operational results. The German attacks on Great Britain and London in particular had, for instance, almost no operational effect. But they created a fear that produced the world's first independent air force.²⁸⁹

The same argument can be used about the Norwegian situation regarding the effects upon the country's aerial forces. The possibility of a German attack that did not materialise created a new doctrine and new thoughts on organisation within the two Norwegian air arms.

This change in doctrine and thinking on air power began around October 1916. When the Defence Ministry forwarded proposition 84 in April 1916, the lengthy document did not contain much on aerial defence. The same was the situation with regards to the procurement policy of the two air arms.

By October and in the following months, all this had changed. The effort from the Defence Ministry and the Ministry of Foreign Affairs to establish an aerial defence of the country illustrates this. Another example is of course that the Air Defence Artillery was organised as a part of the Army Air Arm in February 1917. This can only be seen as an attempt to integrate the country's aerial defence resources.

²⁸⁹ Ibid., p. 65.

The establishment of the Permanent Commission on Aviation in the same month is also a part of this picture. The role of aerial defence was not given to any of the air arms, but was a shared responsibility, and it therefore needed cooperation. The massive leap in funding to the air arms during the war also fits into the same pattern. It was not until aerial attack became a most concrete and possible reality, that Norwegian authorities began to take interest in the matter.

The fear of aerial attacks by Zeppelins had produced a change in Norwegian air power doctrine. By 1923, however, this was almost totally forgotten.

Chapter 5

The Aftermath of War

When the war ended, and the League of Nations rose out of the ashes, the Norwegian authorities quite quickly saw the potential for reducing defence spending. Already in the spring of 1919, the Government proposed to reduce service time for the conscripts. After a harsh debate, this was sanctioned by Parliament.²⁹⁰ The Government saw the need for a Royal Commission that was to evaluate all aspects of Norwegian defence policy. The Commission was established by Parliament in July 1919.²⁹¹ The Commission was announced 16 April 1920. It consisted of 11 civilian members, only its secretary being an officer. The Commission was not bound by a strict mandate, as even the possibility of total and unilateral disarmament was to be considered.²⁹² The main reason for setting up such a Commission was, of course, the social and military lessons learnt from the war. But it was also expected that the League of Nations would have a great influence on Norwegian defence policy.

The Commission delivered nine reports in the period from 1921 to 1924. Its report on the air force was delivered on 5 May 1923, and it argued for an independent air force to be established based mainly on the tasks of observation,

²⁹⁰ Nissen 1933, p. 343.

²⁹¹ Stortingsproposisjon 162/1919.

²⁹² Ørvik 1960, pp. 56–57.

reconnaissance and aerial defence. This chapter will argue that this conclusion was based primarily on a military argument. The Commission wanted a flexible air force to be used where it was most needed, and this meant a unified air force. The Commission did not propose to expand the air force given the harsh economic situation in Norway, and thus used economics as its second most important argument. The role of independent air operations was not an important argument.

Before looking in more detail at the Commission's recommendations, it is necessary, so as to be able to get a hold of its starting point, to give a short status report on the Norwegian air arms.

The situation in the two air arms was unsatisfactory in the early 1920s, particularly in the Army. This was illustrated at the air show at Kjeller in 1921. Norwegian Aeronautic Association arranged the display, and several of the Army pilots attended flying BE2e.²⁹³ The Swedish pilots beat the Norwegians in almost every competition. That it was the Norwegian civilian pilots who had been runners-up did not make it better. After the show, the newspapers had headlines like "Are our aircraft outdated?" and "Do our pilots have bad aircraft?", along with more technical criticisms like: "The RAF engines that always fail."²⁹⁴ The following debate criticised the Army Air Arm in almost every aspect. The aircraft were not good enough and the equipment was outdated. The media wondered what would happen in case of war: how long would it take to organise the air arm so that it could constitute a fighting force? Colonel Grüner defended his organisation. He claimed, for instance, that the outdated BE2e machines were among the best the British had, and that their stability was very good. The latter statement was of course correct: the BE2e was stable, but thus also outdated. As to why the newly acquired Bristol fighters were not used, Grüner

²⁹³ Thoresen 1953, pp. 99–112.

²⁹⁴ Quoted from Henriksen 1994, p. 155, author's translations.

claimed they were not ready because the pilots had not had enough training to fly them properly.²⁹⁵

A striking aspect of the Commission's report is that it meant it could use ten years for the development of military aviation. It stated that it was not at all satisfied with the current situation, but none the less drew up a plan beginning in 1925 and not ending until 1936. This plan did not intend to significantly expand the air force. If the plan had been followed, Norway would only have had 15 more aeroplanes than had been suggested in proposition 165 of 1918 (see chapter 4). The total number of operational aeroplanes would have been 147 by 1936.²⁹⁶

Norway did not feel its integrity or sovereignty threatened in the same way as before and during the war. The possibility of a new war between the major powers of Europe seemed remote. The 1920s was a period of disarmament all over Europe. Germany was still struggling to heal its wounds after the First World War. Russia did not seem to be a threat. As Nils Ørvik has argued, in the early 1920s, Great Britain was the only country in a position to threaten the security of Norway, but British-Norwegian relations were good.²⁹⁷ The Liberals (Venstre), which had been behind the build-up of the Norwegian aerial forces during the war, changed its programme on defence issues in 1921

Taking into consideration the international peace work, the mutual disarmament amongst peoples and national security, steps will be taken to reduce our defence forces as much as possible, with total disarmament as the final goal.²⁹⁸

²⁹⁵ The critique made the Defence Ministry put down a special commission to amongst others evaluate the aircraft in both air arms. The commission gave mostly technical recommendation, and its work is therefore not central to this study, see *ibid.*, pp. 151–158.

²⁹⁶ *Bilag 3 til Innstilling VII fra Forsvarskommisjonen av 1920. Flyvevåbnet*, (Kristiania, 1923), p. 1.

²⁹⁷ Ørvik 1960, p. 38.

²⁹⁸ Nissen 1933, p. 361, author's translation.

The creation of the League of Nations gave hope for a better future in Europe, although the defeated countries were not offered membership. The debate about the League of Nations in Norway was rather chaotic, although, as Hans Fredrik Dahl has stated, the League ought to have suited the idealistic Norway very well.²⁹⁹ Several of the arguments used in favour of Norway joining the League were of course related to the Armed Forces. Major General C.B. Rud, for instance, argued in Parliament in 1920 that Norway ought to enter the League since Norway would not be able to develop forces to protect its neutrality by itself. An expert committee set up by Parliament also stated that membership opened up the possibility of reducing defence spending. Nils Ørvik states that the majority in Parliament shared this view.³⁰⁰ The debate, however chaotic, ended with Norway joining the League.³⁰¹

To conclude, the beginning of the 1920s was a peaceful period in Europe, and thus Norway, not having any discernable enemies, did not foresee war. Therefore one could plan to use ten years to establish an effective air force.

In addition, the deteriorating economic situation was becoming a huge problem. With governments following the leading economic doctrine – to reduce spending in harsh times – they fostered this development. In the autumn of 1920, the economic recession hit Norway hard. There was huge unemployment, a large part of the merchant fleet was laid up, and many important export goods dropped in price. Unemployment amongst organised workers reached 20 per cent, and among those not organised the situation was probably worse.³⁰² From our point of view, the key point is that the defence budgets kept on decreasing throughout the

²⁹⁹ Dahl 2001, p. 33.

³⁰⁰ Ørvik 1960, pp. 55–56.

³⁰¹ For more on the Norwegian debate about the League, see Bøe Lindgren 1993.

³⁰² Furre 1972, p. 126.

1920s. One of the obvious goals of the Commission was not to use too much money.

The Commission's primary argument was, however, a military one, flexibility. A small country like Norway, having scarce resources, would have to have an air force that could be used where it would be most needed. With a unified air force, seaplanes based in Norwegian fjords could attack targets on shore, and land-based aircraft could attack targets offshore. As the Commission concluded: "For an effective use of the country's total aerial resources it therefore seems correct and necessary to place the two existing air arms under a unified command."³⁰³

Although the Commission saw the need for some specialisation, such as pilots especially trained for operations with either of the two existing services, its main aim was an air force rid of the barriers stemming from the operational environments of the older services. In its report, it repeatedly returned to this argument.

The threat assessment was essential to this argument. A hypothetical hostile country would most likely attack Norway from the sea, and in that case, the enemy would only be able to bring light reconnaissance aircraft. He could not operate battle aeroplanes, either fighters or bombers, unless he had a stronghold on Norwegian territory and had built an air base. But this was not easy, since he probably would bring machines that would need a lot of space both to land and to take off. The Commission took into consideration the possibility of an enemy using his own air bases in his home country, but ruled it out due to lack of range. If a foe attacked on land, the Commission claimed he would have trouble using his reconnaissance aircraft in an efficient manner, due to Norwegian topography. The conclusion was therefore that massive use of air power, as was seen during the Great War, was not so likely in Norway. The Commission warned,

³⁰³ *Forsvarskommisjonen av 1920*, p. 13, author's translation.

though, that technological developments could make this reasoning flawed in a matter of years, and that Norway therefore had to follow developments quite closely.

The Commission also used the recurring argument in the Norwegian air power debate that the aeroplane was not yet fully developed. It would therefore be unwise to invest money in huge numbers of aeroplanes today that would be obsolete within a few years. The Commission spoke about the “stabilisation-question”, meaning by that probably a stable technological development, and concluded that, when this was solved, aeroplanes would have a longer life expectancy.

In the debate over one or two air forces, other arguments used in favour of an independent air force were the smaller gap between technology for aeroplanes within respectively the Army and Navy; the bad effects of having two organisations battling over resources; and the increasing amount of independent air operations within all air forces in Europe. The only argument against independence that the Commission could find, besides the specialisation argument, was that the two air arms were already established. This would lead to a heavy and expensive process when two were to become one. The Commission argued, though, that if Norway had set about the formation of an air force without having any air arms, it would most certainly choose an independent service. Therefore, one would have to tolerate the troubles that a reorganisation would lead to. The Commission argued that an independent air force would be required at some point in the future, since independent air operations would become more important in the future. Although for the time being an air force would perform mostly support operations to the Army and Navy, this was no argument for not creating an independent service. This was because “[t]he few aircraft that can be allocated to each region of the country, must,

depending on the situation, be used both on land and at sea, and therefore cooperate with both the Army and the Navy".³⁰⁴

The necessity of a joint air attack warning system and the problems of dividing responsibility between the two air arms for aerial defence, and the cooperation with the air defence artillery, also pointed towards an independent service.

The Commission argued that the air force needed to conduct three types of missions. First were the observation and reconnaissance missions, both strategic and tactical, secondly the fighter missions that were either to protect the scout planes or to attack the enemy's scout aircraft, and thirdly the aerial defence fighter missions.

Thus, the Commission wanted to create an air force without bombers. Scarce resources made it propose this. Modern air operations were divided in three categories based on experience from the war:

- cooperation with the Army
- cooperation with the Navy
- independent operations

The Commission believed in the possible effect of what they termed independent operations, what today would be termed strategic bombing, and stated that

By paralysing the enemy's defensive forces, hindering him in using his communications and keeping him under constant pressure, the air force's independent operations will have a great impact on the outcome of war.³⁰⁵

It also claimed that the First World War had shown that bombers had to operate in large formations if they were to have effect. In addition, bombers were quite expensive. This led the Commission to conclude that Norway, given that it

³⁰⁴ Ibid., p. 13, author's translation.

³⁰⁵ Ibid., p. 7, author's translation.

could not afford enough bombers, should not have any. It added, though, that this decision was not to hinder the air force's trials and studies of bombing, as long as the resources allowed such activity. Bombing was excluded for economic and not military reasons.³⁰⁶

The Commission saw the fighter as the best means of defence. It discussed air defence artillery, but concluded that nothing could substitute for the fighter in the battle for mastery of the air. The artillery could only make life worse for attacking forces, forcing the enemy to fly higher. Only a battle-ready fighter force could meet an attacking enemy wherever and whenever needed. If this were to happen, one would have to organise an air attack warning system. Such systems had been developed in all belligerent countries during the war, and were of utmost importance in aerial defence, since the attacker chose when and where to attack. This led to a large and well-planned organisation for warnings of air attack within the air force-to-be.

The Committee's report was full of ambivalence. In sharp contrast to the proposed jointness, it proposed that the air defence artillery should not be organised within the air force. The main reason was that the Commission did not want to create a fourth artillery weapon within the armed forces.³⁰⁷ First to argue for flexibility and an independent service, and then to organise weapons that constituted a part of that service's tasks in another part of the armed forces, seems a bit odd. The establishment of a joint air attack warning system within the air force, and not the air defence artillery, also seems a bit odd. Another lack of logic concerned the contradiction between the threat evaluation and the air force the Commission wanted to create. It claimed that Norwegian topography was not well suited to enemy observation and

³⁰⁶ *Ibid.*, pp. 14-15.

³⁰⁷ The three artillery weapons that already existed were the Naval Artillery, the Fortress Artillery and the Field Artillery.

reconnaissance missions, but nonetheless proposed to establish an air force with exactly that role as its first priority. If a pilot of another nation could not see through dense forests, neither could a Norwegian pilot.

The third and most important ambivalent factor in the report was the lack of jointness in the detailed proposal on the organisation of the new service. Separate squadrons and wings for the Navy and Army were to be organised. Only two small squadrons of fighters were to be really joint for air defence purposes, controlled by the supreme military command. In addition, the new air force was not to become a third service with respect to personnel, since the 29 flying officers that were to form its full-time officer corps would continue as officers within the Army or Navy. This was because careers within the air force would be short, since few pilots could continue flying for very many years. The proposed independent service was actually not that independent.

Epilogue to the Defence Commission

The Defence Ministry, seeing that one of the arguments used by the Commission was that an independent air force would become a necessity in the *future*, put the proposal aside. It fell back on its usual wait-and-see approach, but did form a special air force committee to look into the question once more.³⁰⁸ This Committee did not report until 1926, and then took a middle course and proposed better cooperation between the two existing air arms.

In 1926, a government headed by Johan Ludwig Mowinckel (Liberal), was the first to propose anything based on the Commission's report. Proposition 33 argued that the time was not ripe for an independent air force. This was to be arranged when joint air operations were a reality.³⁰⁹ The

³⁰⁸ Riste 1985, p. 3.

³⁰⁹ Stortingsproposisjon 33/1926, pp. 158–159.

Government had listened to the naval authorities, but the Commanding General was also against a third service.

The Mowinckel government had to step down in March 1926. A government headed by Prime Minister Lykke (Conservative) took over, and immediately withdrew proposition 33.³¹⁰ The new government took another approach. They discussed the proposals from the Commission in a statement to Parliament in 1926, and stated that

With regards to the air force the Ministry has [...] reached the conclusion that both military and economic arguments are in favour of a country like ours moving away from the present situation with two separate air arms for the Army and Navy. The air force will therefore be proposed to become a service alongside the Army and the Navy.³¹¹

The Government referred to international developments to underline this argument. More and more countries formed independent air forces. Since the Norwegian situation was not that different, Norway had to follow the international pattern.

Olav Riste has missed the fact that the conservative government in 1926 signalled an independent air force. He has, however, accurately characterised the policy of the Defence Ministry thereafter, when he concludes, “Again the Ministry of Defence, faced with conflicting advice, took the line of least resistance. And this time Parliament took a formal decision in favour of the establishment of separate air forces for the army and navy.”³¹² Faced with several comments based on their proposal for an independent air force, the Defence Ministry wrote two letters to the Military Committee on 26 November and 11 December 1926. It repeated that its ideal was an independent air force, but, faced with the probable trouble of a unification process, concluded that it was

³¹⁰ Stortingsmeddelelse 19/1926.

³¹¹ Stortingsmeddelelse 30/1926, p. 7, author’s translation.

³¹² Riste 1985, p. 3.

premature to push the decision through.³¹³ Given this advice from the Ministry, the Military Committee proposed to Parliament finally to sanction the establishment of the two existing air arms.³¹⁴ This was done by Parliament in February 1927.³¹⁵

Both the Defence Ministry and the Army were clearly of the opinion that an independent air force was the best organisational form, but they were not confident enough to push the decision through. Disagreement within the Armed Forces eventually led to no action being taken at all.

Conclusion

The period after the First World War created few new thoughts about air power. The lessons of the war had mostly been learnt during the war years. This made the report of the Commission almost uninteresting. It would take three years before the Defence Ministry forwarded some of its arguments to Parliament, a clear signal of this.

The conclusions of the report could have been written at least six years before. A more unified air service was the goal of the Defence Ministry as early as 1916. The arguments were almost the same, although the flexibility argument was not that distinctive in the 1916 proposal from the Ministry.

The situation was the same over the priorities about different roles for air power. The main task was still to be reconnaissance and observation. Protection of ones own and attack on the enemy's scouting aircraft were priority number two. The lessons from the fear of aerial attack only a few years before were almost totally forgotten. Although the Commission mentioned this, it stated that geography and topography would protect Norway. But the importance of distance was deteriorating almost year by year as the range of

³¹³ Bilag 8 til Innst. S. 2/1927.

³¹⁴ Innst. S. 2/1927, pp. 93–94.

³¹⁵ Stortingsforhandling/1927, VIIa, pp. 63–204, 208–245.

aeroplanes became better. The First World War had shown this. The Commission stated that the possibility of aerial attacks upon Norway had decreased, and thus also the importance of aerial defence. This was in accordance with international developments, but in Norway for a different reason. As the aeroplane took over the airship's role as the offensive weapon, aerial defence was regarded to be almost impossible, since one could not defend a country's entire airspace. In Norway, however, the change from airships to aircraft as the most likely offensive weapon, led the Commission to conclude that Norway again would be protected by geography.

The topography of the nation was its second shield, if anybody should attack. Aeroplanes were difficult to use in Norwegian terrain and climate. It was almost implicit in the Commission's argument that only Norwegians could operate aircraft with success under such conditions. This line of reasoning followed the traditional Norwegian approach: to fight well in Norway, you had to be used to the climate and topography. Some 17 years later, the Germans were to prove them wrong.

Chapter 6

Conclusion

In the period around the dissolution of the union with Sweden, some Norwegian officers began to consider the consequences of manned flight for military operations. They developed ideas on doctrine and organisation, and saw air power's most important contribution to warfare as observation and reconnaissance.

These officers set out to convince the Norwegian political and military authorities through articles and addresses that the development of air power was necessary in Norway. The officers were inspired by both German and French developments, and followed them quite closely. Several officers were educated as aerial engineers and pilots in France.

Thus, when the First World War began, air power was already on the agenda both in the military and political establishment. Although the Norwegian air arms were small and only temporarily organised, their existence made it possible for Norwegian authorities to expand the activity when it was necessary. Necessity arrived with the fear of aerial attacks from Germany in the late autumn of 1916. This fear changed Norwegian air power doctrine. Aerial defence became a priority within both air arms, and aircraft to fight the hypothetical airships from Germany eventually came from Great Britain.

When the war ended the air power doctrine returned to its pre-war priorities. Observation and reconnaissance were regarded as the most important tasks. Aerial defence was not, however, totally forgotten. But, the Defence Commission of 1920 stated that the possibility of aerial attacks upon Norwegian soil had decreased, and thus also the importance of aerial defence.

Throughout the period, the officers led developments. At no time was the political establishment in the forefront. The development of air power was not politicised in Norway.

The politicians were, however, mainly occupied with the organisational question. Although views on organisation could also be based on doctrinal ideas, organisation itself became more and more important as time went on. For 14 years the Defence Ministry tried to get a formal decision from Parliament with regards to the organisational question, but without success. The question was difficult, as it threatened the two existing services. This was not a uniquely Norwegian problem: it figured in the development of air power in most European countries.

The introduction of air power in Norway met with no opposition in principle, with the exception of anti-military milieus within Labour. The importance of air power was stressed on several occasions in Parliament. This did not lead, however, to huge investments or to development within the two air arms. As the organisational consequences of this new technology were put forward, opposition emerged. Therefore, when the theoretical importance of air power technology and doctrine approached the realities of organisation, almost nothing happened.

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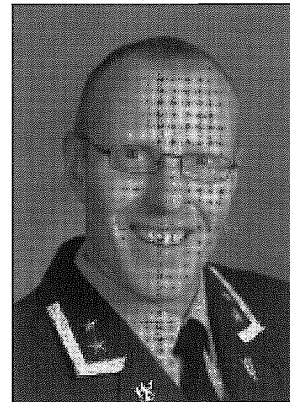
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Norwegian Air Power 1900-1923

From around 1904 the issue of air power was on the Norwegian military and political agenda. This study traces the Norwegian air power debate on two themes: doctrine and organisation. The birth and childhood of Norwegian air power was not unproblematic. The main reason was that the theoretical and practical importance of air power were disproportionate. Thus, when the theoretical importance of air power technology and doctrine approached the realities of organisation, next to nothing happened.

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Institutt for forsvarsstudier
Norwegian Institute for Defence Studies

Forsvarsstudier 5/2004

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