

**AERIAL SYMBIOSIS: THE INTERRELATIONSHIP
BETWEEN MILITARY AND CIVIL AVIATION IN THE
UNION OF SOUTH AFRICA, 1912-1940.**

by

JOHN WILLIAM ILLSLEY

Submitted as requirement for the degree

MAGISTERS HEREDITATIS CULTURAEQUE SCIENTIAE

(HISTORY)

in the

Department of Historical and Heritage Studies

Faculty of Humanities

University of Pretoria

2018

Supervisor: Professor Karen Harris

To Thea

With thanks for your love and support and in anticipation of the completion of your doctoral thesis

Per Ardua Ad Astra.

**This is the song of those who dare,
The dauntless and the free,
Who fight the armies of the air,
As we that fought the sea.**

**Honour to those who on the wing
This earn the laurel crown,
The empires of the world shall sing
The songs of their renown.**

**We are the pioneers
Who seek the Air King's throne,
That you in after years
May claim it for your own.**

From "The Song of the Aviators"
by Dorothy M Haward (1910)

**Sky and sea shall remember them,
And men in honour their names shall write
Who have woven around their spinning world
The magic golden girdle of flight.**

From "Flight"
by Ethel De B Lasky (1942)

CONTENTS	Page
Acknowledgments	vi
Abstract	vii
List of abbreviations	viii
1. TAKING FLIGHT	1
Research context	7
Primary sources	9
Literature review	10
2. GENESIS IN THE DIAMOND CITY: TRAINING THE FIRST SA MILITARY AVIATORS	17
Introduction	17
Powered flight comes to South Africa	18
Paterson pursues a government contract	28
Paterson's Aviation Syndicate secures a government contract	36
The end of Paterson's involvement in training military pilots	42
Conclusion	49
3. FROM EAGLES TO DOVES: THE FIRST ATTEMPTS AT COMMERCIAL AVIATION	52
Peace dividends: the impact of World War One on post-War aviation	52
The year of valiant endeavour	58
Appeals to the state	77
Enterprises that failed to get off the ground	81
Conclusion	83

4. PEGASUS AS A GIFT HORSE: THE ORIGINS OF THE SAAF	84
The Civil Air Board and the advent of aviation legislation	84
The imperial gift and the origins of the South African Air Force	87
The revival of civil aviation and the role of the Air Force	100
Conclusion	114
5. EXTRACTING A QUART FROM A PINT	115
The 1930s: a troubles decade	115
The SAAF continues to play a role in civil aviation	117
The Italian invasion of Abyssinia and its impact on SA defence thinking	122
The Thousand Pilot Scheme	126
Conclusion	144
6. THE SHADOW AIR FORCE	145
Expanding SAAF strength	145
Dual-role aircrew	150
A multi-role airliner fleet	152
Pirow, Germany and Junkers	159
Conclusion	162
7. A FLOCK OF AVIATRIXES	164
Women gain a foothold in South African aviation	164
First moves to create a women's air movement in South Africa	166
The creation of WAA flights and branches	168
The scope of WAA activities	171

The impact of war	175
The Women's Auxiliary Air Force comes into being	178
Conclusion	180
8. THE RECKONING	181
South Africa enters World War Two	181
An airline goes to war	182
Civil aviation's other contributions	188
The contribution of pre-WW2 military and civil aviation to World War Two.	190
Conclusion	194
BIBLIOGRAPHY	195

ACKNOWLEDGEMENTS

This study would not have been undertaken were it not for the willingness of Professor Karen Harris to take me under her wing, so to speak, and agree to act as the study leader. From agreeing to the proposed topic, more or less unaltered, to supervising the writing, she made a daunting task an enjoyable and fulfilling one. My debt of gratitude to her for taking on a "mature student" in addition to her many other responsibilities, is huge. Thank you for allowing me to prove that I accomplish this after many years away from the university environment.

All things have small beginnings. My parents encouraged my interest in aviation and in books from a very young age. Those seeds have borne fruit in a variety of ways in the years since, with this being the latest manifestation.

My association with the late Dave Becker, over many years, helped to nurture an interest in all aspects of aviation in South Africa. He remains the pre-eminent aviation historian of the country and his enthusiasm was an important factor in my grounding in this field, both while serving in the SAAF Museum and for years after.

My thanks to the personnel of the SANDF Archives for their unfailing assistance during the many research sessions in that important collection of documents. This remains one of the most user-friendly archives in the country and that has much to do with those who work there.

Between the research phase and starting to write, the encouragement of Professor Gordon Pirie of UCT was important in the decision to persevere. Thank you for seeing some potential in this academic undertaking, based on a modest research item produced when I was an undergraduate at Wits.

Mrs Alett Nell of the University of Pretoria Library was most helpful in tracking several of the elusive books and documents utilized in the research and I am grateful for her assistance.

Finally, to my dear wife Thea, my sincere thanks for her love and support through the past two years. Agreeing to have another "student" in the house while completing your doctoral thesis, was asking much, but I couldn't have done it without you. I hope that the dedication of this work to you, will serve as a small recompense!

John Illsley
Pretoria Boys High School
September 2018.

ABSTRACT

The historiography of aviation has tended to view the realms of civil and military aviation as disparate endeavours whose development has by and large followed separate paths. In considering the earliest years of flying in the Union of South Africa, this study shows that from the first years in which both branches of aviation existed, there was a clear interdependence between the two. From the first military aviators being trained by a civilian flying school prior to World War One, to the beginnings of the Air Force and the first attempts at commercial aviation in the 1920s, that relationship was demonstrated. The limited number of pilots and aircraft that were active in the country for most of the inter-War period, meant that the South African Air Force provided the bulk of the expertise, in terms of administration, technical support and even some of the aviation functions generally associated with commercial enterprises. The need to build a reservist force and extract maximum value from South African Airways in the wake of the Great Depression and in the face of new potential threats after the Italian invasion of Abyssinia led to new government policies. To achieve these aims in the late 1930s, a state-subsidized Thousand Pilots Scheme was started and a dual role for SAA (as an airline and a bomber wing) was defined, mainly thanks to the initiatives of the government minister, Oswald Pirow. The immediate beneficiaries were the flying schools and the national air carrier. Outside of the government sphere, women pilots and aviation enthusiasts set up their own Women's Aviation Association. All of these measures would soon be tested in the context of another major conflict from 1939. The ability of the SAAF to make some kind of contribution in the first year of the war, can be interpreted as being the culmination of developments in the previous decades arising from a military aviation tradition that was closely linked to civil aviation enterprises in the country.

Key words:

South Africa; air force; civil aviation; flying clubs; airways; women aviators; World War One; World War Two.

ABBREVIATIONS

AOC	Aircraft Operating Company
ASL	Altitude above sea level
ATA	Air Transport Auxiliary
CFS	Central Flying School [SAAF]
CGS	Chief of the General Staff
DAS	Director of Air Services
DC	Secretary of Defence [Defence Force Archives document group]
DFA	Defence Force Archives [SANDF Archives, Pretoria]
DH	De Havilland [aircraft company]
FTS	Flying Training Schools
IDB	Illicit Diamond Buying
JATS	Joint Air Training Scheme
JLPC	Johannesburg Light Plane Club
NCO	Non Commissioned Officer
PAMK	Pioneers of Aviation Museum, Kimberley [McGregor Museum]
OC	Officer Commanding
OFS	Orange Free State
RAF	Royal Air Force
RFC	Royal Flying Corps
RNVR	Royal Navy Volunteer Reserve
SAA	South African Airways
SAAC	South African Aviation Corps
SAAF	South African Air Force
SAR&H	South African Railways and Harbours
TAS&P	Transvaal Air Survey and Photographic Squadron

CHAPTER ONE

INTRODUCTION: TAKING FLIGHT

The field of aviation and the historiography thereof tends to be regarded as falling into two broad and distinct divisions, namely military and civil aviation. The first of these is generally associated with the activities of air forces or air wings, while the latter describes aviation that is undertaken for commercial purposes or for recreational flying. Aircraft companies supply aircraft to both sectors, but beyond that there is generally little common ground in respect of the core purpose of each branch of aviation. It should be added that the two broad divisions do not necessarily correspond to state-controlled versus privately operated enterprises. State-owned airlines, for example, would be regarded as falling within the realm of civil aviation. This study proposes to show that the two fields of aviation did not develop in isolation but rather as parallel and interdependent branches in which the success of certain state aviation undertakings was reliant on support from the private sector and vice versa.

In the formative years of aviation in South Africa, covered by this study, it is evident that at various junctures the military air wings of South Africa (the South African Aviation Corps (SAAC) prior to and during World War One (1914-1918) and the South African Air Force (SAAF) from 1920, were dependent on private companies, flying schools and South African Airways to provide aircrew training and a reserve of pilots and aircraft. By the same token, there were periods in which civil aviation enterprises were heavily dependent on the newly-established air force to support their activities. Furthermore, until such time as private enterprises existed that were able to undertake certain specialized aviation tasks on a commercial basis, the air force took these on because its resources represented a state asset that could be utilized by a variety of other government departments. This served to blur the division between the traditionally defined responsibilities of the two branches of aviation. Both spheres of aviation remained the elitist preserve of white South Africans due to the political and socio-economic milieu of the segregationist period.

The period studied covers the years from the earliest examples of commercial and military aviation up to the time where War mobilization helped to place aviation in South Africa on a footing which was comparable to most developed countries and

considerably more advanced than almost all other countries on the African continent. The watershed years are undoubtedly those of the Second World War (1939-1945) which considerably altered the aviation landscape of the country, so ushering in a new era in which the theme of interdependence of the branches of aviation became much less significant. Among the changes evident in the post-war period were technological advances (including the jet age); a massive expansion in airfield infrastructure; the growth and Americanization of private flying and the development of South African Airways into a truly international airline.

The earliest example of a military unit relying on a private company is that relating to the establishment of the South African Aviation Corps. At a time when the possible role of aircraft for military purposes was in its most nascent stage, the decision in 1912 by the Minister of Defence, General JC Smuts on the advice of the Commandant-General of the newly-formed Union Defence Force, CF Beyers, to train a small cadre of pilots, was a progressive one. Short of sending them overseas to be trained, the only other alternative was to use a local flying school. This was to transpire at Kimberley.¹

World War One would see virtually no flying undertaken within South Africa, the SAAC having been deployed outside of the country in 1915 as part of the campaign to capture German South West Africa.² Within South Africa, only one minor instance of the military relying on a private aircraft operator for assistance occurred during the War.³ Apart from two recruiting tours no further flying, military or civil, occurred until after the War.⁴

The First World War gave huge impetus to aviation in terms of rapidly advancing the technology of powered flight. The prospect of aircraft, in the near future, being used for international transportation was not lost on certain governments. Britain, with the most extensive and far flung of empires, moved with great rapidity to put in place the groundwork that would allow the linking of the mother country to colonies and dominions using air routes, where it had previously relied on a combination of sea routes, railways and roads. In the case of Africa, three Royal Air Force survey teams were given the task of laying out a series of airfields that stretched from Egypt to South

¹ SA National Defence Force Archive (hereafter referenced as DFA), Secretary of Defence (hereafter referenced as DC) Gp2, boxes 57 and 58.

² DFA, DC Gp 2, Box 183.

³ EK, Chatterton, *The Konigsberg Adventure*, pp 109-113, 116-120, 131, 133, 137, 146, 263, 264; DFA, DC GP 2, Box 622.

⁴ H.Klein, *Winged Courier*, pp. 24-29; LA Wyndham, *The Airposts of South Africa*, pp. 6-14.

Africa, often compared to fulfilling Cecil John Rhodes's vision of an "all red" Cape to Cairo route in an aviation sense. The forty-three airfields completed by December 1919, provided the first aviation infrastructure down the spine of the African continent. It would take some years before aircraft capability would meet the demands of the route, but the British imperial air route for Africa was already mapped out, in more than one sense.⁵

The War also laid the basis for post-war aviation by providing a massive body of trained pilots and aircraft that on the cessation of hostilities were suddenly surplus to the needs of Allied air arms, including Britain's Royal Air Force. The latter situation was one of the reasons why Britain made an offer of one hundred aircraft to each of its self-governing dominions. Importantly, the offer included all of the workshop equipment, hangars, vehicles, spares, fuel and lubricants required to house and support an air arm. South Africa agreed to take all that was on offer as well as some additional aircraft from other donors in Britain. This so-called "Imperial Gift" would come to form the basis of the South African Air Force, established on paper in 1920, although only operational in 1922.⁶ What tends to be ignored in evaluating the importance of the "Imperial Gift" is that it would provide the basis not only for a viable air force within the Union, but also for civil aviation operations in the country during the 1920s. It can be argued that without the creation of the SAAF, based at Zwartkop, and its technical support arm in the form of the Aircraft and Artillery Depot (AAD) at nearby Roberts Heights, it would have been extremely difficult, in that decade, for the various small scale and individual operators of aircraft to have continued flying.

The years 1919 to 1921 saw a short lived period of "barnstorming" or joy rides, offered across the country by a number of ex-military pilots, some of whom set up small companies for this purpose.⁷ Most were operated by ex-air force pilots who purchased their military surplus aircraft directly from Britain.⁸ Thousands of people across South

⁵ H. Klein, *Winged Courier*, pp 32-50; J. Godwin, *Wings to the Cape*, pp 21-33, 75-96; D.Jones, *The Time Shrinkers*, pp 12-46.

⁶ DFA, DC Gp 2, Box 975.

⁷ H. Klein, *Winged Courier*, pp 32-36 ; JW. Illsley, In *Southern Skies*, pp. 80-96; A. Embleton, „A South African Aviation Pioneer's Story in *The SA Military History Journal*, vol 12, no 6, 2003.

⁸ F. Solomon, *And the Years Roll By*, pp 91-168. The immense task of disposing of 25 000 military aircraft is described in detail by Arthur Ord-Hume in his work *The Great War-Plane Sell Off*.

Africa and in Rhodesia would take their first flights thanks to the joy ride operators, but by 1921 all such flying had ceased.⁹

What might be described as the "peace dividends" of the Great War, would allow one further venture in South Africa and potentially one with the greatest impact on civil aviation in the country. The Handley-Page aircraft company of Britain had produced some of the biggest Allied bombers during the War. Finding itself without a market for these aerial behemoths, it handily converted bombers into passenger airliners and set up subsidiary companies to operate them in a number of countries. Hence, "Handley-Page South African Transport, Ltd" came into being in 1920 using two converted bombers and a number of South African pilots who had distinguished wartime careers. It would attempt to set up the first air route linking Cape Town to Johannesburg. This enterprise proved to be very short-lived¹⁰

Civil aviation was moribund in South Africa until the first flying clubs and private aircraft owners appeared over the course of the next few years. It was in this context that the SAAF and the AAD would provide essential support by constituting the only aircraft maintenance and repair organization in the country capable of keeping a very disparate range of civil aircraft airworthy. Until privately-owned companies arose to fill this niche, the Air Force was, in effect, sustaining civil aviation by allowing its artisans to be used for aircraft maintenance work at an agreed labour rate.¹¹ The decade would see hundreds of instances of this type of work being undertaken for South African registered aircraft as well as foreign aircraft undertaking trans-Africa flights. This unusual situation would, inter alia, allow civil aviation to achieve a firm footing in the country. Today, by contrast, the reverse of this situation would be more likely, with private companies contracted to undertake the maintenance of Air Force aircraft. The role of the Air Force would not be limited simply to keeping civilian aircraft flying. In the absence of a state body to administer all aspects of the licensing of pilots the SAAF was used to carry out

⁹ J. McAdam, . Early Birds in Central Africa, An account of flying activities in the Rhodesias during the years 1920 to 1922 in *Rhodesiana*, 13, 1965, pp 38-53; NV. Phillips, *Bush Horizons*, pp 17-19; JA. House and WGM. Stirling, *They served Africa with Wings*, pp 33-36.

¹⁰ LA. Wyndham, *The Airposts of Africa*, pp. 14-17; H. Klein, *Winged Courier*, pp. 51-53; JW. Illsley, *In Southern Skies*, pp 66-69.

¹¹ DFA, Director of Air Services (DAS) Box3; Box 37 and Box 40.

the annual renewal tests for the licences issued to private and commercial civilian pilots respectively.¹²

In the mid-1920s the Air Force would also be used to test the viability of an air mail system along the coast as an adjunct to the mail ships arriving in Cape Town.¹³ During the inter-War period, it also undertook tasks such as pest control; diamond transportation and aerial surveying. In this respect it acted as a service provider for a number of government departments.¹⁴ These relatively minor contributions will also be considered as part of this present study.¹⁵

Because the creation of the SAAF in 1920 constituted the first large viable aviation organization in the country, the question of state control of aviation falling under the air force immediately arose. After the passing of the Civil Aviation Act in 1923,¹⁶ administration of civil aviation was given over to the Minister of Posts and Telegraphs. In the same year, a Civil Air Board was constituted in which several government departments were represented, including the Air Force.¹⁷

As this study shows, civil aviation *would* come to fall under the control of the Air Force in the 1930s, but more as a means of providing a government department under which to administer this type of flying rather than for any sinister motives.¹⁸ Nevertheless, this decade would see some important initiatives by the state intended to bolster the potential strength of the air force in time of war. Such initiatives have to be viewed against the backdrop of the Great Depression; growing international tensions (with the resultant pressure to re-arm) and the methods being adopted in Britain to build up a reserve of air force pilots. Put differently, this was a period in which there had to be innovative thinking that would allow the Air Force to grow without having a sizeable increase in spending.

In 1935, against the backdrop of Italy's invasion of Abyssinia, the Minister of Defence, Oswald Pirow announced an acceleration of military expansion plans for the country, which included a scheme to train a thousand Air Force reservist pilots by 1942 using

¹² DFA, Chief of the General Staff (hereafter referenced as CGS), Box 24.

¹³ DFA, DC Gp 2, Box 1061.

¹⁴ D. Becker, *The Eagles of Zwartkop*, pp 21-57.

¹⁵ DFA, CGS Gp 2, Box 21.

¹⁶ SA Aviation Act, Act 16 of 1923.

¹⁷ DFA, CGS Gp 2, Box 23.

¹⁸ DFA, CGS, Gp 2, Box 24.

civilian flying clubs and flying schools across the Union.¹⁹ The "Thousand Pilot Scheme" began in April 1937 and was operated by the Union Air Training Group. By 1938 it consisted of thirteen flights across the country, each being run by a civilian company or club. That year would see a further expansion of the scheme in terms of both the flying hours to be completed at the civilian schools and the creation of SAAF Air Training Schools in each of the four provinces.²⁰ Although the outbreak of the Second World War in 1939 would, within a year, see the end of the partnership between the Air Force and the civilian organizations, by that point a reserve of pilots had been trained.

Also worthy of consideration in this proposed study, is the formation of the South African Women's Aviation Association (SAWAA) in 1938, partially in reaction to the exclusion of women from the Air Force's "Thousand Pilot Scheme". The SAWAA, as a non-governmental organization, was very successful in mobilizing women pilots and those with an interest in aviation. Ironically, given the reason for its establishment, this meant that on the outbreak of War, its members, under the redoubtable Doreen Hooper, were able to offer their services to the government and become the basis for the Women's Auxiliary Air Force (WAAF) which would serve throughout World War Two.²¹

A further example of the state expanding the potential size and capability of the Air Force in the event of war, was through the simple expedient of purchasing aircraft that could be easily converted into light bombers. Most of the South African Airways (SAA) fleet and pilots were designated as "Airways Bomber Wing, SAAF" in 1937.

The contribution of the initiatives during the 1930s, as outlined above, will be tested against South Africa's preparedness for war in 1939. World War Two would, like the previous international showdown, come to constitute another total war in which combatant nations would need to successfully draw on all their resources. The test of a total war is thus a useful indicator of the degree to which a country harnesses its potential to wage war. The study shows that within the narrow purview of aviation, as one component of mobilization, the policies and initiatives of the 1930s would provide

¹⁹ DFA, CGS Gp 1, Box 66; DC Gp 2, Box 2824 and Box 2832.

²⁰ D. Becker, *Yellow Wings*, pp 5-9.

²¹ M.Egerton Bird and M. Botes, Flying High: the story of the Women's Auxiliary Air Force 1939-45 in *The SA Military History Journal*, vol 5, no 5, 1982.

only a limited starting point for the country's significant contribution to the Allied war.²² Nevertheless, the first year of the War would see further (and final) examples of civil aviation serving the SAAF.

As will be evident from the overview of sources below, almost no authors have approached the subject of early civil and military aviation in South Africa as being intertwined, nor attempted to explain why this was the case in the context of the country's changing circumstances over three decades. Furthermore, some aspects of this theme have received very limited, if any, serious consideration from popular authors or scholars. Such neglected aspects include the "barnstormers" of the early 1920s; the support provided to civil aviation and government departments by the SAAF in the inter-war period; the "Thousand Pilot Scheme"; the Airways Wing; and the SA Women's Aviation Association. In respect of these elements, this study provides new detail and insights.

Research Context

The formative years of both military and civil aviation in South Africa need to be placed in the context of five spheres that had a bearing on how these two branches evolved. The first of these must be the global trends in aviation relating to the organization of air forces and the setting up of the first passenger and air mail systems. Not only did these influence South Africa by providing examples on which it could model its own initiatives, but as international conventions and treaties were framed, South Africa was obliged to adhere to these within the British Empire (and later Commonwealth) and the League of Nations. In the absence of a South African aircraft industry, the country was entirely dependent on European products, although licence agreements did allow three British military types to be assembled locally.

A second context of the study is the obvious one of the political imperatives of various governments. Due consideration needs to be given to the degree to which this is evident in the aviation realm. It will be shown that the rationale for having an air force (partly as a servant of other government departments) and the need to establish air services within the country, do provide limited examples of government policies shaping aviation. It must be remembered that all South African governments in this period were,

²² HJ. Martin and N. Orpen, *South Africa at War*, pp 1-96.

in turn, functioning within the British Empire and later Commonwealth. Although South Africa and the other dominions gained autonomy from Britain in the early 1930s through the Statute of Westminster, trends in British aviation, remained by far the most important external influence throughout the period under study. This did not prevent political infighting over the priorities in military spending and whether the country should have a capability limited strictly to defence. In this regard, the influence of Pirow as Minister of Defence in the 1930s is paramount.

With respect to a socio-economic context, the aviation sector was one that was exclusively the domain of white South Africans, something that in itself shaped the scope and potential of aviation in the country. As a result of the evolving political dispensation, this was a situation that remained unchanged and unchallenged until the end of the twentieth century. However, the gender bias in flying circles was to be broken by the 1930s, if not in the air force sponsored training schemes, then through flying clubs and the creation of the WAA.

A fourth consideration will be the economic climate in which the country found itself. The impact of a post-WW1 recession and the Great Depression of the 1930s, both played a significant role in limiting the allocation of state funds to the air force and the stimulation of civil aviation. Consequently, in the 1920s much of what emerged was based almost solely on the assets provided by the "Imperial Gift", while in the 1930s the emphasis was on stretching every Pound of defence spending so as to extract maximum value. In both cases, the two branches of aviation within South Africa came to rely on each other to a greater extent.

Finally, there is an international context to the topic. South Africa may have been an aviation backwater in terms of technical innovation, but insofar as government spending on the aviation sector was concerned, it did not act in complete isolation. In the first decade under consideration, South Africa's position as a dominion relying for the most part on Britain for its defence, made a very limited foray into military aviation. World War One would change the scenario by producing many military-trained pilots and the basis for both military and civil aviation. By the 1930s, both branches were on a far firmer footing but came to be influenced by growing international tensions emanating mainly from the emergence of militarist dictatorships; a move to rearmament by the democracies and the actions of Mussolini in East Africa. The last mentioned was

particularly important in making influential figures in government and defence view the potential of an aerial attack from *within* Africa as a real threat.

Primary Sources

The research for this study is based for the most part on the documents held in the Archives of the SA National Defence Force, recently relocated to Irene, outside of Pretoria. These date back to the formation of the Union Defence Force at the time of the creation of the Union of SA in 1910. Because the central theme of this study relates in part to military aviation and because the regulation of civil aviation involved military representation (on the Air Board from 1923-34) or was directly responsible for *all* aviation in the country (1920 to 1923 from 1934 onwards), most of the relevant surviving official correspondence and memoranda are to be found in this depository. The groups of documents that contain the bulk of this documentation are those of the Secretary of Defence (DC); Chief of the General Staff (CGS); Director of Air Services (DAS) and Miscellaneous (Diverse).

The author had hoped to utilize the personal papers of Doreen Dunning (nee Hooper) which would have been invaluable for research on the establishment of the Women's Aviation Association and the later South African Women's Auxiliary Air Force. These existed until a few years ago and were consulted by the author for an earlier publication. Unfortunately, after unsuccessfully attempting to donate the papers to a number of museums, the family had destroyed them! The cuttings collection of Marjorie Egerton Bird thus became the principle primary source for the chapter on the Women's Aviation Association.²³

Flying was sufficiently novel in South Africa up until the 1930s for it to attract regular attention from the local press. In the absence of other sources such as log books and autobiographies, press reports, photographs and advertisements are a useful resource. A number of newspapers have been consulted, with the online searchable *Rand Daily Mail* archive being the most important.

With regards to other contemporary sources, the 1930s saw the emergence of several modest monthly journals devoted to aviation in South Africa. *Aviation in Africa* (which

²³ Marjorie Egerton Bird album, photographic collection, SAAF Museum, Swartkop.

only lasted for a few months) was edited by Allister Miller and provided some forthright analysis of the state of aviation on the sub-continent. *The Fly Paper* and *South African Airnews* appeared in the late 1930s and were essentially news magazines, but do contain some useful content on both civil and military aviation. The activities and personalities of both flying clubs and the air force also received some coverage. The author also had access to the newspaper cuttings collections of the Solomon brothers and the SA Post Office museum, all of which are in the public domain.

Literature Review

Unlike the popular works, there has been very limited academic research and writing on the theme. The first scholarly literature on the topic seems to have been produced from the mid 1970s with publications in both book and article form having appeared intermittently until the recent present. One of the first publications included an article by J van Wyk in 1976 entitled, “Die Unieverdedigingsmag op die vooraand van die Tweede Wereldoorlog” in *Militaria*. It provides a factual overview on the state of the Union Defence Force, and inter alia the air force, on the eve of the Second World War after five years of supposed rearmament.²⁴ Following shortly thereafter was RL McCormack's 1979 piece “Man with a mission: Oswald Pirow and SA Airways 1933-39” which presents a fascinating insight into Pirow's use of SAA to project white South Africa's influence beyond its borders as a challenge to British colonial domination. Because the focus is on Pirow's moves to nationalize Union Airways and make SAA more than simply a domestic carrier, it has limited relevance to the broader development of aviation and hence this study.²⁵

DP Tidy's 1982 article, “They Mounted up as Eagles”, is supposedly a brief tribute to the SAAF, but consists of an outline of major local aviation developments prior to 1920 followed by a very brief summary of the SAAF's first two decades. This is also a very factual account with no attempt to interpret developments.²⁶ In similar vein, Marjorie Egerton Bird and Molly Botes writing in the same year also in the *The SA Military History Journal*, provide some background on the formation of the South African

²⁴ J. Van Wyk, Die Unieverdedigingsmag op die vooraand van die Tweede Wereldoorlog, 1939-45 in *Militaria*, vol 6, no 4, 1976.

²⁵ RL. McCormack, Man with a mission: Oswald Pirow and SA Airways, 1933-39 in *Journal of African History*, vol 20, no 4, 1979, pp 543-557.

²⁶ DP.Tidy, They Mounted up as Eagles (a brief tribute to the SA Air Force) in *The SA Military History Journal*, vol 5, no 6, 1982.

Women's Aviation Association and the wartime WAAF that grew out of it. As one of the co-founders of the SAWAA, Egerton Bird does offer some interesting personal insights.²⁷

Ivan van der Waag's journal article from 2000, "The Union Defence Force Between the Two World Wars, 1919-1940" places the air force in the context of defence policies and spending over the course of two critical decades. This is useful for gaining a broad understanding of shifting priorities and defence philosophies under several governments and the influence of strong (often competing) role players including Van Ryneveld and Pirow.²⁸

Most recently, Tilman Dederling has produced a study entitled "Air Power in South Africa 1914-1939" which is principally concerned with the role that the air force played in putting down internal unrest in South Africa and South West Africa. Apart from being a rather overstated argument, it makes no attempt to consider other roles performed by the air force in this period, nor any influence it had on civil aviation. It does however provide valuable pointers as to the role played by Pirow from 1934.²⁹

Far more extensive on this topic are those publications intended for a more general or popular readership. Several books provide a broad overview of aviation in the region across several decades. Probably the first book of this kind, which dealt with aviation linking South Africa to Europe, was the 1932 publication *Down Africa's Skyways* written by journalist, Benjamin Bennett. The book's main focus is on the pioneering and record-breaking flights across the continent. He did however deviate from this theme in the penultimate chapter of the book to briefly discuss "Pioneering the Union", which deals with internal developments in a cursory fashion.³⁰

A few years later, in 1936, PJ Strydom published an Afrikaans volume on progress in aviation within South Africa. This reasonably detailed and comprehensive work covers both civil and military aviation and quotes some useful statistics.³¹ Another publication of

²⁷ M. Egerton Bird and M. Botes, Flying High: the story of the Women's Auxiliary Air Force 1939-45 in *The SA Military History Journal*, vol 5, no 5, 1982.

²⁸ I. Van der Waag, The Union Defence Force between the two World Wars in *Scientia Militaria*, vol 30, no 2, 2000, pp 183-219.

²⁹ T. Dederling, Air Power in South Africa, 1914-1939 in *Journal of Southern African Studies*, vol 41, no 3, 2015, pp 451-465.

³⁰ B.Bennett, *Down Africa's Skyways*.

³¹ PJ. Strydom, *Op die pad van die voëls*.

1936 was LA Wyndham's book *The Airposts of South Africa*. This provides a definitive description of all the air mails flown in South Africa up until 1936 including the ill-fated Handley Page flight of 1920 and the air force's experimental service of 1925. Although primarily a philatelic history, it is sufficiently detailed to provide much related information.³²

The large biographical volume, *Personalities in South African Motoring and Aviation*, was compiled in the late 1930s but only published in 1941. It contains potted histories of the SAAF, SAA and some flying clubs, but its main value lies in the brief biographies of pilots in the country prior to the outbreak of War. The background these provide on a cross section of most of the private aviators (many part of the SAAF reserve) in South Africa provides invaluable insights into the social status of the men and women who made up this elite group.³³ Also published in 1941 was JSM Simpson's *South Africa Fights* which describes the state of the Union's defences at the outbreak of War and the mobilization of existing and new forces that made possible the country's first military actions around the coast and in Abyssinia.³⁴

Although dated, one of the best general works on the first decades of aviation in South Africa remains *Winged Courier* published in 1955. Compiled by Harry Klein, it drew extensively on a draft written by Allister Miller who had been intimately involved with many of the inter-war commercial enterprises, including one of the first flying companies set up after World War One and the first successful airline company, Union Airways. Miller was thus uniquely qualified to document these undertakings and had planned a book before his untimely death in 1951.³⁵

Much more recently, to coincide with the centenary of powered flight, the current author produced *In Southern Skies* which provides a comprehensive overview of the period up until 1940, covering both civil and military aviation. This work was intended primarily as a pictorial history and most of the text is devoted to photo captions. Nevertheless, the

³² LA. Wyndham, *Airposts of South Africa*.

³³ Anonym, *Personalities in South African Aviation and Motoring*.

³⁴ JSM. Simpson, *South Africa Fights*.

³⁵ H. Klein, *Winged Courier*.

iconography provided by the extensive photographic record, is itself useful, especially in the absence of detailed documentary evidence on some aspects.³⁶

The earliest interaction between military and civil aviation, prior to World War One, has been the subject of several in-depth pieces. The most scholarly of these is Hannes Oberholzer whose *Pioneers of Early Aviation in South Africa* published in 1981, documents all of the men involved in aviation in the earliest years of this new science, but with a particular emphasis on the activities of John Weston and Cecil Compton Patterson. It was the latter whose flying school at Kimberley would train the first group of military aviators who went on to form the nucleus of the SAAC.³⁷ This endeavour and the formation of the SAAC are also covered in articles by Arthur Blake published in *Commando* in 1962³⁸ and in a series of articles in a 1970 special edition of *Militaria* (the SADF military journal) devoted to the origins of military flying in South Africa.³⁹

The utilization of aircraft by the colonial authorities in German South West Africa (today Namibia) in the early stages of World War One, has attracted the attention of several authors, despite this usage being limited to a mere two aircraft. Arthur Blake wrote one of the earliest accounts in a *Commando* article in 1963.⁴⁰ A German article by Ursula Massman appeared in the Namibian journal *Namib und meer* in 1984.⁴¹ Most recently in 2001 and 2002, JO Mahncke has written a series of articles on aircraft operations in all the German African colonies,⁴² the relevant portions of which are in turn used as a basis for mention of the German flyers role in Adam Cruise's 2015 book *Louis Botha's War*.⁴³

Denis Cutler, his Curtiss flying boat and their connection to the trapping and sinking of the *Konigsberg* in German East Africa has featured in several publications. Among the earliest was EB Chatterton's book *The Konigsberg Adventure*, published circa 1930.⁴⁴

³⁶ JW. Illsley, *In Southern Skies*.

³⁷ H. Oberholzer, *Pioneers of Early Aviation In South Africa*.

³⁸ A. Blake, Suid Afrika se eerste vliegskool in *Commando*, November 1962, pp 12-15.

³⁹ J. Ploeger, Die opleiding van ons eerste vlieëniers in *Militaria*, 1970, vol 2 no 1, pp 14-35.

⁴⁰ A. Blake, Lugvaart in die Duitse Kolonies in *Commando*, June 1963, 66-71.

⁴¹ U. Massman. Über die anfanges des flugwesens in Südwestafrika in *Namib und Meer*, no 10, 1984, pp 51-61.

⁴² J. Mahncke, Aircraft Operations in the German Colonies, the Fliegertruppe of the Imperial German Army in *Military History Journal*, vol 12, no 2, 2001.

⁴³ A. Cruise, *Louis Botha's War*.

⁴⁴ EB. Chatterton, *The Konigsberg Adventure*.

The much more recent book *Wingfield* by Gerrie de Vries published in 1991 touches on this same episode.⁴⁵

Only one of the 1920s South African joy riding pilots, Frank Solomon, wrote of his exploits in any detail. In his book *And the Years Roll By*, published around 1953, he described how he and his brother Shirley ran a small operation in the Cape Province at the start of the 1920s. This book provides valuable insights into the challenges these outfits typically faced: the lack of infrastructure available; and the attempts at using aircraft for alternative commercial enterprises.⁴⁶ A 1969 *Star* newspaper article on Major CR Thompson, later reprinted in the *Military History Journal* in 2003, includes amusing insights into the methods employed by a post-War barnstormer.⁴⁷

The activities of South African joy riding pilots who visited Rhodesia were first written about in an authoritative fashion by Jack McAdam in an article in *Rhodesiana* in 1965.⁴⁸ Subsequent Zimbabwean authors of books on aviation in Rhodesia and central Africa (Phillips, 1998; House and Stirling, 2004) have covered the same ground, but both draw heavily on McAdam's original piece.⁴⁹

The history of the SAAF has been the subject of a considerable number of popular books and articles, but the coverage is mainly devoted to the period of World War Two, post-war conflicts (Korea and the Border War) and the present-day air force. Kenneth van der Spuy's autobiography, *Chasing the Wind* gives a personal account of the entire period under consideration in this study. He was one of the first group of military pilots trained at Kimberley, went on to serve in the SAAC, RFC and RAF during World War One and then had a post-War career in the SAAF. The book is based largely on his own experiences and adds little to an understanding of the government policies and initiatives.⁵⁰

The formative years of the SAAF tends to be relegated to short introductory chapters in works covering other themes. The 1970 publication *Per Aspera Ad Astra 1920-70* is a

⁴⁵ G. De Vries, *Wingfield*.

⁴⁶ F. Solomon, *And the Years Roll By*.

⁴⁷ A. Embleton, A South African Aviation Pioneer's Story in *The SA Military History Journal*, vol 12, no 6, 2003.

⁴⁸ J. McAdam, Early Birds in Central Africa, An account of flying activities in the Rhodesias during the years 1920 to 1922 in *Rhodesiana*, 13, 1965, pp 38-53.

⁴⁹ NV. Phillips, *Bush Horizons*; JA House and WGM Stirling. *They served Africa with Wings*.

⁵⁰ K. Van der Spuy, *Chasing the Wind*.

case in point, with the first twenty years of the air force receiving scant attention.⁵¹ Similarly, the second volume of the official history of the South African Forces in World War Two (*A Gathering of Eagles*) has an introductory chapter on the history of the SAAF (and its predecessor units). Although it is a brief outline, it does benefit from research in the SANDF archives.⁵² This volume and volume seven (*South Africa at War: Preparations and Operations on the Home Front*) of the same series, are most useful when it comes to evaluating the influence that aviation initiatives in the 1930s had on the country's degree of military preparedness by the time it entered World War Two.⁵³ This study proposes to use the situation in 1939-40 as a measure of the combined contribution of the two branches of aviation to that state of readiness.

The most prolific author on the history of the South African Air Force was undoubtedly Dave Becker who published extensively on the subject. Much of his writing was devoted to specific aircraft types and is not in most cases pertinent to the current theme, except where these deal with the first aircraft supplied to South Africa to establish its own air force. This is useful in giving a full picture of what constituted the largest single batch of aircraft shipped to the country in the 1920s. Becker's general history of the air force (1995); the publication on Zwartkop Air Station, later Swartkop air base (1996) and a work on the Joint Air Training Scheme (1989) are the most relevant to the current research and make some insightful observations regarding the training schemes undertaken in conjunction with civilian flying schools.⁵⁴ The Zwartkop volume, dealing as it does with the original SAAF air station and hence centre of its earliest activities, offers the most balanced outline of the diverse activities of the air force in its first decades.

One of the most recent publications is Stephen McLean's *Squadrons of the SA Air Force*, which is a well researched and detailed outline of the formation and deployment of all units. Although very useful in tracking these developments, it does little to place these in a broader historical context.⁵⁵

⁵¹ KA.Maxwell and JM.Smith, *Per Aspera ad Astra*.

⁵² J. Ambrose Brown, *A Gathering of Eagles*.

⁵³ HJ. Martin and N. Orpen, *South Africa at War*.

⁵⁴ D. Becker, *75 Years on Wings of Eagles*; D.Becker, *The Eagles of Zwartkop*; D.Becker, *Yellow Wings*.

⁵⁵ S. McLean, *Squadrons of the SA Air Force*.

The history of South African Airways is a sadly neglected topic. A modern history of South African Airways, currently under preparation, has yet to appear. The author had access to the unpublished manuscript. The main value of the work lies in the technical details of aircraft operated by the airline. It is less revealing with respect to the dual civil and military role of SAA.⁵⁶ An earlier publication, *Fifty Years of Flight*, was produced by the airline's Public Relations Division in 1970 to coincide with the fiftieth anniversary of Van Ryneveld and Brand's trans-Africa flight. Although the book goes beyond the scope of the airline's history, it is rather disjointed in its outline of key phases in the history of the national carrier.⁵⁷

The sad loss of the papers of Doreen Dunning in recent years has already been noted. She did however, a few years before her passing, draw on these to pen her memoirs. The privately published work has a substantial section devoted to her early flying career and her subsequent involvement in the formation of both the WAA and the WAAF.⁵⁸

It should be evident from this review of sources that although the limited academic scholarly research and a more substantial body of popular works have covered aspects of the topic, there remains sufficient scope for additional research. This is particularly the case in terms of showing the important links between military and civil aviation in the context of South Africa.

⁵⁶ S. Morrison, J. Austin Williams and I. Spring, *The Flying Springbok*.

⁵⁷ Anonym, *Fifty Years of Flight*.

⁵⁸ D. Dunning, *Sky High*.

CHAPTER TWO

GENESIS IN THE DIAMOND CITY: TRAINING THE FIRST SOUTH AFRICAN MILITARY AVIATORS

Introduction

The use of some form of aerial craft for military purposes predates the twentieth century insofar as balloons had been utilized in the previous century by armies, mainly as observation platforms. This study will be confined to the era of powered flight in which so called "heavier than air" fixed wing aircraft, powered by petrol engines, dominated the first decades of controlled flight.

The first successful controlled powered flight is generally credited to the American brothers Orville and Wilbur Wright, who, after years of experiments with gliders, achieved a short flight at Kittyhawk, South Carolina in December 1903.⁵⁹ The Wrights continued to improve their designs to the point where sustained flight was possible. Their pioneering work was soon being imitated and built upon in Europe, with France taking an early lead in that part of the world particularly as a result of the drive of men such as Charles and Gabriel Voisin and Louis Bleriot.⁶⁰

All of the original innovation and development within aviation, on both sides of the Atlantic, can be defined as having been the work of civilians and private enterprise, but the potential for using aircraft for military purposes would soon start to emerge as military men looked to the new science to provide at least a reconnaissance role. In the United States of America (USA), the Wright brothers themselves stimulated an interest in the use of aircraft by the army through flying demonstrations at the military base, Fort Myer, in 1908 and 1909. Over the next few years the Signal Corps of the US Army (under which ballooning had been vested) had acquired its first winged aircraft from the Wrights. Experiments to fire rifles and then machine guns as well as the dropping of bombs soon followed, both within the military and by individuals such as Glen Curtiss, a rival of the Wright brothers.⁶¹

⁵⁹ RP. Hallion, *Taking Flight*, pp 178-210.

⁶⁰ C. Pendergast, *The First Aviators*, pp 17-42; RP. Hallion *Taking Flight*, pp 213 – 268.

⁶¹ JWR. Taylor, *A History of Aerial Warfare*, pp 29-32.

In France, the use of lightweight rotary engines such as the Gnome and le Rhone types; the development of ailerons (rather than wing warping) and the fitting of undercarriages, helped to make aircraft even more useful and for a time placed France at the forefront of aeronautics. This translated into a military role when the French army incorporated a small aviation unit into their artillery in November 1909, from which the French military aviation establishment rapidly expanded into the largest in the world.⁶² Germany after initially being enamoured with the use of airships (Zeppelins) for military purposes, scrambled to catch up with the lead taken by her natural enemy, France, by having winged aircraft attached to army units.⁶³ Britain, from whom the dominions within her empire were most likely to take their lead, also hesitatingly began to make the transition from balloons and dirigibles (small semi-rigid airships) to winged aircraft with the creation of an air battalion (within the Royal Engineers) in 1911 that expanded into the Royal Flying Corps the following year.⁶⁴ True to its position as the "senior service" in Britain's defence, the navy in 1914 formed its own Royal Navy Air Service.⁶⁵

Powered flight comes to South Africa

The first powered aircraft to fly in South Africa was the Voisin biplane of Frenchman Albert Kimmerling who undertook a series of flights at East London in December 1909 followed by flights in Johannesburg (February and March 1910) and Durban (April 1910).⁶⁶ In May 1911 the Belgian pilot Joseph Christiaens arrived to fly a Bristol Boxkite at the Pretoria Festival Show.⁶⁷ John Weston, a South African who had learnt to fly in France, demonstrated his Weston-Farman at Kimberley the following month. After purchasing a Boxkite from Christiaens he did further flights in Johannesburg, Lourenco Marques (now Maputo), Bloemfontein, Cape Town, East London, King William's Town and Queenstown, making him the most experienced aviator in South Africa in terms of flights within the sub-continent.⁶⁸ All of these aviators undertook short "exhibition" flights that could be measured in mere minutes and which did not take them very far above the ground. Such was the novelty of seeing an aeroplane taking to the air, that people would pay to see this spectacle, so making it possible for the earliest pilots to

⁶² RP. Hallion, *Taking Flight*, pp 309-310; JWR Taylor, *A History of Aerial Warfare*, pp 33-34.

⁶³ JWR. Taylor, *A History of Aerial Warfare*, p 35.

⁶⁴ JWR. Taylor, *A History of Aerial Warfare*, p 36.

⁶⁵ JWR. Taylor, *A History of Aerial Warfare*, pp 43-44.

⁶⁶ H. Oberholzer, *Pioneers of Early Aviation in South Africa*, pp 17 – 25.

⁶⁷ H. Oberholzer, *Pioneers of Early Aviation in South Africa*, pp 36-37.

⁶⁸ H. Oberholzer, *Pioneers of Early Aviation in South Africa*, pp 90-127.

generate some form of income in a country far removed from the main centres of aviation. Weston claimed to have made £200 in a day at Bloemfontein in September 1911 from displaying a Boxkite in the air and on the ground.⁶⁹

In terms of the impact that it would have on the subsequent emergence of military aviation in South Africa, the arrival in Cape Town in late 1911 of the African Aviation Syndicate was to prove the most significant. The Syndicate was made up of three men. Captain Guy Livingston was a British army officer and acted as the managing director. The two pilots were Englishman Cecil Compton Paterson and South African-born Evelyn Frederick ("Bok") Driver. Paterson was one of the first men to obtain an aviator's certificate (the equivalent of today's pilot's licence) in Britain, being the holder of certificate number 38. He had designed and built a few biplanes based on the much-imitated Farman design and it was Paterson Biplane No 2 which was shipped to South Africa. Driver had achieved some prominence by flying some of the first British air mail flights in September 1911. Driver would undertake a similar set of mail flights on the Cape peninsular in December 1911, using the second of the Syndicate's aircraft, a Bleriot monoplane. This was one of the activities that formed part of the "Aviation Fortnight" organised by the Cape Publicity Association.⁷⁰

The Syndicate next moved to Johannesburg where Turffontein race course was used as a venue to showcase flying to the local populace in February of 1912. It was while in Johannesburg that Livingston wrote a report for Sir David de Villiers Graaf, a minister in the cabinet of Louis Botha, on the subject of military aviation. The two had probably met when the Syndicate was flying in Cape Town and this would explain why the letter was addressed to Sir David (Minister of Post and Telegraphs and Public Works) rather than the relevant minister, namely General Jan Smuts. It is clear that Livingston expected David de Villiers Graaf to discuss it with Smuts, who was Minister of Defence, as indicated in the covering note. Livingston's report fell into two parts: the first a comprehensive outline of where military aviation stood in Britain, France and Germany and the second a suggested approach for setting up an air corps in the Union of South Africa. The report contained no hint that Livingston was proposing that the African Aviation Syndicate, of which he was manager, be employed to undertake the task of

⁶⁹ *The Friend*, September 14th 1911 quoted in H. Oberholzer, *Pioneers of Early Aviation in South Africa*, pp 125.

⁷⁰ H. Oberholzer, *Pioneers of Early Aviation in South Africa*, pp 46-48; NTG. Murray, *History of Civil Aviation in Personalities in SA Motoring and Aviation*, pp 51-52.

forming a military flying school. His motives at this point seem to have been almost entirely altruistic: offering advice to the government of a British dominion based on his own military background and insights. In the light of later developments, it is not impossible that he had one eye on the long term business opportunities of the government establishing an aviation corps, but he certainly gave no indication in his correspondence that this was the case.⁷¹

Sir David duly forwarded Livingston's memorandum to his cabinet colleague Jan Smuts who was at this point heavily engaged in the passing of the Defence Act and the setting up of a Department of Defence. In his response to Sir De Villiers Graaf at the end of January 1912, he acknowledged the importance of aviation, but indicated that it was too early to say what the government would be advised to do in establishing what he referred to as a "corps of aeronauts".⁷²

A few months later, the by now experienced flyer John Weston arrived back in his home town of Brandfort in the Orange Free State having flown in several centres across the country. No doubt seeking to make a living from aviation, Weston wrote to Smuts and suggested that he be appointed as the government's "aeronautical expert" in the government department which was likely to emerge from the Defence Bill then under discussion. Weston's ambitious proposals extended to a "Government School of Aeronautics and Aviation" and a government works for the construction of military aeroplanes. Weston's correspondence with Smuts does not seem to have survived but the above can be gleaned from a parallel letter he wrote to Dr FV Engelenburg in Pretoria in March 1913, urging him to lobby his case with Smuts.⁷³ Engelenburg was on the council of the Aeronautical Society of South Africa at the time. It should be noted that Weston's claim that he had "four school machines" ready was somewhat misleading. Weston never set up an aerodrome at Brandfort with hangars that could have accommodated such a fleet. Although he seems to have had the *parts* for several aircraft (and the agency for Bleriot monoplanes), the components were stored in a workshop adjacent to his house in the *dorp*.⁷⁴ Weston was in some respects well

⁷¹ SANDF Archives (DFA), Pretoria, Secretary of Defence (DC) , File 1295, Box 57, Vol 1, G Livingston to Sir D De Villiers Graaf, 25th January 1912.

⁷² DFA, DC, File 1295, Box 57, Vol 1, JC Smuts to Sir David de Villiers Graaf, 30th Jan 1912.

⁷³ J. Weston to FV. Engelenburg, 26th March 1912 quoted in H. Oberholzer, *Pioneers of Early Aviation in South Africa*, pp 131-132.

⁷⁴ H. Oberholzer, *Pioneers of Early Aviation in South Africa*, p 134.

placed to pursue the establishment of the facilities he proposed to Smuts. He had, by the standards of the day, considerable experience as a flyer, especially in local conditions, as well as a good technical background in the field of aircraft construction. Sadly, he failed to gain government support at this juncture. Not having access to an airfield near a major city or friends in high places also limited his chances of success.

At about the same time as Weston was putting his case, the next move of the African Aviation Syndicate in its roadshow across the country was being made, this time to Kimberley. By Easter of 1912, the Syndicate was flying from Kimberley, taking part in the local show and undertaking the first ever cross country flight in South Africa to Klerksdorp and back over two days and in a series of short legs.⁷⁵

The need to secure income for the Syndicate was, in contrast to his previous communication with a government minister, almost certainly the main motivation behind Captain Guy Livingston writing to Jan Smuts in May 1912. If Livingston's correspondence with the De Beers company ten days earlier is taken at face value, he had been approached by Smuts to "submit to the Union Government an estimate for a number of aeroplanes and the training of a number of Officer Pilots and Observers for Defence purposes."⁷⁶ Livingston in preparing to supply Smuts with a business proposal, needed to secure an airfield and hangars. To this end he asked De Beers if they could rent him land at Alexanderfontein with access to water and electricity. His stated aim was to use this facility for an aerodrome, a factory and a flying school.⁷⁷ Apart from the Syndicate happening to be in Kimberley at the time, the fact that the city represented a wealthy community based on the local diamond mining industry and therefore a potential source of civilian pupil pilots, may also have played a role in the decision to try and establish a base on the outskirts of the city.

In his letter to Smuts, Livingston claimed that the African Aviation Syndicate could supply the government with three types of Paterson biplanes, for which he provided specifications. These could be used to train military aviators who would form the nucleus of an aviation corps in South Africa. Paterson's recent cross country flight was

⁷⁵ H. Oberholzer, *Pioneers of Early Aviation in South Africa*, pp 50-52; NTG Murray, *History of Civil Aviation in Personalities in SA Motoring and Aviation*, p 52.

⁷⁶ Pioneers of Aviation Museum, Kimberley (PAMK), G Livingston to De Beers Consolidated Mines, 3rd May 1912.

⁷⁷ PAMK, G. Livingston to De Beers Consolidated Mines, 3rd May 1912.

used to endorse the suitability of the Paterson biplane for operations on the *highveld* plateau that made up much of the country. It was pointed out that local conditions were very different to Europe and that much experience had been gained in dealing with these challenges.⁷⁸ Although not detailed, Livingston was almost certainly referring to the density altitude problem in the interior of the country⁷⁹ and the rough terrain, which had led to modifications being made to the wingspan and undercarriages of Paterson's designs.⁸⁰

Livingston went on to claim that the aircraft types could carry out the five most likely functions of an air corps, namely reconnaissance; intercepting enemy reconnaissance flights; communication flights; spotting for artillery fire and "infliction of damage to the enemy".⁸¹ The last of these alluded to the dropping of bombs. Livingston's military background would have provided him with insights as to the military utilization of aircraft. By this date, most of these proposed five uses had been demonstrated to be feasible, some by the first use of powered aircraft in a war and coincidentally it was on the continent of Africa. In September 1911, Italy went to war with Turkey over the coastal provinces of Cyrenaica and Tripolitania in what is today Libya. The invading Italian army included an aircraft section which during the ensuing war was used for reconnaissance flights (including photography); directing gunfire from naval ships at land targets and the dropping of bombs on Turkish troops. All of these constituted the first use of aircraft in combat.⁸² How much of this Livingston was aware of is difficult to say, although he was certainly aware of the establishment of the Royal Flying Corps (RFC) in 1912 as a new branch of the British army, because this is cited in the letter to the Minister of Defence.⁸³

Nevertheless, although Livingston may have outlined realistic military roles, the ability of the Paterson designs to carry out the more aggressive military tasks is questionable and can be viewed as Livingston flattering to deceive in order to secure an order. The very limited lifting capacity of these early biplanes; their inability to climb to significant

⁷⁸ DFA, DC, File 1295, Box 57, Vol 1, G. Livingston to JC. Smuts, 13th May 1912.

⁷⁹ Density altitude is a phenomenon whereby a combination of altitude and high temperatures reduces the density of the air and thereby the lift which is available for an aircraft wing. It is sometimes referred to as "hot and high".

⁸⁰ DFA, DC, File 1295, Box 57, Vol 1, G Livingston to JC Smuts, 13th May 1912.

⁸¹ DFA, DC, File 1295, Box 57, Vol 1, G Livingston to JC Smuts, 13th May 1912.

⁸² JWR. Taylor, *A History of Aerial Warfare*, pp 41-42.

⁸³ DFA, DC, File 1295, Box 57, Vol 1, G Livingston to JC Smuts, 13th May 1912.

altitudes above the *highveld* terrain and their slow cruising speeds would all have mitigated against their successful deployment in an offensive role. It should also be pointed out that two of the aircraft types only existed in concept and had not in fact been built, even in a prototype form.⁸⁴

Livingston, in consultation with Paterson, had given considerable thought to what might constitute the basis for an aviation corps for the Union of South Africa. This is evident in the proposal to the government going into some detail not just on the aircraft types but also the personnel required; a suggested course of instruction for both pilots and pilot observers and the facilities needed to house and repair aircraft. When it came to specific numbers, the Syndicate showed a fondness for the lowest round number and suggested that ten aircraft be purchased to train ten pilots and ten observers. The bottom line for this exercise, including maintenance of the aircraft and excluding fuel and oil, was set at £12 150.⁸⁵

In the event, the technical limitations of the aircraft on offer were not obvious to the Secretary of Defence, HRM Bourne, who was asked by Smuts to peruse Livingston's proposal. Bourne appears to have accepted Livingston's *bona fides*. In a handwritten note to Smuts he suggested that some kind of positive response be sent indicating that the government would pursue some form of military aviation initiative, albeit in the next financial year, so as to retain the services of Livingston as part of the Syndicate.⁸⁶

Smuts as Minister of Defence now turned to the War Office in London for guidance on the subject of an aviation corps for South Africa and using Paterson for the purpose of training the first pilots. In the absence of any other aviation company, he suggested that "if syndicate reliable, no better opportunity likely to occur".⁸⁷ In June 1912 the War Office forwarded a reply from the Army Council which predictably expressed the parochial thinking of the military in advising Smuts *not* to accept the offer from the Syndicate. It argued that:

⁸⁴ This is evident from the aircraft available to the flying school once it started operations in 1913 in terms of the types and their flying characteristics.

⁸⁵ DFA, DC, File 1295, Box 57, Vol 1, G. Livingston to JC. Smuts, 13th May 1912.

⁸⁶ DFA, DC, File 1295, Box 57, vol 1, R. Bourne to JC. Smuts, 14th May 1912.

⁸⁷ DFA, DC, File 1295, Box 58, vol 2, JC. Smuts to War Office (via PM and High Commissioner), 17th May 1912.

..the training of a military aviator's corps could not be carried out satisfactorily by a syndicate of civilians with no knowledge of military methods or requirements in aviation and unacquainted with the difficulties inherent in the organization of a flying corps. Nor would the terms offered by these gentlemen be considered very favourable in England, either for the purchase of aeroplanes or for tuition. It would probably be more satisfactory and more economical to establish such a corps on a military footing from the beginning, either by borrowing trained officers from this country, or, preferably, by sending selected officers from the Union Forces from South Africa to be trained in England in order to provide the trained personnel required to furnish the nucleus of a corps.⁸⁸

Smuts concurred with the opinions expressed by the Army Council and thought that it would be expedient to have British officers seconded to the Union forces to assist with the training of South African pilots.⁸⁹ That view seems to have altered by the time a request was sent to the Army Council in July 1912 asking for advice on how many officers from South Africa they suggested should be trained in Britain to form the basis for an aviation corps.⁹⁰

On the same day as the reply from the Army Council in London was written advising against the use of the African Aviation Syndicate, Livingston penned a letter to HRM Bourne, the Secretary of Defence, urging a response to the Syndicate's proposals. Intriguingly he makes reference to Paterson being with "the Imperial troops for the next few days".⁹¹ No other reference can be found to corroborate this statement or to show what form this collaboration with troops on manoeuvres might have taken.

When Bourne replied to Livingston, his tactfully-worded note did not reject the Syndicate's offer outright, but stated that the government was taking advice from the War Office; that it could not avail itself of the Syndicate's offer immediately and that further consideration was "postponed".⁹² As Livingston saw the chances of his company being able to secure a government contract to form the nucleus of an Aviation Corps slipping away, he pressed his case with Bourne. He indulged in some name

⁸⁸ DFA, DC, File 1295, Box 58, Vol 2, War Office to JC. Smuts, 6th June 1912.

⁸⁹ DFA, DC, File 1295, Box 57 ,Vol 1, EFC. Lane (Secretary of Finance) to R.Bourne, 10th June 1912.

⁹⁰ DFA, DC, File 1295, Box 58 , Vol 2, Prime Minister to Army Council via Governor General's office, Minute 619, 16th August 1912.

⁹¹ DFA, DC, File 1295, Box 57 ,Vol 1, G. Livingston to R. Bourne, 6th June 1912.

⁹² DFA, DC, File 1295, Box 57 Vol 1, H. Bourne to G. Livingston, 13th June 1912.

dropping in claiming that the British Secretary of State for War was known to both he and Paterson and asked that he should be allowed to see the Syndicate's proposals. In addition, he suggested that a school of aviation at Kimberley would allow a number of officers of the British imperial forces stationed in South Africa to be trained as pilots which would later allow them to be trained as military aviators for the RFC at the Central Flying School in Britain.⁹³

While the Department of Defence was toying with the question of setting up an aviation corps and what role, if any, Paterson would play in that process, the legislative framework under which such a unit would be established had been passed into law. The Act for the Defence of the Union (Act 13 of 1912) was passed on the 13th June and gazetted the following day.⁹⁴ The Act envisaged a very limited white defence force for the Union, with a tiny regular army (permanent force) that would be augmented in times of need by reservists in the Citizen Force Reserve and the National Reserve. In terms of the citizen force, the Union would thus, in effect, rely to a large extent in times of war on commando units, as had been the tradition in the Boer republics. Coastal defence would fall in part to a Coast Garrison Force, but in the main would be the responsibility of the Royal Navy, to which the country would contribute men via the Royal Navy Volunteer Reserve.⁹⁵ Overall, the government was providing for a very modest defence force with the strong implication being that its security would ultimately be ensured by Britain. Given the modest range of forces for which the Act made provision, it is noteworthy that Section 19 of the Act made brief mention of aviation. The first of a mere three paragraphs devoted to this possible element in the military, indicated that:

The Governor General may establish or assist in the establishment of a School of Aviation, for the instruction and training of members of the Defence Forces who undertake to serve as military aviators in time of war and when such members have undergone the prescribed courses of instruction and training at that school, and have received the prescribed certificates of efficiency and fitness for that service, they may be enrolled in a corps to be styled the South African Aviation Corps.⁹⁶

⁹³ DFA, DC, File 1295, Box 57, Vol 1, G. Livingston to R. Bourne, 15th June 1912

⁹⁴ Union Government Gazette Extraordinary, 14th June 1912, pp xvii - xix

⁹⁵ Union Government Gazette Extraordinary, 14th June 1912, pp xvii - xix

⁹⁶ Union Government Gazette Extraordinary, 14th June 1912, pp xx, section 19 (1)

Despite its brevity, the inclusion of a section on the military use of aviation in the law showed some measure of progressive thinking insofar as the Union's forces would follow the trend of European countries, the USA and other British dominions, in utilizing one of the newest pieces of technology. It is incredible to note that some of the men who would have been responsible for the inclusion of this proposed aviation corps in the legislation, had, a mere decade earlier, been fighting in a war in Southern Africa in which, as Boer Generals, they had ridden into battle on horseback. It was also remarkable that aviation should feature in an army that would *still* largely consist of mounted infantry. Surprisingly in neither the House of Assembly nor the Senate did the aviation corps elicit any discussion whatsoever in debates dominated by questions over defence against invading armies; the future use of military forces in quelling native unrest and strikes; the role of the cadet corps and the nature of military service.⁹⁷

With the legislative framework (under which the Department of Defence would function) on the statute books, Jan Smuts as Minister of Defence, in July 1912, instructed the officer in command of the Citizen Forces, General CF Beyers, to travel to Europe to study contemporary developments in Britain and on the continent.⁹⁸ Over the course of the next two months, Beyers visited Switzerland, Germany, France and Britain and observed military manoeuvres in each country as well as studying aspects of each country's military establishment. In the last three of these countries, Beyers was able to see how aircraft (winged and airships) were being integrated into modern armies. He visited aircraft factories in Paris and noted the French lead in aeronautics and was able to fly in a Rumbler-Taube military monoplane while in Berlin. The most detailed insights were gained while visiting the place where Britain's first military pilots were being trained, the Central Flying School at Netheravon. At this point, nearing the end of his European tour, Beyers was already convinced of the role aviation would play in the

⁹⁷ Hansard, House of Assembly debates, SA Defence Bill, 29th February 1912, columns 756 – 783; SA Defence Bill in Committee, 26th April 1912, columns 2227-2230; Hansard, The Senate, SA Defence Bill, 28th and 29th May 1912, columns 549 to 570; Hansard, House of Assembly debates, SA Defence Bill (Third Reading), 6th May 1912, columns 2433-2434.

⁹⁸ J. Ploeger, Belangrike Getuines oor die Suid Afrikaanse Lugmag in *Military History Journal*, Vol 1, No 5, December 1969, pp2; CF. Beyers, *Report on the mission to attend army manoeuvres and military institutions in Switzerland, France, Germany and England*, 1913.

future of warfare and he obtained detailed information on aircraft types and a syllabus of instruction from the War Office in London.⁹⁹ Beyer's concluded that:

"After my observations and enquiries generally in regard to aircraft I am firmly convinced that flying is destined to play a very important part in military operations in the future and that it is impossible for any country to build up a completely successful system of defence without taking due account of this new arm of military science."¹⁰⁰

Although his conclusions were based on having seen the use of aircraft as aerial observation platforms for armies, he displayed remarkable foresight in adding that "...it is still problematical what effect of a duel in the air will be", thereby hinting at the fact that aerial combat might become a future element in military aviation.¹⁰¹

The mission by Beyers to Europe in 1912 (which was presented as a report to parliament the following year) undoubtedly played an important role in consolidating the view that South Africa should consider the inclusion of an air wing in its Defence Force. The manner in which this was to materialize was destined to have much to do with the fortunes of the flying company that had been operating most recently in Kimberley.

In September 1912, Livingston informed Bourne as Secretary of Defence that the African Aviation Syndicate was being dissolved and the assets sold.¹⁰² This arose from a legal case brought against Driver for failing to fly during the Easter display at Kimberley. The falling out among the partners led to the liquidation of the Syndicate with Paterson buying the biplane and continuing flying operations on his own.¹⁰³ Livingston made a final appeal to Bourne to use his services for setting up an aviation corps, otherwise he intended returning to England.¹⁰⁴ With no offer materializing, Livingston wrote one final bitter note to Bourne in which he said that as a result of his treatment by the South African government, he felt like the shuttlecock in a game of

⁹⁹ CF. Beyers, *Report on the mission to attend army manoeuvres and military institutions in Switzerland, France, Germany and England*, pp 5-7.

¹⁰⁰ CF. Beyers, *Report on the mission to attend army manoeuvres and military institutions in Switzerland, France, Germany and England*, p 7.

¹⁰¹ CF. Beyers, *Report on the mission to attend army manoeuvres and military institutions in Switzerland, France, Germany and England*, p 5.

¹⁰² DFA, DC, File 1295, Box 57, Vol 1, G. Livingston to R. Bourne, 2nd September 1912.

¹⁰³ H. Oberholzer, *Pioneers of Early Aviation in South Africa*, p53.

¹⁰⁴ DFA, DC, File 1295, Box 57, Vol 1, G. Livingston to R. Bourne, 2nd September 1912.

badminton!¹⁰⁵ He then returned to England to pursue his military career, eventually rising to the rank of Brigadier General.¹⁰⁶

Paterson pursues a government contract

Cecil Compton Paterson, now operating on his own after the dissolution of the African Aviation Syndicate, was pursuing any flying activity that could generate income. In November 1912, the Cape Town Corporation (municipality) invited him to do a number of flights in Table Bay using a hydroplane version of his biplane, essentially the Paterson Biplane fitted with a set of floats.¹⁰⁷ Because Brigadier General CF Beyers was expected back shortly from his visit to Europe, Paterson asked the Aeronautical Society of South Africa to approach the Department of Defence with a view to arranging demonstration flights for the General and any other officers who might be interested. In making this request, Major AM Rogers, as chairman of the Society added that such flights would include demonstrations of "rapid aerial photography" which was probably intended to add yet another dimension to the usefulness of aircraft in a military context.¹⁰⁸ Clearly, Paterson, through the good offices of the Society, was pursuing the possibility of the government using his company in the creation of a flying school and an air wing as his previous business partner, Captain Guy Livingston, had been doing in preceding months.

The arrival in Cape Town in early December 1912 of Brigadier General CF Beyers and his willingness to attend one of Paterson's flights meant that he not only observed the aviator flying over Table Bay but was then taken up as a passenger for a flight over the harbour and city.¹⁰⁹ On landing, the General, according to Paterson's own account, commented favourably on the flying characteristics and the construction of the aircraft.¹¹⁰ If the flight did make any impression on Beyers, there is no indication in Defence Department papers for the months following that it had any bearing on his thinking which was more than likely shaped by what he had seen on his European tour.

¹⁰⁵ DFA, DC, File 1295, Box 57, Vol 1, G. Livingston to R. Bourne, 9th September 1912.

¹⁰⁶ NTG. Murray, History of Civil Aviation in *Personalities in SA Motoring and Aviation*, pp 51-52.

¹⁰⁷ H. Oberholzer, *Pioneers of Early Aviation in South Africa*, p 56

¹⁰⁸ DFA, DC, File 1295, Box 57, Vol 1, A Rogers to Department of Defence, 1st November 1912

¹⁰⁹ H. Oberholzer, *Pioneers of Early Aviation in South Africa*, p 56.

¹¹⁰ Paterson papers in McGregor Museum, Kimberley quoted in H. Oberholzer, *Pioneers of Early Aviation in South Africa*, p 56.

By November 1912, the Army Council in Britain had responded to the earlier request for information on the establishment of an aviation corps in South Africa. The memorandum dated 20th November expressed the view that the smallest viable unit that could be set up as the nucleus of an aviation corps, would be one aeroplane squadron comprising two flights of four aircraft each. Such a squadron would constitute a peacetime training establishment in South Africa. It suggested that a minimum of six officers be trained for six months at the Central Flying School (CFS) in Britain and that they be attached to the RFC for a further two months. The document went into fine detail as to what personnel, equipment and accommodation would be required for the proposed squadron.¹¹¹ Obviously this was based on the RFC which had only been formed a few months earlier.

In responding to the British Army Council's memorandum, General Beyers endorsed the idea of forming a small aviation corps for the Union Defence Force. It is clear that his recent visit to Europe had reinforced the notion that aviation was the newest science to be embraced by the military. In practical terms, he suggested a flight of two monoplanes and two biplanes with additional examples of each for training purposes. His justification for this choice showed that his time spent with British and German military aviators had given him good technical insights as to the respective abilities of aircraft types.¹¹²

Beyers endorsed the idea of selecting six officers for training overseas. Without reading too much into his views, it may be noteworthy that Beyers suggested that the South African pilots did not necessarily have to be trained in Britain at their Central Flying School because he added as an alternative: "...any other school of Aviation on the Continent". At the conclusion of his response to the British Army Council proposals, he asked the Minister of Defence to be allowed to select six officers to be sent for pilot training "to Europe".¹¹³ In the light of subsequent events, following South Africa's entry into World War One – with the resignation of Beyers as Commandant General and his involvement in the 1914 Rebellion - it is tempting to view his opinions on the training of the South African pilots as a veiled indication of his reservations about the Union being beholden to Britain as the imperial mother country. The alternative view would be that

¹¹¹ DFA, DC, File 1295, Box 58, Vol 2, War Office to Minister of Defence (via Colonial Office), 87/973(FC), 20th November 1912.

¹¹² DFA, DC, File 1295, Box 57 Vol 1, F. Beyers to R. Bourne, 22nd January 1913.

¹¹³ DFA, DC, File 1295, Box 57 Vol 1, F. Beyers to R. Bourne, 22nd January 1913.

he simply wished trainee and newly trained pilots to be "in close touch with the latest developments in aerial navigation and ... be in the most favourable position possible to note progress in the military use of aircraft".¹¹⁴ It is difficult to understand how he believed South Africans trained anywhere but in Britain would be allowed to be attached to the RFC, as he indicated they should be once trained. What is not in question is that Beyers made no reference to Paterson, or the option of training the South African military pilots in South Africa.¹¹⁵

Whatever Beyers's thinking may have been, Smuts was exploring an alternative means of training the first South African military pilots and it was a local alternative. Although the original correspondence appears not to have survived, it can be inferred (from the reply) that Smuts wrote to the Aeronautical Society of South Africa in February 1913 asking their advice on the training of the pilots by one or more of the local aviators.¹¹⁶ What induced this line of enquiry is not known, although it may have been the cost implications of sending trainees overseas for their entire training course. The thinking seemed to have been that the pilots could be trained to the level of a locally-issued *Federation Aeronautique Internationale* (FAI) certificate. By showing their aptitude, or lack thereof, *before* being sent overseas, the best candidates for military flying training could be identified in South Africa. The number of pilots that was being proposed for basic pilot training was ten and this would suggest that Guy Livingston's proposals of the previous year were still being used as a guideline.¹¹⁷

Whatever the rationale behind the Minister's enquiry, the Society in its response of 10th March indicated that there were only three aviators in the country and that they had been approached on behalf of the government. The three were given as Cecil Compton Paterson, John Weston and a Mr H Carter.¹¹⁸ The inclusion of the last of these in the list is curious as there is no evidence that Carter was in possession of an aviator's certificate or a suitable aircraft. He had dabbled in aviation in Rhodesia some years earlier and had bought an aircraft in Johannesburg, built by some local enthusiasts,

¹¹⁴ DFA, DC, File 1295, Box 57 Vol 1, F. Beyers to R. Bourne, 22nd January 1913.

¹¹⁵ DFA, DC, File 1295, Box 57 Vol 1, F. Beyers to R. Bourne, 22nd January 1913.

¹¹⁶ DFA, DC, File 1295, Box 58 Vol 3, Aeronautical Society of SA to JC. Smuts, 21/1295, 10th March 1913.

¹¹⁷ DFA, DC, File 1295, Box 58 Vol 3, Aeronautical Society of SA to JC. Smuts, 21/1295, 10th March 1913.

¹¹⁸ DFA, DC, File 1295, Box 58 Vol 3, Aeronautical Society of SA to JC. Smuts, 21/1295, 10th March 1913.

which does not seem to have flown. Therefore only Paterson and Weston could be considered serious contenders. Both men seem to have indicated that they could train the pilots but that the government's offer of £100 per successful candidate was insufficient and that the government needed to consider a bonus of £50 per successful candidate or the subsidizing of an airfield. This was particularly important to Weston who did not yet have access to an aerodrome. The Aeronautical Society committee supported these views and went on to suggest that the government could support aviation in the country by allowing the proprietors of the airfields free rail transport and an exemption from customs duties.¹¹⁹

Beyers supported the idea of a group of officers (six or ten) being given some basic flying training locally, but possibly using better imported aircraft than were available to Weston and Paterson.¹²⁰ The Secretary of Defence for his part was opposed to the idea of a bonus being issued to Weston or Paterson for successful candidates, stating that any bonus should be awarded to the pilots who reached the FAI standard.¹²¹ Smuts was of the opinion that the state should consider neither a bonus payment nor the subsidising of an airfield.¹²²

Before government departments began debating the basis on which the South African officers might be given initial training locally, John Weston suffered a devastating blow in February when his workshop burnt down after an apparent act of arson.¹²³ Weston informed the Secretary of Defence of this calamity in a letter dated 17th March 1912. He indicated that he was planning to leave for Europe to purchase replacement aircraft and asked for an indication of government intentions when it came to the location of a military flying school. Making the entirely cogent argument that much of the country was on a high plateau and that pilots would need to be able to fly at altitudes much higher than in Europe, he urged a flying school on the highveld. More powerful aircraft would be needed at a school in the interior and he claimed other expenses would also be

¹¹⁹ DFA, DC, File 1295, Box 58 Vol 3, Aeronautical Society of SA to JC. Smuts, 21/1295, 10th March 1913.

¹²⁰ DFA, DC, File 1295, Box 57, Vol 1, C. Beyers to R. Bourne, 12th March 1913.

¹²¹ DFA, DC, File 1295, Box 58, Vol 3, H. Bourne to JC. Smuts, 15th March 1913.

¹²² DFA, DC, File 1295, Box 57, Vol 1, H. Bourne to E. Lane, 22nd March 1913.

¹²³ H. Oberholzer, *Pioneers of Early Aviation in South Africa*, p 135.

higher. On this basis he quoted £100 as the rate for coastal training and £150 at an inland school.¹²⁴

These arguments did not carry any weight with the Department of Defence which stated that identifying suitable candidate pilots could be done at both coastal and inland airfields and that it would not rule in favour of either.¹²⁵ Weston did not give up his line of argument and in a retort to the Secretary of Defence, spelt out in some detail why he believed the question of where the initial training took place to be fundamental to testing the ability of pilots to deal with local conditions.¹²⁶ As someone with considerable experience in flying at both coastal and inland sites, he would have been very familiar with the problems posed by density altitude. Nevertheless, it is difficult to understand why he laboured the point, except out of a sense of professional pride or because he was trying to secure the training at the higher rate of £150 per pupil. Perhaps he wanted the flying school to be based at Brandfort or nearby Bloemfontein, but neither of these sites would have offered an advantage over Kimberley where Paterson was likely to be based. In the event Weston did not replace the aircraft. The lack of government assurances and not having the financial wherewithal to procure new aircraft, probably explains why Weston never went to Europe for this purpose.

At least one author has suggested that it was Paterson who was responsible for the arson attack, so as to make the competition for a government contract a one horse race.¹²⁷ No evidence has ever been presented for such a conspiracy theory other than the obvious motive of Paterson being the sole contender for a contract, although as will be seen, the loss of his aircraft did not necessarily remove Weston from government consideration. The theory also ignores the fact that Paterson, who was in no way certain of securing a government contract, had written to Weston shortly after the fire, offering to sell him the Paterson biplane then flying as a hydroplane in Cape Town as he was considering returning to England. He also seems to have made a business proposition to Weston to become the local agent for Paterson's designs. Weston turned

¹²⁴ DFA, DC, File 1295, Box 57, Vol 1, J Weston to R. Bourne, 17th March 1913.

¹²⁵ DFA, DC, File 1295, Box 58, Vol 2, H Bourne to J. Weston, 20th March 1913.

¹²⁶ DFA, DC, File 1295, Box 58, Vol 3, J Weston to R. Bourne, 29th March 1913.

¹²⁷ N. Broido, SA's dramatic aviation syndicate race in *SA Flyer*, July 1998, pp 44-45.

down both offers as he claimed he could build new aircraft with imported engines and materials.¹²⁸

Weston, many years later, would provide another explanation for the fire. He claimed that it was the work of German saboteurs from the colony of German South West Africa. His theory was that this was carried out to prevent his aircraft being used by the Union forces in a future war.¹²⁹ This presupposes that eighteen months before the outbreak of hostilities in Europe, someone had the foresight to carry out such a pre-emptive attack in anticipation of a war that would involve Germany and Britain. This scenario can be regarded as highly improbable.

With the completion of his ten hydroplane flights in Cape Town under contract to the City Corporation, Paterson was obviously anxious to secure some kind of employment with the state. On the 18th March 1913 he went to see the Secretary of Finance, EFC Lane, asking for one of three proposals to be considered: appointment as head of the aviation section of the defence force; training six to ten officers in England (at £100 each); or any other form of state employment in aviation where his expertise could be utilized.¹³⁰ When presented to the Secretary of Defence the reply to these proposals was one indicating that the local flying training (in which role Paterson was being considered) was solely to identify the best candidates so that the state would not have to replace officers who failed to display, as he put it, "the aptitude or pluck or mechanical handiness ever to become an aviator". Spending £10 000 locally, was regarded as making better sense than paying for the passage of unsuitable candidates to and from Britain. Paterson's requests were thus all dismissed: the military aviation training would have to be with the RFC in Britain and there was no place for a civilian running a military flying school in South Africa or training the pilots in Britain. Bourne also saw no role for Paterson once the military pilots returned to South Africa. Although expressing a liking for Paterson as a "jolly good man", he saw no position for him beyond doing *ab initio* flying training to the level of an FAI certificate which would act as

¹²⁸ Correspondence in Paterson papers in McGregor Museum, Kimberley, quoted in H. Oberholzer, *Pioneers of Early Aviation in South Africa*, pp139-140.

¹²⁹ E. Rosenthal, Suid Afrika het sy eerste vliegtuig in 1912 gebou in *Huisgenoot*, 15th January 1965 quoted in H. Oberholzer, *Pioneers of Early Aviation in South Africa*, p139.

¹³⁰ DFA, DC, File 1295, Box 57, Vol 1, E. Lane to R. Bourne, 18th March 1913.

a local filter of the best candidates.¹³¹ In this regard, Weston had not been ruled out, despite him not having any aircraft at his disposal.¹³²

By the end of March 1913 the Secretary of Finance was urging the Department of Defence and General Beyers to make a decision so as not to "keep Paterson on a string".¹³³ Bourne as Secretary of Defence then discussed the matter, in turn, with Beyers and Smuts, before placing the Minister's views before the Commandant General. The assessment of the two aviators, Paterson and Weston, makes for interesting reading. The former was described as a "thoroughly practical man" who had the advantage of having flown long distances on the highveld and the backing of De Beers, which would allow him to set up an airfield at Kimberley. Weston was acknowledged as being a qualified engineer and was seen as probably being a better theorist, but one whose "flying performances in South Africa have been of little consequence". The memorandum went on to say that Weston's "attitude and actions have not hitherto been such as to inspire confidence either in his financial stability or his professional skill as a practical man".¹³⁴ Perhaps Weston's argumentative approach to the issue of the inland training had done little to endear him to the Department of Defence, but the rest of the evaluation seems overly harsh. Weston's misfortune in losing his aircraft in a fire is not even mentioned as a mitigating factor in terms of his financial position.

The memorandum noted that the two men showed no willingness to work together (with Paterson categorically stating that he would not work with or in opposition to Weston) and that Paterson was adamant that he could not accept less than £150 per candidate. Smuts suggested that a final attempt be made to have the two aviators work together in one flying school and that if this failed, to approach Paterson to train ten candidates as pilots to the standard of the FAI certificate for a fee of £150 per pupil.¹³⁵ Bourne duly wrote to both aviators appealing to them to reach a mutually acceptable arrangement¹³⁶ and Beyers was instructed to start the process of identifying the ten candidates.¹³⁷

¹³¹ DFA, DC, File 1295, Box 57, Vol 1, R. Bourne to E. Lane, 22nd March 1913.

¹³² DFA, DC, File 1295, Box 57, Vol 1, R. Bourne to E. Lane, 29th March 1913.

¹³³ DFA, DC, File 1295, Box 58, Vol 3, E. Lane to R. Bourne, 28th March 1913.

¹³⁴ DFA, DC, File 1295, Box 58, Vol 2, R. Bourne to C. Beyers, 11th April 1913.

¹³⁵ DFA, DC, File 1295, Box 58, Vol 2, R. Bourne to C. Beyers, 11th April 1913.

¹³⁶ DFA, DC, File 1295, Box 58, Vol 2, R. Bourne to J. Weston, 15th April 1913.

¹³⁷ DFA, DC, File 1295, Box 58, Vol 2, R. Bourne to C. Beyers, 11th April 1913.

No record survives of Weston's reaction to the proposal but Patterson, in his characteristic copperplate script, rejected it outright. In an acerbic letter to the Secretary of Defence he berated the government for its attitude to the training and insisted that:

If this work is to be carried out, it must be done properly, using well tested machines and with the greatest amount of safety as a serious accident during the preliminary stages would greatly influence intending candidates against the complete formation of the corps.¹³⁸

His parting barb was to indicate that unless the government intended to have the "work carried out in a proper manner", which included meeting his quoted rate per pupil, he was not interested and would leave for England.¹³⁹

It is difficult to explain this all-or-nothing response as anything other than the petulant response of someone who knew he was in a stronger position because he had access to an aircraft and potentially an airfield. There is no direct reference to Weston and his ability, or lack thereof, as an instructor and so the prospect of having to share the profits may have been the overriding concern in refusing to work with him. To what extent he was calling the government's bluff by threatening to leave the country is impossible to say, but he must have been running out of options which would allow him to continue as an aviator and aircraft constructor in South Africa. Securing a government contract could change that and so he could afford to bet everything on such an undertaking. Obviously he would have known that he was in a strong bargaining position because Bourne's letter had indicated that the government believed that there was "only room in South Africa for one aviation establishment" and that there were only two "practical aviators" in the country.¹⁴⁰

Viewed objectively, Weston could almost certainly have added value to a joint venture or may even have proved a better bet than Paterson. Weston had a very strong connection to the country and may well have shown greater commitment to aviation in the Union.¹⁴¹ Weston's practical ability and certainly his qualifications put him at least

¹³⁸ DFA, DC, File 1295, Box 57, Vol 1, C. Paterson to R. Bourne, 17th April 1913.

¹³⁹ DFA, DC, File 1295, Box 57, Vol 1, C. Paterson to R. Bourne, 17th April 1913.

¹⁴⁰ DFA, DC, File 1295, Box 58, Vol 2, R. Bourne to J. Weston, 15th April 1913 (identical letter to Paterson)

¹⁴¹ Weston was born in the Colony of Natal in 1873. During the South African War he fought briefly during 1902 on the side of the Boers. See H. Oberholzer, *Pioneers of Early Aviation in South Africa*, pp78 and 83.

on a par with Paterson.¹⁴² Despite the emphasis put on Paterson's cross country flight, their flying abilities were similar. Finally, Weston had the agency for Bleriot aircraft in South Africa, something which may have made a difference if he had included this monoplane type in the fleet used by the flying school.¹⁴³ It is fair to conclude that the exclusion of Weston from the flying school was a lost opportunity.

Paterson's Aviation Syndicate secures a government contract

Smuts ultimately decided that Paterson would be asked to undertake the basic training of pilots if a joint venture could not be secured and so on the 28th April 1913 he was sent the basic terms under which he would be invited to set up a flying school. He would be required to train ten officers up to the standard of the FAI or RAC certificates by the 28th February 1914, and this would be determined by tests carried out by the Aeronautical Society of South Africa. The government relented on the rate and agreed to pay £150 per candidate, providing the pilot's certificate standard was reached, failing which the government would carry no liability. The government agreed that if candidates showed insufficient aptitude, as determined by Paterson, they would be replaced by other candidates.¹⁴⁴ In the light of later events, almost all of these preconditions were to prove rather ironic, as would Paterson's arguments in favour of himself as the chief instructor in a flying school.

Apart from presenting his own conditions, such as the government's liability being £75 if a pupil was removed from training after at least ten flights, and the demand for duty free importation of oil and fuel, Paterson agreed to the government's conditions. In early May, Smuts signed a contract with Paterson to train ten Union Defence Force officers at an airfield to be established at Kimberley.¹⁴⁵

At the same time as the contract with Paterson was being finalised, the process of identifying the ten candidates for training had been set in motion. In May and June of 1913, notices were placed in the *Government Gazette* and in South African newspapers

¹⁴² Evidence quoted in H. Oberholzer, *Pioneers of Early Aviation in South Africa*, pp 79-88 indicates that Weston trained as an engineer and had gained experience with gas balloons and gliders in the later 19th Century. He probably worked on a design for his own aircraft at Brandfort between 1907 and 1909 before learning to fly in France in 1910 and returning to South Africa the following year to pursue aviation ventures locally.

¹⁴³ The Bleriot monoplanes represented a more capable design than Paterson's biplanes. Several early air wings used the type in their first units.

¹⁴⁴ DFA, DC, File 1295, Box 57, Vol 1, R. Bourne to C. Paterson, 28th April 1913.

¹⁴⁵ DFA, DC, File 1295, Box 57, Vol 1, C. Paterson to R. Bourne, 2nd May 1913.

inviting applications from candidates for appointment as officers in the South African Aviation Corps.¹⁴⁶ Conditions to be fulfilled included being not older than 35 years of age; unmarried; physically fit and able to demonstrate that they were proficient in “driving, controlling and performing ordinary running repairs to a motor car or motor cycle”, the last-mentioned being necessary to show “good knowledge and practical experience of machinery”. The government notice indicated that five of the candidates would be selected for further training in Britain. The status of candidates in South Africa would in effect be that of civilians under flying training for possible selection to military aviation training. The State indemnified itself from responsibility for any injuries during training; would not pay a subsistence allowance to candidates and limited its responsibility to issuing rail warrants for travel to and from Kimberley!¹⁴⁷

In June 1913, Paterson travelled to England to purchase items for his new flying school.¹⁴⁸ This was limited to engines and airframe spares because he certainly did not import any new aircraft for the purpose of training.¹⁴⁹ He did however recruit another instructor to assist him. Edward Wallace Cheeseman from the Grahame-White School of Aviation at Hendon outside London was to be the other instructor. He had obtained his Aviator's Certificate barely a year earlier.¹⁵⁰

Back in Kimberley, Paterson's lawyers informed the government that a company styled the "Paterson Aviation Syndicate" was being registered. They asked permission for Paterson's company to place advertisements in South African newspapers.¹⁵¹ Paterson was obviously hoping to trade on the fact that he was now training “government pupils” at his flying school and so lend credibility to his establishment in trying to attract civilian trainees. It is not known whether the government gave its assent, but the advertisements *did* appear and Paterson, after flying operations started, did recruit a

¹⁴⁶ DFA, DC, File 1295, Box 58, Vol 2, Copy of item for inclusion in Government Gazette and in newspapers; 10th May 1913.

¹⁴⁷ DFA, DC, File 1295, Box 58, Vol 2, Copy of item for inclusion in Government Gazette and in newspapers; 10th May 1913.

¹⁴⁸ DFA, DC, File 1295, Box 58, Vol 3 Lezard & Bennett (attorneys) to R Bourne, 20th June 1913.

¹⁴⁸ DFA, DC, File 1295, Box 58, Vol 3, Lezard & Bennett (attorneys) to R Bourne, 20th June 1913.

¹⁴⁹ This is confirmed in part by the list of assets which Paterson offered to the government after his company went into liquidation. Apart from one complete Paterson Biplane, the other items are made up of spare engines, propellers, tools and items of aircraft hardware. Details in DFA, DC, Box 57, Vol 3, C. Paterson to R. Bourne, 12th December 1913.

¹⁵⁰ H. Oberholzer, *Pioneers of Early Aviation in South Africa*, pp 59-60.

¹⁵¹ DFA, DC, File 1295, Box 58, Vol 3, Lezard & Bennett (attorneys) to H. Bourne, 20th June 1913.

few civilians, including the first woman to take flying lessons in the country.¹⁵² Given that the government had agreed to the customs-free importation of fuel, oil and essentials, Paterson was technically exploiting the government contract, insofar as it benefitted his civilian flying training.

The Paterson Aviation Syndicate Ltd was registered under the Companies Act of the Cape of Good Hope on the 1st July 1913 with an opening capital holding of £5000. The shareholders were all businessmen and professionals from Kimberley. The government was informed of the successful floating of the company on the 20th August as well as the fact that other practical arrangements for the establishment of the flying school, including the clearing of ground for the aerodrome and the construction of a hangar, were in hand. It would appear that by this point, three of the government trainees had arrived at Kimberley and their instruction had commenced.¹⁵³

The final government contract for the training of the candidates approved by the government was sent to Paterson's attorneys in early September of 1913. The ten men were to receive a course of tuition in the "art, science and practice of aviation".¹⁵⁴ Given that training would be carried out on extremely rudimentary and underpowered biplanes, there would indeed be as much art as science involved in learning to fly them! The yardstick by which the pilots proficiency would be judged was their obtaining of a FAI pilots certificate, at which point Paterson would be eligible for a payment of £150 per successful candidate.¹⁵⁵

In anticipation of the successful training of a group of pilots, the Ministry of Defence was making arrangements for other elements of the process of arriving at a group of military aviators. The Aeronautical Society of South Africa was approached to carry out the tests for the FAI certificates as the local affiliate of the international body based in France.¹⁵⁶ The War Office in London was asked to confirm that six probationary officers could be sent to the Central Flying School at Upavon for training in military aviation and

¹⁵² H. Oberholzer, *Pioneers of Early Aviation in South Africa*, pp 57-61.

¹⁵³ DFA, DC, File 1295, Box 58, Vol 3, L Bennett (of Lezard & Bennett) to R. Bourne, 20th August 1913.

The largest shareholder was Thomas Hill, a merchant, who held 500 shares, while Herbert Williams, a barrister and Charles May, a medical doctor, each held 100 shares. Among the smaller shareholders was Ernest Oppenheimer with 50 shares.

¹⁵⁴ DFA, DC, File 1295, Box 58, Vol 3, R. Bourne to Lezard & Bennett attorneys, 5th September 1913.

¹⁵⁵ DFA, DC, File 1295, Box 58, Vol 3, R. Bourne to Lezard & Bennett attorneys, 5th September 1913.

¹⁵⁶ DFA, DC, File 1295, Box 58, Vol 3, H Bourne to Secretary of the Aeronautical Society of SA, 17th September 1913.

to then have them attached to the RFC for a further two months. It was proposed that the officers be sent to England in April or May 1914. The Union accepted liability for any damage caused to aircraft during the further training of the South Africans.¹⁵⁷

The possibility of some officers being attached to the air wing of another European country was also put forward.¹⁵⁸ This would seem to indicate that the suggestions of General Beyers were still shaping the thinking around the overseas training of the military pilots. However, it was France rather than Germany which was suggested, perhaps because this was seen as more likely to find favour in Britain's War Office, given the tensions within Europe and the alliances, both official and unofficial, that had emerged by 1913. Although exposure to other military air wings would no doubt have given the first South African military pilots useful experience in terms of other aircraft types and the methods of deploying these, it is difficult to explain how this would have helped them in coping with what the correspondence with the War Office described as "peculiar and difficult conditions".¹⁵⁹ Those conditions related to the high altitude of the interior and the high ambient temperatures, which as noted previously, were problematic, but which were not encountered anywhere in western Europe where flying was taking place.¹⁶⁰

Although the War Office confirmed that the six South African officers could commence training at Upavon on the 17th May 1914, they stated that it was highly unlikely that they could arrange attachment of the trained officers to "the aeronautical forces of those continental nations which are in the van [vanguard] as regards aeronautical matters". This presumably was referring to France and Germany. They intimated that it might be possible to arrange attachment to one of the "smaller nations".¹⁶¹ No reason was given for this response, although it can be surmised that attaching officers from a British dominion to anything other than His Majesties forces, would have been viewed with disdain and that they would only consider such an arrangement if the country in question posed no threat to Britain.

¹⁵⁷ DFA, DC, File 1295, Box 58, Vol 2, Louis Botha to Governor General (for War Office), 31st July 1913.

¹⁵⁸ DFA, DC, File 1295, Box 58, Vol 2, Louis Botha to Governor General (for War Office), 31st July 1913.

¹⁵⁹ DFA, DC, File 1295, Box 58, Vol 2, Louis Botha to Governor General (for War Office), 31st July 1913.

¹⁶⁰ The average altitudes above sea level (ASL) in Europe are typically measured in hundreds of feet (except in Alpine regions) while those in the interior of South Africa are generally four to five thousand feet above sea level. Average daytime temperatures in the interior of South Africa are also higher than in Europe.

¹⁶¹ DFA, DC, File 1295, Box 58, vol 2, War Office to Colonial Office, 19th September 1913. "Smaller nations" probably meant countries such as Belgium, the Netherlands and Italy.

While the government was preparing the path for the military aviators beyond their basic training, Paterson was attempting to fulfil the requirements of his contract. The flying school would operate from a hangar constructed at Alexanderfontein on the outskirts of Kimberley. A circular track, cleared on the flat Karoo landscape would allow take-offs and landings into wind.¹⁶² The school never had more than two aircraft available. The one was a Paterson biplane, probably the one originally brought to the country in 1911 by Paterson and subsequently modified to fly off the sea with floats.¹⁶³ The upper wing seems to have been extended at the same time, making it a slower and more docile craft, better suited to training.¹⁶⁴ The other biplane was built at Kimberley by a Mr H Carpenter to Paterson's design and almost certainly utilizing parts supplied by Paterson.¹⁶⁵ The equal span wings made this aircraft slightly faster than the other and hence less suited to instruction.

What training Paterson together with his second pilot, Edward Cheeseman, did manage to undertake, was carried out between August and October 1913. The Department of Defence seemingly carried out no inspections of his establishment and Paterson only appears to have sent the government one progress report during this period. Dated the 7th September 1913, it dealt with the progress of the first five candidates who had arrived between the 18th August and the 1st September. The earliest three arrivals had received between eleven and fourteen technical lessons and had flown between six and eight times. Apart from the evident disparity between the number of ground and flying lessons, Paterson's summary of each student also showed an overemphasis on "mechanical practice". The one pupil who he had already been sent away as not being "cut out for aviation" was described as requiring "more practical training with machinery".¹⁶⁶

Further insights into what was happening at Paterson's flying school have to be gleaned from the memoirs of one of the trainee pilots, Kenneth van der Spuy. In his book, *Chasing the Wind*, he succinctly explains the paucity of flying training: "We certainly did not get much flying, partly because of Paterson's phobia about wind, secondly because

¹⁶² K. Van der Spuy, *Chasing the Wind*, p 38.

¹⁶³ *Flight International*, September 17th 1912, quoted in H. Oberholzer, *Pioneers of Early Aviation in South Africa*, p60.

¹⁶⁴ J. Illsley, *In Southern Skies*, p 38.

¹⁶⁵ *Flight International*, September 17th 1912, quoted in H. Oberholzer, *Pioneers of Early Aviation in South Africa*, p60.

¹⁶⁶ PAMK, C. Paterson to R. Bourne, 7th September 1913.

he had too many pupils to train and, thirdly, because of crashed aircraft." ¹⁶⁷There were some lectures in flying theory, but most of the ground school dealt with aspects of aircraft construction.¹⁶⁸ The government pupils did obtain tuition and practical experience on airframes and engines, mainly from Arthur Turner, who was Paterson's mechanic. Most of what was required to repair and maintain a fabric-covered wooden aircraft fitted with a rotary engine was taught using the school's aircraft. An early accident, on the 5th September, involving Paterson and Van der Spuy (on only his second lesson), gave the government pupils an entire aircraft on which to practice their newfound skills!¹⁶⁹

With hindsight it is easy to see that the government in its eagerness to have pilots do their *ab initio* training locally, had failed to anticipate several problems. For one, allowing Paterson to take on civilian trainees while on contract to the government could only serve to stretch his already meagre resources. Paterson's ability to train pilots in South African conditions had never been demonstrated and in practice was shown to be limited. The aircraft utilized by Paterson can also be seen as unsuitable: they could only handle calm conditions and flew best in cool air, which limited them to early mornings and later afternoons at Kimberley. Even if some of Paterson's reluctance to fly on certain days can be explained by over-indulgence the night before, as hinted at by Van Der Spuy,¹⁷⁰ he cannot be blamed for not wanting to fly such underpowered aircraft on anything but ideal days.

Paterson's half-baked efforts to train pilots might have hobbled on into 1914, had fate not intervened. In October 1913 an accident occurred while Cheeseman was giving instruction to government pupil Dunlop. Apart from destroying the plane, Cheeseman died on October 15th 1913 from complications arising from his injuries¹⁷¹ and the badly shaken pupil withdrew himself from further training. Paterson was now down to one instructor and one aircraft and although he tried to carry on as a one-man show, the arrangement proved unworkable, in part due to the strain it placed on Paterson. On the

¹⁶⁷ K. Van der Spuy, *Chasing the Wind*, p 41.

¹⁶⁸ PAMK, undated document entitled "General Motoring verbal examination" lists an eight point syllabus for the flying school. After a general introductory talk, three of the items relate to aircraft construction; one to hydroplanes (probably because Paterson had recent experience on one at Cape Town, although his pupils would not); one deals with "general air conditions" in South Africa and only two relate to flying.

¹⁶⁹ K. Van der Spuy, *Chasing the Wind*, p 41.

¹⁷⁰ K. Van der Spuy, *Chasing the Wind*, p 40.

¹⁷¹ H. Oberholzer, *Pioneers of Early Aviation in South Africa*, p 60.

9th November 1913 he went to see the Secretary of Defence to explain his situation. The Syndicate was not in a position to replace either the instructor or the aircraft and Paterson could not fulfil the contract on his own with the remaining aircraft. Furthermore, the surviving aircraft was the one less suited to training novice pilots and the summer months would only allow a few hours of training each day.¹⁷²

Faced with these circumstances, Smuts on the advice of Bourne, decided to revise Paterson's obligations. Under the new terms, Paterson would be required to bring ten pupils up to a standard where they could undertake the test for the FAI certificate in England after minimal instruction at Upavon. Since there would be no local evaluation of whether that standard had been attained, the government would be relying solely on what was described as Paterson's "professional knowledge and personal integrity".¹⁷³ On receipt of Paterson's written confirmation that each student had reached this standard, he would be paid the originally agreed upon sum of £150 per pupil. The generous terms did not however end there. The government offered to buy Paterson's remaining biplane and spares at market-related values, this being subject to an air test that showed it was capable of flying at least one hundred miles in a single flight and reaching at least 1500 feet above *highveld* terrain. It was intended that this aircraft would be used by the pilots of the South African Aviation Corps (SAAC) in 1915. If he accepted these terms, Paterson would also be offered employment for four to six months in 1915 as an aviation advisor to the government as it started to set up a flying school for the SAAC and various subsidiary air stations.¹⁷⁴

The end of Paterson's involvement in training military pilots

Since the original plan to have the South African military aviators trained to the level of holding the FAI Pilot Certificate was no longer feasible, the government was forced to look for an alternative. General Smuts thus wrote to the War Office in London requesting that five trainee pilots be allowed to arrive in England a month earlier and obtain their civilian licences before commencing military flying training at the CFS. He assured the British authorities that the candidates had "considerable flying experience under the difficult conditions which obtain on the high veld at this season of the year",

¹⁷² DFA, DC, File 1295, Box 58, Vol 3, R. Bourne to JC. Smuts, 10th November 1913.

¹⁷³ DFA, DC, File 1295, Box 58, Vol 3, R. Bourne to C. Paterson, undated (c.11th November 1913).

¹⁷⁴ DFA, DC, File 1295, Box 58, Vol 3, R. Bourne to C. Paterson, undated (c.11th November 1913).

which was somewhat misleading given the limited flying training being undertaken at Kimberley of which Smuts was not fully appraised.¹⁷⁵ The War Office promptly replied that it would not be necessary for the South Africans to arrive a month earlier as the Royal Aero Club pilot certificates would be obtained while they were at the Central Flying School.¹⁷⁶

With the very favourable terms offered by the government in hand, Paterson set about winding up his operation. On the 9th December 1913, a meeting of shareholders in the Paterson Aviation Syndicate was held in Kimberley at which it was confirmed that the Syndicate would go into voluntary liquidation.¹⁷⁷ All assets would be ceded to Cecil Compton Paterson, who would be responsible for all liabilities and the obligations under the government contract.

Paterson appears to have used the single remaining aircraft to provide instruction to the government pupils during December 1913 and possibly January 1914, as evidenced by three sets of identical reports sent by Paterson certifying that groups of pupil pilots had reached a certain standard. In terms of flying skills that stage of "aviation tuition", to use Paterson's own term, was limited to the most basic elements of flight. He indicated that pupils had all "entirely unaided, flown the Paterson Biplane, making turns to the right, to the left, raised and lowered the machine to heights as directed to me from my position behind them".¹⁷⁸ Apart from the contradiction that pupils had flown "entirely unaided" when he was shouting instructions at them from behind, his description makes it clear that no pupil was ever sent solo, a recognised milestone in any pilot training. This is partly explained by the fact that their proficiency does not appear to have included the ability to take off and land! Paterson may have been rightly nervous about risking his only aircraft by sending pupils on solo flights, but the simple and harsh reality was that pupils were not taken to the level of competence where they could carry out an entire flight on their own. Paterson's reasons for this failure to train pupils up to solo standard were summarised thus:

¹⁷⁵ DFA, DC, File 1295, Box 58, Vol 2, JC. Smuts to War Office (via Colonial Office), 18th November 1913.

¹⁷⁶ DFA, DC, File 1295, Box 58, Vol 2, War Office to JC. Smuts (via Colonial Office), 21st November 1913.

¹⁷⁷ DFA, DC, File 1295, Box 58, Vol 3, L. Isaacs to H. Bourne(?), 25th November 1913.

¹⁷⁸ DFA, DC, File 1295, Box 58, Vol 3, C. Paterson to R. Bourne, letters dated 8th December 1913; 17th December 1913 and 31st December 1913 (content identical, apart from names of pupils).

My only reasons for accompanying them in the machine were on account of it being of unsuitable speed for tuition purposes, making it dangerous for pupils to land without some assistance until they have had practice with a slower type, and also that the atmospheric conditions were far less favourable to those the Continental pupil has to contend with during training.¹⁷⁹

Paterson was on somewhat firmer ground, both literally and figuratively, when it came to the practical training that pupils had received on the constructing, covering and rigging of an aircraft. That hands-on experience extended to the mass and balance requirements and the ability to strip down and overhaul a Gnome rotary engine.¹⁸⁰ Notwithstanding the fact that the Paterson Biplanes represented the simplest of airframe structures, in which for example there was no fuselage, the ground training would have provided useful technical background. However, it was as pilots that the trainees were being principally trained, and in this respect, it is fair to conclude that Paterson's training fell short of that originally envisaged in the government contract.

Whatever one makes of Paterson, with historical hindsight, the Secretary of Defence, defended him in his submission to treasury in December 1913 as "most straightforward and scrupulously fair in all his dealings".¹⁸¹ Hence the decision to buy Paterson's biplane and to offer him employment in 1915. He was viewed as a man who had a genuine wish to encourage aviation in South Africa "with little prospect of it proving a commercially profitable concern".¹⁸² The latter assertion seems to be borne out by the financial figures for the business by December of 1913. The Syndicate had only made £115 from flying lessons and passenger flights, but had spent a little over £954 on spares, salaries, advertising and legal fees. It owed £573 at this point and its bank credit was a mere £2. Paterson had been drawing a nominal salary to limit company debt.¹⁸³ Obviously the completion of the government contract would put Paterson back in the black, but as a commercial concern, the flying school had already failed.

As indicated, Bourne's recommendation was that the government buy Paterson's biplane with spare parts (subject to a flight demonstration) and that he be employed as

¹⁷⁹ DFA, DC, File 1295, Box 58, Vol 3, C. Paterson to R. Bourne, letters dated 8th December 1913; 17th December 1913 and 31st December 1913.

¹⁸⁰ DFA, DC, File 1295, Box 58, Vol 3, C. Paterson to R. Bourne, letters dated 8th December 1913; 17th December 1913 and 31st December 1913.

¹⁸¹ DFA, DC, File 1295, Box 58, Vol 3, R. Bourne to Secretary for Finance, undated.

¹⁸² DFA, DC, File 1295, Box 58, Vol 3, R. Bourne to Secretary for Finance, undated.

¹⁸³ DFA, DC, File 1295, Box 58, Vol 3, C. Paterson to H. Bourne, 12th December 1913.

an advisor in 1915 at a salary of £75 per month.¹⁸⁴ Paterson accepted this offer and indicated that he would carry out the flight test once he had completed the training of the last five pupils.¹⁸⁵ The test was performed one evening in late December in the presence of Lt Colonel C Berrange, the Officer Commanding of the 5th SA Mounted Riflemen (SAMR) and was intended to show that the biplane was capable of flying one hundred miles non-stop and reach an altitude of at least 1500 feet above ground level. After more than two hours of flying, Paterson had flown 25 circuits of the four mile course and had reached 1680 feet (according to the altimeter worn by the pilot).¹⁸⁶ Although no one at the time pointed this out, the flight was carried out in the cool hours of dusk and that it probably could not have been successfully completed at any other time of the day, except possibly at dawn.¹⁸⁷ The aircraft which the government was about to purchase was thus of very limited usefulness for any military purpose. Nevertheless, after a basic test to establish the integrity of the wing structure, Colonel Berrange duly informed the government, via the Inspector General, that Paterson's biplane had met all of the requirements.¹⁸⁸ In the event, the very first aircraft purchased for military purposes by the South African government and intended for use by the SAAC once its pilots had completed their training in Britain, was never again flown.¹⁸⁹

It is not known whether Paterson concluded the last of the training *after* the flight demonstration, but on the 7th January 1914 he informed the Secretary of Defence that the last three pupils had been "brought to the standard of efficiency".¹⁹⁰ Two were on their way to Pretoria by this stage, while the third was handing back the tents borrowed from the 5th SAMR in which they had been living at the airfield while under training.¹⁹¹

Paterson's final duties with respect to the government were to hand over the aircraft and spares at Kimberley and to travel to Bloemfontein to survey a site for the

¹⁸⁴ DFA, DC, File 1295, Box 58, Vol 3, R. Bourne to Secretary for Finance, undated.

¹⁸⁵ DFA, DC, File 1295, Box 58, Vol 3, C. Paterson to R. Bourne, 10th December 1913.

¹⁸⁶ DFA, DC, File 1295, Box 58, Vol 3, Lt Col C. Berrange to Inspector General, 31st December 1913.

¹⁸⁷ This assertion is based on the fact that the aircraft was powered by a 50 horsepower engine that would have been developing about 10% less than this at the 3950 feet altitude of Kimberley. In addition, the density altitude would have been worst in the hotter hours of the day and the thermal activity may well have made the aircraft uncontrollable.

¹⁸⁸ DFA, DC, File 1295, Box 58, Vol 3, Lt Col C. Berrange to Inspector General, 31st December 1913.

¹⁸⁹ It appears to have languished in the gun park at Kimberley for some years but had disappeared by the time the Department of Defence tried, in 1928, to establish its whereabouts. DFA, DC, Box 58, vol 3, Financial Under Secretary (department of Defence) to Captain HS. Oberholzer, 17th August 1928 and reply PJ. Thackeray to Under Secretary, 7th September 1928.

¹⁹⁰ DFA, DC, File 1295, Box 58, Vol 3, C.Paterson to R.Bourne, 7th January 1914.

¹⁹¹ DFA, DC, File 1295, Box 58, Vol 3, C.Paterson to R.Bourne, 7th January 1914.

aerodrome from which the future aviation corps flying school could operate. The site selected was at Tempe, adjacent to Grey College. Paterson fully expected to return to the country in 1915 to act as an aviation advisor as he left instructions regarding the erecting of hangars and the moving of the aircraft from Kimberley to Bloemfontein.¹⁹² In a last communication to De Beers, Paterson informed them that he had vacated the airfield and enclosed a cheque for the last rental period. He graciously acknowledged what the company had done to assist aviation and wistfully commented that he had "done everything possible to prevent the School from closing".¹⁹³ Paterson then travelled to Britain and was destined never to return.

The saga that began on the semi-arid landscape of the Karoo at Alexanderfontein would be concluded in the verdant English countryside at Upavon in the summer of 1914. Six officers selected from those trained by Paterson, reported for training at the Central Flying School of the RFC in May of that year.¹⁹⁴ Apart from being a better test of the aptitude of the pupil pilots, the time at Upavon would show the limitations of what had been undertaken in South Africa.

When the South African Secretary of Defence, Bourne, visited the Central Flying School in June 1914, he was confronted with several indications of the poor flying training and evaluation that had been undertaken at Kimberley. After discussions with the officer commanding the CFS and its instructors, he made the recommendation that Lieutenant MS Williams be returned to South Africa forthwith. This officer had by this point crashed and written off an aircraft while under instruction; had failed to reach a standard where he could be sent solo and was deemed to show "very little aptitude for flying".¹⁹⁵ If the training under Paterson was mainly intended to determine the best candidates for training with the RFC, then in this instance it appears it had failed in its purpose.

Bourne's time at the CFS also led to the clear realization that the flying training undertaken by Paterson had been of negligible value. Reporting to Smuts in early July, he noted: "Our candidates complain bitterly of the amateurishness and crudity of his

¹⁹² DFA, DC, File 1295, Box 58, vol 3, C. Paterson to R. Bourne, 22nd January 1914.

¹⁹³ PAMK, C.. Paterson to Secretary, De Beers, Kimberley, 23rd January 1914.

¹⁹⁴ The officers selected were GP Wallace; GS. Creed; KR. van der Spuy; MC. Emmett; BH. Turner and NS. Williams. All held the rank of temporary Lieutenant except for Wallace who was a Captain.

¹⁹⁵ DFA, DC, File 1295, Box 58, Vol 2, R. Bourne to JC. Smuts (via High Commissioner for SA), 24th June 1914. Bourne arrived in Britain on the 16th June 1914 and his first visit to CFS Upavon was on 24th June 1914.

methods, indeed their instructors found it difficult to unteach [sic] them many of the elementary points and principles which Paterson had taught them".¹⁹⁶ Having viewed at first hand the "standard of efficiency" in the RFC, Bourne concluded that Paterson could give little or no help in establishing an aviation corps in South Africa.¹⁹⁷ Bourne's caustic remarks were in stark contrast to opinions he had expressed about Paterson prior to and during the training of the "government pupils" back in the Union. He was now of the opinion that the government needed the advice of an officer from the British military (army or navy) who could visit South Africa for three months and present proposals and estimates. Bourne had even gone so far as to identify a Major in the marines who could be considered for this role.¹⁹⁸ On the assumption that the South African defence budget would include an aviation corps, the advisory position of this officer would then have to be extended for up to two years while the aviation corps was fully established. Should such a military advisor be secured, Paterson would no longer be required in any capacity.¹⁹⁹ Having decided that "the difficulties of aviation in SA as compared to Europe and other parts of the world have been a good deal exaggerated and that in any case Mr Paterson's knowledge of and skill in aviation matters are not very great", Bourne now sought legal advice on whether Paterson could hold the government to its agreement for employment in 1915. The conclusion reached by the Justice Department was that the government did indeed have a binding agreement with Paterson. However, although he was not to know it, the actions of a nineteen year old Bosnian in Sarajevo the day after he wrote asking for legal advice, would not only ultimately resolve Bourne's quandary, but would do much to shape the direction of military aviation over the next four years and the immediate future of the newly-trained South African pilots.

Through his discussions with the commander of the RFC, Brigadier General David Henderson on the 29th June, Bourne also gained insights into what would be needed to establish and maintain a viable aviation corps. Such a corps would need to operate at least two distinct types of aircraft, namely those required for training and those which would be used in the field as weapons of war, in conjunction with the army. Mechanics and pilots would be needed for both branches of the corps. Furthermore, the attrition to

¹⁹⁶ DFA, DC, File 1295, Box 58, Vol 2, R. Bourne to JC. Smuts, 2nd July 1914.

¹⁹⁷ DFA, DC, File 1295, Box 58, Vol 2, R. Bourne to JC. Smuts, 2nd July 1914.

¹⁹⁸ DFA, DC, File 1295, Box 58, Vol 2, R. Bourne to JC. Smuts, 2nd July 1914. The officer in question was a Major Gerrard, described by Bourne as "perhaps the best pilot they have, he is very level headed and reliable fellow and with the most extensive knowledge of machinery and aircraft"

¹⁹⁹ DFA, DC, File 1295, Box 58, Vol 2, H. Bourne to JC. Smuts, 2nd July 1914.

both aircraft and pilots would necessitate replacements being factored into the costs. The cost implications of this aviation establishment led Bourne to conclude that the government might decide against an aviation corps for South Africa.²⁰⁰

Before leaving Britain in August 1914, Bourne had confirmed the essential elements of his discussion with General Henderson. A British officer would be identified who could act as an advisor in the setting up of an aviation corps in South Africa and who would first undertake a visit to the country before returning to Britain to purchase aircraft and ancillary equipment as well as recruiting air mechanics. Lieutenant Williams would not be returned to South Africa but would instead be attached to the Royal Aircraft Factory with a view to him being used in the mechanical field. The other five South African trainees, would on conclusion of their military aviation training, be attached to RFC squadrons until the end of the year. The cost of training each of the officers would be paid to the War Office and would cover the costs of consumables as well as damage to aircraft.²⁰¹ Those costs were set at £450 per pilot for training at the CFS and £4 per hour for pilots attached to the RFC.²⁰² Although this amount was supposed to cover "all liability for costs of repairs to, and replacement of equipment in connection with the training", the Union government was, for no apparent reason (other than the aircraft being struck off charge) asked to pay £626 for the Maurice Farman aircraft which Lieutenant Williams had written off in a landing accident on the 5th June 1914.²⁰³

Smuts, having pondered the cost implications of Bourne's report of early July, had by the end of the month indicated that financial stringency meant that the formation of a flying corps for South Africa would have to be put on hold. The government had a commitment to the South African pilots and to Paterson, but expenses associated with this would have to be kept as low as possible.²⁰⁴ Bourne replied that the five would be attached to RFC squadrons after the European crisis had led to the CFS being disbanded. Assuming that the crisis would pass, he optimistically suggested that the assessment of military aviation requirements by a seconded British officer sent to South

²⁰⁰ DFA, DC, File 1295, Box 58, Vol 2, R. Bourne to JC. Smuts, 2nd July 1914. Bourne gave a rough estimate of £15000 to equip a small flying corps.

²⁰¹ DFA, DC, File 1295, Box 58, Vol 2, R. Bourne to General D. Henderson, 10th July 1914.

²⁰² DFA, DC, File 1295, Box 58, Vol 2, L. Harcourt (Army Council) to Governor General of SA, 10th July 1914.

²⁰³ DFA, DC, File 1295, Box 58, Vol 3, BB. Cubitt (Army Council) to Governor General of SA, 10th July 1914.

²⁰⁴ DFA, DC, File 1295, Box 58, Vol 3, JC. Smuts to R. Bourne, cable of 29th July 1914 quoted in R. Bourne to JC. Smuts 31st July 1914.

Africa, be undertaken in the winter of 1915, possibly with two aircraft tested in the country. With the necessary equipment in hand, the aviation corps could be established in May of 1916. Knowing that there was a legal obligation, he suggested that Paterson be employed together with the British officer in an advisory capacity during 1915.²⁰⁵

Decades after the original training of pilots took place, Kimberley's McGregor Museum was instrumental in having a replica of a Paterson Biplane built and housed in a copy of the original hangar built on the exact site of the 1913 version. It stands today as a somewhat neglected reminder of the first flying school in the country, one which sought to train, albeit to a poor standard, the first civilian and military aviators in the country.

Conclusion

The central argument of this thesis is that military and civil aviation in South Africa in its first decades (of both the country and aviation) were interdependent. This is undoubtedly true with respect to the flying school at Kimberley and the training of the first recruits for a proposed South African Aviation Corps. Guy Livingston's approach to the government set in motion the thinking which led to an aviation component in the Defence Act and which in turn made possible the setting up of a flying school under Paterson. This could, potentially, have provided a starting point for the training of a significant number of civilian aviators and the basis for civil aviation enterprises in South Africa. Although it is speculative, it may be suggested with some confidence that had the flying school been in a position to purchase more capable aircraft and had it been based at one of the larger centres (Cape Town or Johannesburg) it may well have survived beyond a small government contract to become a viable enterprise that could have spawned other similar flying schools. That scenario would have benefited from some form of government assistance that viewed aviation in broader terms, not simply a new form of technology with a military role, but one that could grow into a commercial enterprise serving the communications and transportation system of the country. Government contributions could have included subsidies for aspirant pilots or the purchasing of aircraft to be utilized in flying schools. Unfortunately, such a vision seems to have been wholly lacking in the country prior to the First World War.

²⁰⁵ DFA, DC, File 1295, Box 58, Vol 3, R. Bourne to JC. Smuts 31st July 1914.

What transpired was the result of a small enterprise with limited capital operating rudimentary aircraft that were ill suited to the local conditions. It ended up with too many pupil pilots for the available fleet and instructors, but also too few pupils for sustainability. Although some of the government pupils would see flying service during the War, both with the RFC and the SAAC, almost none of these men would make a contribution to aviation when peace returned. Of the civilian trainees, none are known to have qualified as pilots. Securing a government contract from the Defence Department did not prove to be the basis on which Paterson could place a civilian flying school on a secure financial footing, despite obtaining favourable terms for the customs-free importation of equipment, fuels and lubricants.

And what of the government's approach to establishing a military aviation corps by using a local civilian aviation enterprise as the first stepping stone? The weaknesses in this method are all too evident from what unfolded at Kimberley. None of the trainee pilots achieved the FAI Certificate (or the British equivalent) before going to Britain. The level of basic flying training was deemed sub-standard by the instructors at the CFS in Britain. Even the most basic reason for using Paterson, namely to locally identify candidates with the best aptitude for flying before sending them to Britain, was not fully vindicated given that one officer was removed from flying training at Upavon. Nevertheless, credit can be given for the South African government and its nascent Defence Force in staying abreast of the trends in Europe, America and elsewhere relating to the incorporation of flying into the military. In this, it was one of only two British dominions to do so in the pre-World War One period.²⁰⁶

By way of a comparison, it is useful to briefly consider the salient aspects of the only other British dominion's efforts to set up an aviation corps, namely Australia. As early as 1909 the government of Australia had offered a prize for the design and construction of an aircraft suitable for military purposes. This prize went unclaimed, but the determination to train military aviators was undimmed. The first aviators and mechanics were recruited in 1911 in Britain. Five aircraft were purchased and a site for a CFS was identified at Point Cook in 1913. It was not until the 17th August 1914, that the first four Australian officers arrived for pilot training.²⁰⁷ By comparison, the first South Africans to

²⁰⁶ B. Robertson, Canadian Military Aviation in *Air Pictorial*, July 1972, pp 256; D. Woodhall, Royal New Zealand Air Force in *Air Pictorial*, January 1968, p 6

²⁰⁷ I. Hodges, *Australian Flying Corps*, p 6

have received some flying training were at that stage in Britain undertaking their military aviation training with the RFC. An airfield site had been identified at Bloemfontein for a military flying school, but it needed the trainees to return from RFC secondment before it could become operational. As will be evident in due course, the outbreak of the War put paid to such plans, but these years did see the formation of a SAAC and its deployment to a war front in 1915 when the Union invaded German South West Africa.²⁰⁸ Similarly, Australia's first Point Cook graduates would form a Half Flight of the Australian Aviation Corps (AFC) that saw service in Mesopotamia in the same year. Perhaps the major difference between the two dominions was that Australia's CFS continued to provide basic flying training throughout the War, partly with additional aircraft sourced within the country. All the trainees were required to complete their training with the RFC before joining RFC and AFC squadrons.²⁰⁹ As with Australia, thousands of South Africans were destined to serve in the British air wing (the RFC) and air force (the RAF) during World War One. The South African men, recruited in the Union, were however, in the absence of a local flying school, trained in Britain. It is safe to surmise that had the War in Europe not sent Britain to war against Germany, the air wings of the two dominions would have been established along almost identical lines. Certainly, the claim of one author that "Australia was alone among the British dominions in establishing its own flying corps"²¹⁰ is patently false.

In conclusion, the main achievement of the training undertaken by Paterson at Kimberley was that it sustained the momentum for the creation of an aviation corps by the Union of South Africa as originally envisaged in its 1912 Defence Act. That aviation corps would come to play a very small role in the War fronts in Africa. The War effort would accelerate technology; see the production of thousands of aircraft and train the South Africans who would provide the solid and lasting foundation of both civil and military aviation in the country. Until those elements came to play a role in the 1920s, the region would see virtually no flying activity during the War years.

²⁰⁸ G L'Ange, *Urgent Imperial Service*, pp 266-274.

²⁰⁹ I Hodges, *Australian Flying Corps*, pp 7-9; J Hopton, Royal Aircraft Factory BE2 series in *Flightpath*, vol 2, number 3, February-April 2000, pp 30-32.

²¹⁰ I Hodges, *Australian Flying Corps*, pp 8.

CHAPTER THREE

FROM EAGLES TO DOVES: THE FIRST ATTEMPTS AT COMMERCIAL AVIATION

Peace dividends: the impact of World War One

The Great War of 1914-18, as it was then known, would reshape the globe in many ways: politically, socially and technologically. Aviation was probably the technical sphere that saw the most dramatic advances being made as a result of the military imperatives created by a total war. Aircraft would serve in several roles, the most important of which were aerial reconnaissance; bombing and as fighters (or "scouts") to intercept enemy aerial activities.

Whereas in the pre-War era, the speed and carrying capacity of aircraft made them little more than fragile contraptions capable of taking one or two people on short flights, by the end of the War, the rapid advancement in aircraft performance, meant that some aircraft types, mainly built as bombers, could carry payloads of several tons over hundreds of miles and at speeds in excess of one hundred miles per hour.²¹¹ Aviation had become a mature science whose products could become an important new mode of transport as well as a weapon of war which guaranteed that all future armed conflicts would have an aerial dimension. The aircraft manufacturers of the major combatant nations all benefited from large and lucrative government contracts, which in turn meant that engine and airframe technology could take a significant leap forward. Mass manufacturing saw thousands of aircraft emerge from factories in support of the War effort.²¹² Aircraft companies in Britain, France, Germany, Italy, the Netherlands and the USA all emerged from the War as strong commercial entities, potentially well placed to serve a post-War market.²¹³

Apart from the contribution to aviation technology, the War would, in the short term, provide for two huge resources that would shape the path taken by aviation in the early 1920s. The first was a large body of young trained pilots and aircraft mechanics (airframe riggers and engine fitters), most of whom would find themselves as civilians

²¹¹ R. Hallion, *Taking Flight*, pp 380-390.

²¹² During World War One, France produced 67 982 aircraft and 92 386 engines; Britain produced 55 093 aircraft and 41 034 engines and the USA produced 16 004 aircraft and 32 420 engines. Quoted in R. Hallion, *Taking Flight*, p 375.

²¹³ R. Hallion, *Taking Flight*, pp 375-379.

with only one potentially useful skill and that was the ability to fly or maintain aircraft. In the case of the Royal Air Force, whose personnel would have the greatest impact on South African aviation, of 27 333 officers (more than half of them trained pilots) and 263 837 non-commissioned men on strength at the end of the War, 26 087 officers and 227 229 other ranks had left the service by January 1920.²¹⁴

The second resource provided by the War took the form of thousands of military aircraft, which virtually overnight became surplus to the needs of the Allied countries that had built them. To again use the RAF as the most relevant example, by the end of the War Britain had 22 098 aircraft on charge but would only need a fraction of these in its immediate post-War air force which shrank to about one fifth of the wartime size.²¹⁵

The confluence of these two aviation assets, the one constituting skilled manpower and the other readily-available aeroplanes, made possible a plethora of aviation ventures across the world, but especially in the Allied nations, including South Africa. How each came to shape military and civil aviation in the country during the early 1920s, constitutes the main analysis of the following two chapters.

Although the Union of South Africa, as a British dominion, went to war in 1914 as one of the Allied nations, the country saw virtually no aviation activity during the War years. After the training of the first military pilots at Kimberley as the nucleus of the SA Aviation Corps (as described in the previous chapter) no further training was carried out in the country, despite moves to establish a military flying school at Bloemfontein. In 1914 land was secured from the Bloemfontein town council for an airfield at Tempe²¹⁶ and there was a defence budget allocation to erect a hangar for four biplanes: two for training and two for military reconnaissance.²¹⁷ The outbreak of War put paid to these plans. The SAAC saw service briefly during the 1915 invasion of German South West Africa using Henry Farman F27 aircraft purchased for this operation.²¹⁸ Two civilian aircraft based in German South West Africa at the outbreak of hostilities were utilized

²¹⁴ C. Bowyer, *History of the RAF*, p 46.

²¹⁵ R. Hallion, *Taking Flight*, pp 377; C Bowyer, *History of the RAF*, pp 46-48.

²¹⁶ DFA, DC Gp 2, Box178, Correspondence between Secretary of Defence and Town Clerk of Bloemfontein, February to July 1914.

²¹⁷ DFA, DC, Gp 2, Box178, Note from HRM Bourne to SO Admin, 20th February 1915.

²¹⁸ G. L'Ange, *Urgent Imperial Service*, pp 266-274.

by the Germans. Flown by military officers they were used to carry out reconnaissance and bombing of the South African troops.²¹⁹

One of the SAAC officers, Captain GP Wallace, pressed the Secretary of Defence in 1915 to sanction the creation of a military flying school in South Africa to make up for the attrition of pilots and to bring the Corps up to full strength.²²⁰ This view was endorsed by the British War Office which offered to dispatch eight Maurice Farman training aircraft for the purpose of setting up a flying school.²²¹ Being committed to the campaign in the neighbouring German colony, no funding for training aircraft was forthcoming and unlike Australia, no local flying school was established during the War.²²²

After the capture of German South West Africa, the SAAC was absorbed into the Royal Flying Corps as 26 Squadron, serving in German East Africa as part of the South African contribution to the military campaign in that colony.²²³ Of the SAAC pilots who had started their training at Kimberley and who returned to South Africa, only one remained in the Union Defence Force and later joined the SAAF, namely Kenneth van der Spuy. So he alone represents a thread linking the pre-war military aviation initiatives to the air force created after the return of peace.²²⁴

Only one commercial flying operation existed in South Africa at the outbreak of War. Gerald Hudson had brought two Curtiss Model F flying boats to Durban for the purpose of carrying out joy rides from the harbour. When the German cruiser, the *Konigsberg*, was trapped by British warships in the Rufiji delta in German East Africa (today Tanzania), the British admiralty took up Hudson's offer of using the flying boats and offered his pilot, Denis Cutler a commission in the Royal Navy. One Curtiss that was taken up the coast and flown by Cutler did manage to find the German warship in the complex channels that made up the delta. After it was damaged in a landing, the second Curtiss was utilized for reconnaissance and when shot down, Cutler became a

²¹⁹ G L'Ange, *Urgent Imperial Service*, pp117-126; A. Cruise, Louis Botha's War, pp 77-78, 86-87, 136, 157

²²⁰ DFA, DC Gp 2, Box 232, Captain GP. Wallace to H. Bourne, 17th and 25th February 1915.

²²¹ DFA, DC Gp 2, Box 232, Telegram from General Staff of War Office, London to Secretary of Defence, 18th February 1915.

²²² DFA, DC Gp 2, Box 232, Telegram from Defence Department to War Office, 23rd February 1915.

²²³ J. Ploeger, 26 Eskader in *Militaria* 2/1, 1970, pp 68-87.

²²⁴ J. Ploeger, South African Air Force, Nominal roll of Officers, Air WOs, Air NCOs and Airmen (1922) in *Militaria*, 2/1, 1970, pp 88-94.

prisoner of war.²²⁵ The episode involving the flying boats constituted a minor and solitary South African example of a civilian operation assisting the military during the War years.

No other aircraft would be seen in South Africa until 1917 when two BE2e biplanes arrived in Cape Town. These were intended to be used in a recruiting drive across the country, specifically to identify candidates for the RFC. The government of South Africa never introduced conscription as this was too politically sensitive, but as a British dominion it provided an area within the British Empire where young men could be recruited as volunteers.

The man who undertook a major recruiting drive through most of the major towns in the Union was destined to play a central role in the emergence of civil aviation in South Africa and the establishment of its first airline company. Major Allister McKinstosh Miller was a South African who had served with a British cavalry regiment. From 1915 he was in the RFC, where he acquitted himself well as a pilot in combat on the Western Front, being awarded the Distinguished Service Order.²²⁶ Miller had carried out an earlier recruiting drive for the RFC in 1916 in South Africa which resulted in 450 men travelling to Britain and most subsequently became pilots.²²⁷

Miller's second recruiting drive began in November 1917 in Cape Town followed by the Eastern Cape, Orange Free State, Northern Cape, Transvaal, Swaziland and Natal. The tour would eventually take four months as he traversed the country using one of the BE2e aircraft.²²⁸ It is easy to understand how the novelty of seeing an aircraft flying into a town and then being afforded the opportunity to view it up close would be a powerful tool in inspiring young men to join the RFC. Because there had been no flying taking place in the country since before the War, and then, with the exception of Patterson at Kimberley, limited to a few short demonstration flights, the vast majority of people would quite simply have never before seen an aircraft. No doubt Miller's charisma; his being in uniform; and the influence of wartime patriotism among English-speaking white South Africans (who viewed themselves as essentially British) also

²²⁵G. De Vries, *Wingfield*, pp 6-7; E Chatterton, *The Konigsberg Adventure*, pp109-113, 116-118, 120, 131; DFA, DC Gp2, Box 622.

²²⁶H. Klein, *Winged Courier*, p 26.

²²⁷H. Klein, *Winged Courier*, p 26.

²²⁸H. Klein, *Winged Courier*, pp 27-28.

played a role. By the end of the recruiting drive, Miller had over 8000 applications of which a quarter were selected for training.²²⁹

By the time Miller returned to active service on the Western Front in 1918, the world's first independent air force had been created in the form of Britain's Royal Air Force (RAF). This was largely due to the efforts of another South African, General Jan Smuts, then serving on the Imperial War Cabinet in London, largely in response to the aerial bombing threat facing British cities.²³⁰

The significance of Miller's recruiting of young South Africans as wartime pilots, went beyond the obvious contribution that they made to the air war in Europe (several as highly decorated fighter aces). A significant number of the men who belonged to the two groups of "Miller's boys" would return to the country of their birth, after the return of peace, to play a role in both military and civil aviation. Some of the others, who stayed in Britain, would rise to high rank in the Royal Air Force.²³¹

If the British military saw Miller's role in South Africa purely in terms of recruiting, the intimidating effect that an aircraft could have on rural black communities was put to good use several times during his aerial tour by local native commissioners. In the case of a flight to Pietersburg, this was in direct response to restlessness among communities in the Northern Transvaal while flights in Swaziland and Zululand were more a case of showing off the "white man's noisy giant bird".²³² It is interesting to consider the effect that this one aircraft had on South Africans of two distinct racial groups as a result of being viewed in a different context by each: the one as an exciting extension of an overseas war and the other as a symbol of white domination.

The role of "pacifying blacks" would also be true of at least one task assigned to Lieutenant AH Gearing, a South African RAF officer sent to South Africa after Miller returned to England. In November 1918 he was sent up to Johannesburg from Cape Town by rail with one of the BE2e aircraft to deal with impending native restlessness on

²²⁹ H. Klein, *Winged Courier*, p 29.

²³⁰ P. Elliot, Sir David Henderson, the Smuts Report and the Birth of Independent Air Power in *First World War in the Air*, pp 125-129.

²³¹ It should be noted that other South Africans (of which Miller was one) had volunteered for service in the British forces before the two RFC recruiting drives and had made their own way to Britain.

²³² H. Klein, *Winged Courier*, p 28.

the Reef.²³³ However, all of the other flying carried out by Gearing in 1918 was related to the War effort by way of carrying aerial post cards on short local flights as a fund raising venture in support of the SA Red Cross. The aircraft was used to carry special souvenir advertised under the slogan of "make your sixpence fly". Gearing did three flights in Cape Town in October and November before being sent to the Witwatersrand. Here he undertook several flights over Johannesburg, East Rand towns and Pretoria as part of fund raising before returning to Cape Town. Here he carried out the last flights over the festive season, some of which coincided with the Naval and Military Tournament at Rosebank, which was an event also intended to raise funds for the Red Cross.²³⁴ Although Cape Town had seen a similar novelty air mail flown in 1911, the flights by Gearing in that city raised £300 from about 12000 cards sold.²³⁵ The flying done by Gearing, some of it in the month after the Armistice, was the last of any description within South Africa during the War years.

Before moving to a consideration of the specific developments in South Africa in the wake of the War, it is appropriate at this point to note two other developments that were products of advances in aviation during the War. Both of these would have some influence on aviation developments in the sub-continent.

The technical advances made within aviation during the War years, presented the real possibility of air routes spanning the continents and connecting these in an international network. Britain, the world's largest imperial power viewed this new era of transportation and communication largely in the context of its vast Empire. Displaying remarkable prescience, in February 1918 the Civil Aerial Transport Committee put forward the recommendation that air routes should be surveyed to link the Empire. In the case of Africa, this led in November of that year to three RAF survey parties being allocated the task of surveying and laying out airfields on their respective sections of the Cape to Cairo route. During the months that followed, the RAF survey parties set up a total of forty-three landing grounds linking the northern and southern extremities of the continent. The southern party (Number Three) under Major Court-Treath was responsible for the section from Abercorn to Cape Town and so became responsible for airfields being set up in South Africa at Pretoria, Johannesburg, Bloemfontein, Victoria

²³³ L. Wyndham, *Airposts of South Africa*, p 8.

²³⁴ W. Wyndham, *Airposts of South Africa*, pp 6-11.

²³⁵ W. Wyndham, *Airposts of South Africa*, p 11.

West, Beaufort West and Cape Town. In November 1919 the newly formed British Department of Civil Aviation announced that the air route was across Africa was now complete.²³⁶

Also emerging from the War, and more particularly the Paris Peace Conference (which would result in the Treaty of Versailles and the establishment of the League of Nations), was the International Air Convention. This was the first step towards coordinating and regulating air transport across the globe. The draft copy of the Convention was signed by twenty-one countries in October 1919.²³⁷ This initiative recognised that aviation had advanced to a point during the War years where it would become an inextricable part of the future world, in respect of both the military and civil applications. As with the British moves to establish imperial air routes, the peacemakers in Paris were establishing an international legal framework for a new industry that had yet to become a reality in terms of commercial airlines operating across national frontiers. Basic issues, such as aircraft registration markings and customs procedures, would feature in the earliest decisions embodied in the Convention. Britain, in line with viewing her five dominions as essentially self-governing territories, allowed them to become signatories of the Convention.²³⁸ The Convention was ratified in 1921 creating the International Commission for Air Navigation, at which point, rather than appointing its own full-time representative to the Commission, the South African Prime Minister, JC Smuts, asked that Britain represent the country and safeguard its interests.²³⁹ South African aviation in an international context was thus subject to decisions of the Commission.

The year of valiant endeavour

The civil aviation ventures which sprung up in South Africa immediately after the First World War all owed their origins to the seemingly endless supply of pilots, aircraft tradesmen (airframe riggers and engines) and aircraft, all of these being products of the recent conflict. When applied to the context of a large country that had absolutely no aviation companies, it created the tantalizingly real prospect of making flying a viable

²³⁶ D. Jones, *The Time Shrinkers*, pp 12-13; J Godwin, *Wings to the Cape*, pp 21-27, 113-114.

²³⁷ DFA, DC, Box 403, File 50438, Official Report on the deposition of the Convention governing the regulation of Aeronautics, 13th October 1919.

²³⁸ DFA, DC, Box 1103, H. Bourne to W. Hoy, 16th July 1920.

²³⁹ DFA, DC, Box 403, File 50438, JC. Smuts to Major General FH. Sykes, 29th July 1921.

commercial venture. In some respects that logic was sound because there was a vacuum to be filled and the essential ingredients of pilots, planes and a market all existed. What would become apparent by the end of 1920 was that this combination did not ensure commercial success over an extended period.

Most of the flying undertaken by small companies in South Africa in the period 1919 to 1921, can be defined as "barnstorming" or joy riding operations. These relied on moving across a region of the country so as to tap into the novelty factor among civilians, the vast majority of whom had never seen an aircraft let alone flown in one.²⁴⁰ Although this was the stock in trade of all the small firms, they did, as will be shown, take on other jobs that could provide additional income. Only one company can be regarded as trying to operate a passenger service akin to a modern airline. The ad hoc manner in which these companies started flying and operated well illustrates the *laissez faire* environment in which aerial enterprises could be established and operated with fare-paying passengers in the years prior to aviation legislation being enacted in South Africa.

The barnstorming phenomenon was most evident in the USA where thousands of war surplus Curtiss JN-4D "Jenny" trainers provided the inexpensive starting point for hundreds of returning military pilots, who as one author has described it, went from being "hawks to doves".²⁴¹ The appeal of seeing and flying in aircraft was essentially the same the world over, but there were a number of key differences between barnstorming in the USA and South Africa. The American market was far more crowded, with many pilots in direct competition. This led pilots in the USA to undertake stunts which would attract crowds to a local farmer's field (doubling as a temporary airfield); to state fairs or to air shows. The daredevil acts typically came to include aerobatics, wing walking and transfers of stuntmen and women between aircraft.²⁴² Such antics did not feature in the immediate post-War South African operations, mainly because the novelty of aircraft was greater and competition between pilots was almost non-existent.

²⁴⁰ The term "barnstormer" originated with itinerant entertainers who travelled across the USA, but has more famously become associated with the joy riding and exhibition pilots of the 1920s.

²⁴¹ D. Dwiggin, *Flying Daredevils of the Roaring Twenties*, p 25.

²⁴² D. Dwiggin, *Flying Daredevils of the Roaring Twenties*, pp 15-51; P. O'Neil, *Barnstormers and Speed Kings*, pp 21-67.

Another key difference between this type of flying in the two countries was that it survived for a longer period in the USA, with some barnstormers flying until the late 1920s, compared to South Africa where most had gone out of business by 1921.²⁴³ Common to both countries was the propensity for pilots to take on any flying that would make money. Here again, the USA offered opportunities both legal and illegal that simply did not exist in South Africa. These included film flying; the transporting of bootleg liquor and becoming a mail pilot.²⁴⁴ All three of these have to be understood in the context of 1920s America. The burgeoning film industry of Hollywood had shown an early interest in using aircraft in movie plots. The advent of nationwide prohibition had made the smuggling of liquor by various means a lucrative trade. The first air mail services of the US Post Office opened up another line of employment for pilots.²⁴⁵ Only the last of these offered any prospect of success in South Africa and then only once the relevant legislation was enacted.

The flying enterprises that sprung up in South Africa attempted to make a living from flying a more limited manner. The first company to enter the field and also the largest (in terms of the number of aircraft and pilots) was the South African Aerial Transports Ltd set up in Johannesburg in October 1919. This was an amalgamation of two smaller companies established in the preceding months. In June, the SA Aerial Transports Company had been formed by ex-RAF pilots Major A Francis and Major FW Honnet.²⁴⁶ The following month in London, another group of newly demobilized RAF officers, led by Major Allister Miller and including Colonel RJ Armes and Captain H Tatton, brought into being the South African Aerial Navigation Company.²⁴⁷ The consolidated SA Aerial Transports company had a fleet of five Avro 504K aircraft, a well proven military trainer of which hundreds were now being sold off in Britain. Three of the Avros were bought in that country (probably by Miller) and another two were obtained from the nascent SAAF which had received thirty as part of the "Imperial Gift".²⁴⁸ No system yet existed for disposing of Air Force assets and one can only assume that personal contacts between

²⁴³ D. Dwiggin, *Flying Daredevils of the Roaring Twenties*, pp15-51; P O'Neil, *Barnstormers and Speed Kings*, pp 21-67.

²⁴⁴ D. Dwiggin, *Flying Daredevils of the Roaring Twenties*, pp15-51; P O'Neil, *Barnstormers and Speed Kings*, pp 21-67.

²⁴⁵ P. O'Neil, *Barnstormers and Speed Kings*, pp 21-67.

²⁴⁶ H. Klein, *Winged Courier*, p 33.

²⁴⁷ H. Klein, *Winged Courier*, p 33; D Becker, The Avro 504 in South Africa in *SA Flyer*, October 2009, p 33

²⁴⁸ D. Becker, The Avro 504 in South Africa in *SA Flyer*, October 2009, p 33.

ex-service personnel helped to secure the deal. The Johannesburg base for operations was Baragwanath airfield to the west of the city, one of the landing grounds established by the RAF survey parties. The company pilots, all ex-RFC and RAF aircrew, comprised Miller and Honnet as well as Major Carl Ross, Lieutenant CR Thompson, Captain CE Rutherford and Captain TS Harrison.²⁴⁹ The opening of the Baragwanath aerodrome and the inaugural flight of the company was on 25th October during which the mayor of Johannesburg was taken up by Ross. The event was heralded in one newspaper as being the inauguration of commercial aviation in South Africa.²⁵⁰ Much advertising in the local press encouraged people to experience the "world's greatest pleasure" and passenger flights to Pretoria were offered.²⁵¹

The first commercial flight was that flown by Miller on 5th November 1919 taking a Mr JW Kirkland, Managing Director of the SA General Electric Company to Kimberley, on business, and returning two days later.²⁵² Garnering rather more publicity the following week, on 15th November, was the Johannesburg *Star* newspaper chartering one of the SAAT Avros (specially named "Natalia") for a flight to Durban carrying one of the newspaper's representatives, JW Gordon, and 1200 copies of a special aerial edition of the newspaper. Bundles of copies were dropped over Standerton, Volksrust and Charlestown, with landings made at Newcastle and Pietermaritzburg.²⁵³ Also aboard the Avro was a letter from the Prime Minister, JC Smuts, expressing support for what he eloquently described as "the first effort in South Africa to turn the instruments of war into the peaceful carriers of commerce".²⁵⁴ Miller seems to have remained in Natal for a while longer because in December he was in Kokstad urging residents to support a regular service between there and Durban, which did not materialize.²⁵⁵

After this initial flourish, most of the subsequent flying done by the company was not in the service of companies but carrying out joy rides. In Johannesburg, flights were offered on the weekends and started at 25 shillings.²⁵⁶ At a time when a good jacket would cost one 125 shillings, the flights were not prohibitively expensive, but would

²⁴⁹ H. Klein, *Winged Courier*, p 33.

²⁵⁰ Anon. "Aviation in Johannesburg", *Rand Daily Mail*, 25th October 1919, p 11.

²⁵¹ H. Klein, *Winged Courier*, p 33.

²⁵² Anon. "Business Man making a trip to Kimberley", *Rand Daily Mail*, 5th November 1919, p 9.

²⁵³ Letter from JGW Gordon to the *Cape Argus* 6th February 1920; Klein, *Winged Courier*, p 34; D Becker, "The Avro 504 in South Africa in *SA Flyer*, October 2009, p 33.

²⁵⁴ H. Klein, *Winged Courier*, p 34.

²⁵⁵ Anon. "Major Miller flies to Kokstad", *Rand Daily Mail*, 10th December 1919, p 11.

²⁵⁶ Advertisement for flying, *Rand Daily Mail*, 25th September 1920, p 9.

have been beyond the reach of many working class folk.²⁵⁷ The turbulence associated with the warmer months meant that flights were limited to late afternoon, something which would also have had a further negative impact on the revenue that could be generated.²⁵⁸

There were occasional business opportunities as an adjunct to "flips". For example, when the company's Avro "Natalia" (serial H2583) was operating in Natal in the period January to March 1920, it carried out flights in places such as Escourt, Durban and Eshowe, but was also used by Messrs J Jackson and SP Stuart of the Durban West Street tailors, Jackson and Stuart, to drop thousands of advertising brochures from the aircraft over the city.²⁵⁹ Some charters were flown by businessmen who wished to avail themselves of a more rapid form of transport. In May 1920, a Mr Jacobs who owned a garage in Lichtenburg, flew from there to Johannesburg to collect a new Chevrolet car and in the same month Charles Whitehead the manager of a Johannesburg car dealership was flown to Durban on a "hurried business trip".²⁶⁰

The main reason for the narrow range of flying activities was the limited carrying capacity of the biplanes used, being capable of lifting only two passengers. Thus it was in the carrying of passenger on short joy rides that the type was best suited and most utilized. By the start of 1920, the company had probably exhausted the immediate demand for flights in the mining metropolis and needed to look further afield. To this end, the Avros of SA Aerial Transports were dispersed in various directions on barnstorming operations. Press advertisements informed the public that "Owing to machines being engaged on special services, 'Joy flips' are discontinued until further notice".²⁶¹ Each aircraft was named after the area in which it was principally deployed. Hence, apart from the previously-mentioned "Natalia", "Orangia" started operations in the Orange Free State; "Griqua" went to the Kimberley-Warrenton area; "Rhodesia" was sent to that neighbouring colony and "Rand Queen" was retained for flights in Johannesburg. The aircraft were not limited to the areas that bore their names, with Honnet going from the Orange Free State to the Eastern Cape towns.²⁶² In January

²⁵⁷ Clothing advertisement, *Rand Daily Mail*, 29th May 1920, p 4.

²⁵⁸ Anon. "Aviation in Johannesburg", *Rand Daily Mail*, 25th October 1919, p 11.

²⁵⁹ *The Pictorial* January 23rd 1920 p358; February 20th 1920, p450 and March 26th 1920 , p 560.

²⁶⁰ Anon. "Customer by air", *Rand Daily Mail*, 26th May 1920, p 5.

²⁶¹ Classified advertisement, "No Flying", *Rand Daily Mail*, 6th January 1920, p 7.

²⁶² D. Becker, The Avro 504 in South Africa in *SA Flyer*, October 2009, p 34.

1920 Honnet was doing joy rides in East London after flying down from Queenstown²⁶³ and in February was operating in the Grahamstown district.²⁶⁴ Flying the local mayors seems to have been a typical means of securing goodwill and publicity in these towns.²⁶⁵

The simple operational needs of these barnstormers is summed up by the reminiscences of one of them, CR "Tommy" Thompson, who in a 1969 interview recalled:

When we intended visiting a town or dorp, we'd telephone or telegraph the local town clerk and tell him we'd be there on a given date. We'd ask him to select a flattish piece of ground, about 150 yards square and clear it of ant hills. Then we'd ask him to test it by driving a Model T Ford over it at 30 miles an hour. If the car could take it, we reckoned our planes could too. When we arrived [overhead a town] they'd shut up shop and the crowds came out to watch. We'd ask them to make a smoke fire and light it as they heard us approaching so we could get the wind direction.²⁶⁶

The lifeblood of the joy riders was trading on the fact that few South Africans had ever seen an aircraft. Apart from the handful of pioneer aviators seen in the three years prior to World War One [see previous chapter for a summary], during the War years, only Miller had flown through parts of the country during his 1917 recruiting tour. By the time peace returned in 1918, probably fewer than a hundred passengers had flown in South Africa. The Wartime advances in aviation made possible the offering of joy rides on a large scale using military surplus aircraft. What the barnstormers relied on was that in each town visited, they would find sufficient numbers of locals wanting to take to the skies as paying passengers to warrant the visit. Those potential customers were confined to whites who could afford the cost. Blacks for the most part would not have been able to afford a flight or would have found the concept too "alien" to even consider

²⁶³ Anon. "From Queenstown to East London", *Rand Daily Mail*, 27th January 1920.

²⁶⁴ Anon, "Made a bad landing", *Rand Daily Mail*, 14th February 1920, p 11.

²⁶⁵ Anon. "From Queenstown to East London", *Rand Daily Mail*, 27th January 1920; Anon, "Made a bad landing", *Rand Daily Mail*, 14th February 1920, p11. Both of these press reports mention the deputy mayor of East London and the Mayor of Grahamstown being flown to their home towns.

²⁶⁶ A. Malan, The 1920s—Flips in Every Dorp and Town in *The Star*, 26th July 1969.

it, although they did come and watch.²⁶⁷ Some whites were also warned against flying. But relying on the novelty of taking a flight was a double-edged sword in that once a district had been visited, the allure of taking a first flight was over among those who had flown. Put differently, joy riding could only be made to work as a short term means of employing pilots and aircraft, perhaps particularly in South Africa where the potential market was limited to a small part of the population. This is one of the major factors which sets the local barnstormers apart from their American counterparts. An aircraft visiting a city or town in South Africa, *did* represent an attraction that could be relied on to provide customers, but only for a few days and then the barnstormers had to move on.²⁶⁸

There were, of course, other problems that arose as the barnstormers made their way from town to town. Unlike the air force training establishments or squadrons in which these aircraft had originally been operated, the hard working Avros did not have a permanent team of ground engineers to maintain them as they worked the tough regimen of short flights interspersed by frequent take-offs and landings from rough fields, all of which took a toll on the machines. Even when not damaged in forced landings, the engines and airframes rapidly deteriorated. This was later attested to by a mechanic who had worked with the company before joining the SAAF, when he gave evidence before the court of enquiry into the causes of the Air Force's first fatal accident, which also befell an Avro 504K.²⁶⁹ This meant that aircraft wore out faster than they could be replaced or made profitable.

When considered as a whole, these factors explain why the SA Aerial Transports company was, by March 1920, in dire straits. At the end of that month, Miller wrote to Prime Minister Smuts, pleading for government assistance to save the company. He claimed that in five months of operations, it had carried 2500 passengers; had covered 30 000 miles and had established 43 new aerodromes.²⁷⁰ On the strength of this track

²⁶⁷ In the absence of written records, these assertions are based on photographic evidence. See for example images in J. Illsley, *In Southern Skies*, pp 80-87.

²⁶⁸ Photographic evidence provides clues as to how effectively the arrival of aircraft in a town could draw a crowd. A vertical aerial photograph in an anonymous photo album held by the Port Elizabeth branch of the SAAF Museum, was taken from one of two SAAT aircraft at Standerton, c.1920 and shows an Avro on the ground surrounded by hundreds of local people.

²⁶⁹ DFA, DC Gp 2, Box 436, File 51897, Court of Enquiry: crash of Avro machine number 9699, 19th September 1922.

²⁷⁰ DFA, DC gp 2, Box 1103, AM Miller to JC Smuts, 31st March 1920.

record, Miller's proposal to the government was nothing if not audacious. He asked that the state consider either lending the company twelve Air Force aircraft and £5000 cash (at 10% interest per annum) repayable over three years or alternatively providing a £15 000 loan on the same terms.²⁷¹ What was glaringly lacking in his proposal was any sort of indication as to how this assistance would advance aviation in the country and place his company on a firm financial footing. Miller simply made the assertion that: "In view of our 5 months experience we are certain that with the Government's aid and support this industry will be permanently established and will be able to pay a considerable profit". He spoke of "daily losing ground through lack of means of development"²⁷² but gave no indication of what form "development" would take, be it air mail or scheduled passenger services. The statistics presented by Miller in support of his appeal were also somewhat meaningless because they related almost entirely to joy riding operations rather than sustainable commercial enterprises. The "new aerodromes" which they claimed to have established were no more than clearings and hardly constituted a major addition to the aviation infrastructure of the country.

With the Air Force still very much in its formative stages, Miller made an interesting appeal to the advantages that a well-established civil aviation sector could have for the government and the future Air Force. On a patriotic (or perhaps sentimental) level, he made the point that all the company personnel were "returned soldiers" and all the company pilots were South Africans. He stated that there was a waiting list for over 150 pilots and 100 mechanics and that if the company expanded they would be able to give "employment to many fellow South Africans".²⁷³ In the context of the immediate post-war period with thousands of servicemen returning home and an economic recession facing the country, this point would have had some resonance with a Prime Minister who had played a key role in the War. But Miller went on to make a further shrewd, and in some respects valid, argument in stating that support for civil aviation (in the form of his company) would, in effect, also be "maintaining a Reserve Squadron of equal merit [to an air force squadron] at a vastly lower figure".²⁷⁴

²⁷¹ DFA, DC gp 2, Box 1103, AM Miller to JC Smuts, 31st March 1920.

²⁷² DFA, DC gp 2, Box 1103, AM Miller to JC Smuts, 31st March 1920.

²⁷³ DFA, DC gp 2, Box 1103, AM Miller to JC Smuts, 31st March 1920.

²⁷⁴ DFA, DC gp 2, Box 1103, AM Miller to JC Smuts, 31st March 1920.

Although Miller's letter was seen by the Prime Minister, it was immediately forwarded to the Minister of Railways and Harbours²⁷⁵ who in turn sent it to Civil Air Board.²⁷⁶ The Board's chairman, Sir William Hoy, pointed out in his response that the government could not support one aviation company over others and that Miller's request was in effect for a government loan, in one or other form. While acknowledging that civil aviation *might* need to be supported and that this could benefit aerial defence, he suggested that there were better ways of doing this, including subsidies; government contracts through a tender process and leasing government aircraft to private concerns to run state services. Hoy also repeatedly pointed out that in the absence of any legislation on aviation in South Africa it was not possible to consider any form of financial support to an aviation company. His recommendation to the Civil Air Board and the government was that no loan be considered.²⁷⁷

By the time Miller's request and Hoy's recommendations came before the Civil Air Board in November of 1920, South African Aerial Transports was already in liquidation.²⁷⁸ The Company aircraft were offering joy rides in Johannesburg until October 1920.²⁷⁹ The assets of the Company in the form of aircraft, a hangar and spare engines, were auctioned in December 1920.²⁸⁰ There were a number of splinter enterprises that emerged from its demise that allowed joy riding to continue for some months longer. Carl Ross and Cecil Thompson bought two of the Avros of the defunct Company on auction and continued barnstorming with the pair of aircraft in the Transvaal and Natal into 1921 as the Ross-Thompson Aircraft Company. One of the aircraft was bought by Honnett and went on to be part of his enterprise in the Eastern Cape, outlined below.²⁸¹ Another one of the Avros was procured by Solomon Brick of Pretoria who hired an ex-RAF pilot, Frank Preller, to fly it on joy rides.²⁸² Tragedy struck when Brick, his wife Esther and Preller all died in the aircraft as a result of crashing

²⁷⁵ DFA, DC gp 2, Box 1103, Prime Minister's office to Minister of Railways and Harbours, 7th April 1920.

²⁷⁶ DFA, DC gp 2, Box 1103, Minister of Railways and Harbours to General Manager of SAR&H, 8th April 1920.

²⁷⁷ DFA, DC gp 2, Box 1103, W Hoy memorandum [probably for attention of Prime Minister, Cabinet and the Civil Air Board] 15th April 1920.

²⁷⁸ DFA, DC gp 2, Box 1103, AC McColm memorandum for Civil Air Board, 29th November 1920.

²⁷⁹ Advert, "Flying", *Rand Daily Mail*, 9th October 1920, p 7.

²⁸⁰ Legal notice, *Rand Daily Mail*, 4th December 1920, p 2. The advert mentions three of the Avros by name ("Natalia", "Griqua" and "Rhodesia") but there was probably a fourth in a dismantled state.

²⁸¹ H.Klein, *Winged Courier*, p35; D Becker, The Avro 504 in South Africa in *SA Flyer*, October 2009, p 34.

²⁸² Anon. "Victims of the Aeroplane Crash", *Rand Daily Mail*, 17th December 1920, p 6.

shortly after take-off from Baragwanath on the ferry flight in December 1920.²⁸³ After Ross-Thompson went out of business, Miller took over one of their Avros and went to Rhodesia.²⁸⁴

Turning to another aviation company in South Africa at the time, the flying operation that had Cape Town and its hinterland as an area of operations was one operated by the brothers Frank and Shirley Solomon.²⁸⁵ The brothers were both "Miller Boys" and served in the RFC and RAF.²⁸⁶ On demobilization in 1919 they bought two military surplus DH6 aircraft in Britain for £250 each along with £400 worth of spares. So many military aircraft were being cut up for firewood at the time, that they were able to secure further spares for their planes at firewood rates!²⁸⁷ The two brothers obtained Air Ministry civilian pilots certificates and had the hardware shipped to Cape Town.²⁸⁸

After hiring a piece of land adjacent to Muizenberg beach and the services of two ex-RAF ground crew, they commenced flying on 22nd November 1919 by taking up members of the press so as to generate publicity for the joy riding operation.²⁸⁹ Even seeing aircraft from close quarters could be used to make money and so access to the airfield cost one shilling.²⁹⁰ The first season at Muizenberg soon established a *modus operandi* for the Solomon's company which traded as Aviation Limited. Short flights of ten minutes cost £3 3s and remained in the vicinity of the airfield; longer flights of 20 minutes went slightly further afield and cost £5 5s, while Cape peninsular sightseeing flights took passengers on a flight of around 40 minutes for an aerial tour that included Table Mountain, the city, Table Bay and the coast of the peninsular, all for £10 10s.²⁹¹ The brothers were careful to confine their flying to the straight and level so as to not alarm passengers and put off future customers. Their conservative approach must have worked as men, women and children of all ages went up as passengers.²⁹² On a few occasions a Solomon aircraft was hired to do a specific cross country flight. A Mr J

²⁸³ Anon, "Baragwanath air tragedy", *Rand Daily Mail*, 8th January 1921, p 9.

²⁸⁴ NV. Phillips, *Bush Horizons*, p 19.

²⁸⁵ Their escapades were recorded in greater detail than any others because of a series of four articles published in the *Cape Argus* in 1922 shortly after they stopped flying, which were later expanded upon in the 1953 book written by Frank Solomon.

²⁸⁶ F. Solomon, *And the Years Roll By*, p 65.

²⁸⁷ F. Solomon, *And the Years Roll By*, p 93.

²⁸⁸ F. Solomon, *And the Years Roll By*, p 94.

²⁸⁹ F. Solomon, *And the Years Roll By*, pp 96-97; *Cape Argus* 22nd April 1922.

²⁹⁰ *Cape Argus* 21st November 1919.

²⁹¹ F. Solomon, *And the Years Roll By*, p 102.

²⁹² F. Solomon, *And the Years Roll By*, p 100.

Versveld flew to Darling for his sixty-fifth birthday on 10th December 1919²⁹³ and a Dr Hugo was flown to Hermanus on the 24th December, with Shirley Solomon carrying out a few joy rides from the beach before returning to Muizenberg.²⁹⁴

Almost from the outset, the Solomons gained additional revenue from advertising products.²⁹⁵ The aircraft were covered in adverts for Shell petrol and this was possible because no aviation regulations yet existed in the country which required them to have aircraft registered and the registration letters displayed. Further advertising revenue came from two Worcester wine companies (Myburgh & De Kock and Krone & Co) which hired them to fly an aircraft to Worcester in January 1920 to publicise their products. This was partly done through an advertising campaign in newspapers which informed residents of Cape Town, Stellenbosch, Paarl, Wellington and Worcester, that vouchers for their products, to the value of £5, would be dropped in each place.²⁹⁶

Such was the success of this advertising venture, that the distilling companies (which had in the interim amalgamated into Myburg, Krone & Co) hired the Solomons to fly both aircraft to Port Elizabeth and to overfly various towns *en route* as part of a competition in which correctly judging the altitude over the town could win contestants products such as brandy and dried fruit.²⁹⁷ The flight to Port Elizabeth was undertaken on the 25th and 26th January 1920.²⁹⁸ The sojourn in Port Elizabeth was the first away from Cape Town for the Solomon's operation and it illustrated what could be achieved in the larger cities. Frank estimated that 20 000 people from the city and surrounding districts were at the landing ground to meet them. They were able to spend a week doing joy rides, being inundated with requests to fly, before returning to Cape Town.²⁹⁹

After their second season at Muizenberg in January 1920 and a third advertising charter flight on behalf of Myburg and Krone, this time to Mossel Bay, the Solomons decided to

²⁹³ *Cape Times*, 11th December 1919.

²⁹⁴ *Cape Times*, 25th December 1919.

²⁹⁵ F Solomon, *And the Years Roll By*, p103.

²⁹⁶ *Cape Times* 30th December 1919; *The Cape Argus* 2nd January 1920.

²⁹⁷ *Cape Times*, January 21st 1920; F Solomon, *And the Years Roll By*, p105. Judging by the newspaper advertisements and articles, Frank Solomon in his book appears to have confused the advertising carried out on the flight to Worcester with that on the flight to Port Elizabeth.

²⁹⁸ *The Cape Times*, 26th January 1920.

²⁹⁹ F Solomon, *And the Years Roll By*, p109; *Cape Argus* 27th January 1920; *Cape Argus* 22nd April 1922. Frank Solomon states in his book that they spent ten days in Port Elizabeth, but press reports would indicate a week (26th January to 2nd February). See for example, *Cape Times*, 4th February 1920 reporting on the return flight.

again take their operation further afield and settled on Port Elizabeth as the starting point, although Shirley spent a few days at Oudtshoorn en route. Predictably, the return visit to Port Elizabeth in March 1920³⁰⁰ did not yield as much success as the first, the novelty of seeing and flying in an aircraft no doubt having started to diminish. Although there was talk in the local press of setting up a regular passenger service between Port Elizabeth and Cape Town using bigger aircraft, the Solomons needed to make a living from their current fleet. Despite such attention-seeking stunts as flying over the show grounds and the race course and doing some aerial photography, it was apparent that business was slow.³⁰¹ This helped to prompt a decision to use the aircraft (named "Hermes" and "Hercules") separately in the interior of the Cape Province and for the next six months the brothers operated independently of each other.³⁰²

No comprehensive itinerary of the barnstorming during these months exists, although a reasonably good picture of Frank's movements can be pieced together from his writings and the Solomon scrapbook of newspaper cuttings.³⁰³ What this shows is how far afield (albeit within the Cape Province) he flew in order to tap into the market of rural folks willing to part with money for the thrill of a brief flight. After leaving Port Elizabeth in April 1920, Frank undertook joy rides at Middelberg, Graaf Reinett, Cradock, Somerset East, Tarkastad, Queenstown, Hopetown, De Aar, Britstown, Prieska, Marydale, Kenhardt, Upington, Calvinia and Murraysburg.³⁰⁴ There were other towns which he failed to name. Shirley's movements, probably limited to the western Cape, are not known apart from being at Knysna and Beaufort West.³⁰⁵ He almost certainly did not cover as much ground nor carry as many passengers, in part due to illness and his aircraft being damaged by wind at Beaufort West.³⁰⁶

This nomadic existence presented many challenges to the brothers and these must have been typical of those experienced by similar companies in the country. Among these problems were high winds; frequent engine failures; a lack of reliable maps;

³⁰⁰ *Eastern Province Herald*, 8th March 1920.

³⁰¹ *Eastern Province Herald*, 20th, 27th and 31st March 1920.

³⁰² F. Solomon, *And the Years Roll By*, pp117-119; *Cape Argus* 29th April 1922.

³⁰³ Frank Solomon's newspaper scrapbook in the collection of this author.

³⁰⁴ F. Solomon, *And the Years Roll By*, pp119-151; *Middelburg Echo* 13th April 1920; *Eastern Province Herald* 20th April 1920; *Somerset Budget* 8th May 1920; *Midlands News and Karoo Farmer* 8th May 1920; *GR Advertiser* 28th May 1920; *The Daily Representative and Free Press* 2nd and 3rd June 1920; *De Aar Echo* 11th June 1920; *North Western Press* (Prieska) 2nd July 1920; *Het Noord Westen* 24th August 1920

³⁰⁵ F. Solomon, *And the Years Roll By*, pp 119 and 148

³⁰⁶ *Motoring in South Africa* 1st August 1920

punctures due to devils' thorns; some very obese passengers and in at least one case (at Britstown), a *dominee* who forbade his flock from taking to the air because he deemed it an "ungodly act"! ³⁰⁷

Keeping in mind that almost none of the places the Solomons intended visiting had an airfield (the exceptions being the few towns where the RAF survey parties had prepared one) it might be assumed that this lack of infrastructure would have been a major hindrance. In fact this was not the case as a letter or telegram to most town councils asking for land to be cleared for the purpose of a landing ground, almost invariably resulted in a positive response, although the Solomons did sometimes pay for the work to be done.³⁰⁸ In the case of the first visit to Port Elizabeth, the council spent £600 on a landing ground, a not inconsiderable sum at the time.³⁰⁹ In most cases towns were so flattered to be hosting their first aircraft visit that they were only too happy to oblige. Because the preparation of landing grounds could cause delays, Frank did eventually take to landing at unprepared fields outside of settlements.³¹⁰ In some places show grounds and race courses also doubled as makeshift airfields.³¹¹

Another problem that arose out of flying across a country whose infrastructure was not yet geared to supporting aircraft, was that of obtaining fuel supplies. There were relatively few cars in South Africa at the time and hence garages were few and far between. Most of the time, the Solomons had to rail fuel to the places where they intended to give joy rides.³¹² Only once did they benefit from an unexpected windfall. At De Aar, Frank came across the substantial fuel cache of a failed aviation enterprise (the Handley Page Company, described below) and was able to not only refuel his own aircraft but also sell the balance to the local garage owner at a substantial profit.³¹³

After they had both returned to Cape Town in September 1920,³¹⁴ the Solomon brothers converted their by now well-travelled aircraft into three seat planes and carried on giving joy rides. The penultimate tour took them to areas north of Cape Town and

³⁰⁷ F. Solomon, *And the Years Roll By*, pp 110-111, 122, 134-135, *North Western Press* (Prieska) 2nd July 1920

³⁰⁸ F. Solomon, *And the Years Roll By*, p 123.

³⁰⁹ F. Solomon, *And the Years Roll By*, p 109.

³¹⁰ F. Solomon, *And the Years Roll By*, p 131.

³¹¹ See for example *The Daily Representative and Free Press* 3rd June 1920.

³¹² F. Solomon, *And the Years Roll By*, p 133.

³¹³ F. Solomon, *And the Years Roll By*, p 134.

³¹⁴ *Cape Times*, 3rd September 1920; *Cape Argus*, 8th September 1920.

into Namaqualand. Settlements visited included Caledon, Wellington, Paarl, Mooresburg, Picquetberg, Van Rhynsdorp, Clanwilliam, Ceres, Tulbach, Porterville, Darling, Vredeenburg and Hopefield.³¹⁵ The last barnstorming tour of country districts using both aircraft was in October 1920 and included Stellenbosch, Ceres, Worcester, Bredasdorp, Napier, Swellendam, Villiersdorp and Caledon.³¹⁶

At the same time as these tours were underway, the Solomons were canvassing support in the Cape coastal towns and cities for an air mail service as an adjunct to the mails ships. Although there was a favourable reaction, including the Port Elizabeth Chamber of Commerce pledging its support, the Postmaster General would not grant mail contracts to a private company. The alternative system, namely customers paying the aviation company directly, was not deemed practical.³¹⁷

In November another commercial opportunity presented itself. The Solomons were approached by the fishing and whaling company, Irvin & Johnson, to evaluate the feasibility of undertaking whale spotting for their fleet. Experiments were carried out at Saldhana, but although proving that the idea had some merit, no contract was forthcoming and in the absence of guaranteed employment, the brothers were forced to return to joy rides to make a living.³¹⁸

Back in Cape Town, the diminishing returns from the Muizenberg site led them to move to Green Point. They also started to use one of their employees (previously the company secretary and employed to survey landing fields for the joy riding in country districts) to assist while they were doing a feasibility study for an investor seeking to start a large aviation concern in the country. The new pilot was Captain AS Hemming DFC, who, true to form, was an ex-RAF officer.³¹⁹ A little over a week after starting to fly from the new venue, tragedy struck when, with three passengers aboard, Hemming accidentally flew into a tall smokestack at Green Point Common on Boxing Day 1920 and all four aboard "Hercules" perished.³²⁰

³¹⁵ *Cape Times*, 16th September 1920.

³¹⁶ *Cape Argus*, 20th October 1920.

³¹⁷ *Cape Argus*, 8th and 13th October 1920;

³¹⁸ F. Solomon, *And the Years Roll By*, pp113-116; *The Star* 26th November 1920; *Cape Argus* 4th December 1920; *Cape Argus* 29th April 1922.

³¹⁹ F. Solomon, *And the Years Roll By*, p 156.

³²⁰ *The Cape Argus*, 5th and 6th January 1921; F Solomon, *And the Years Roll By*, p 157.

Public confidence in flying, so carefully built up over the preceding years, was dealt a cruel blow. Although the Solomon brothers attempted to soldier on from Muizenberg, (having been banned from Green Point Common) starting a third season of flying in early 1921, they could not make a living from one aircraft and few customers.³²¹ Desperate for an alternative source of income from flying, they turned to aerial photography. Canvassing business from farmers, estate agents and Cape Town businesses they managed to keep the Company going for a few more months by selling aerial photographs of homes, factories and parts of Cape Town.³²² In July 1921 they did the first flight to Robben Island, then a leper settlement, and gave rides to the warders and their wives.³²³

The Solomons' flying came to an end when the remaining aircraft was crash landed into a sand dune after engine failure on take-off in April 1922.³²⁴ This ended a flying enterprise whose activities had spanned two years and four months, somewhat longer than most of the other companies in the field. Contemporary sources credit the Solomon brothers with having flown between 2500 and 3000 passengers during these years.³²⁵ Frank Solomon quoted their turnover as having been £13 000, but the cost of fuel, landing grounds, repairs and hotels meant that at the time of the fatal air accident, they had a mere £100 in hand.³²⁶

In the Eastern Cape, a company calling itself Air Flights Ltd was set up in East London in September 1920 using three Avro 504K aircraft, two of which had been purchased earlier that year in Britain by Major FW Honnet, who had been involved with the SA Aerial Transports company until earlier that year.³²⁷ His business partner was Basil Runnert. Although there was a stated intention of using the aircraft to assist whaling companies, the company probably limited itself to local joy rides. Engine failures led to two aircraft being written off (one at Cathcart and the other at Port St Johns) and by

³²¹ F. Solomon, *And the Years Roll By*, p 157.

³²² *The Cape Argus*, 29th January 1921 and 28th February 1921; F Solomon, *And the Years Roll By*, pp 158-162.

³²³ F. Solomon, *And the Years Roll By*, pp 153-156; *The Cape Argus* 25th July 1921.

³²⁴ F. Solomon, *And the Years Roll By*, p163; *Cape Argus*, 3rd April 1922; Memorandum for Civil Air Board 27th February 1923..

³²⁵ *Cape Argus*, 6th May 1925; *Department of Defence Annual Report*, year ending 30 June 1921.

³²⁶ F. Solomon, *And the Years Roll By*, p 157.

³²⁷ Anon. [motoring pages item] *Rand Daily Mail*, 30th June 1920; D. Becker, The Avro 504 in South Africa in *SA Flyer*, October 2009, p 34.

1921 it was down to a single machine.³²⁸ By July 1921 the company was in liquidation and the last aircraft was auctioned off in Uitenhage for £29 at the end of that month to pay off their creditors.³²⁹

In the province of Natal, there were two attempts at using War surplus aircraft commercially. Based in Durban, South African born ex-RFC and -RAF pilot Douglas "Duggie" Mail, AFC, set up the Aerial Stunts Syndicate around April 1920 using a single DH6 aircraft.³³⁰ The operation lived up to its name by offering the choice of both a "normal" short flight (for 30 shillings) and a "stunt" flight of twenty minutes (for £3 3s). Many passengers on the more daring of these two options begged to be returned to earth after only a few minutes, so it represented easy money for Mail until the police banned him from doing stunt flying over the city because of the alarm that it was causing.³³¹ Although Mail was able to do a lucrative trade for a month or so, the market began to dry up and he was forced to look at other options. In June it was announced that the company would be offering a tri-weekly service from Durban to Kokstad and from Kokstad to Umtata.³³² There is no evidence that a regular service became a reality although Mail started another company in 1921. Named the Natal Aviation Company it survived until 1924, probably on a combination of charter flights and joy rides.³³³ It is known that he made at least one foray into the Transvaal in February 1921 which saw him visit some towns in the eastern part of that province on a tour which was intended to continue to the Reef and then into the Orange Free State.³³⁴

³²⁸ *Department of Defence Annual Report*, year ending 30 June 1921, p 33; J. Illsley, *In Southern Skies*, p 92; D. Becker, The Avro 504 in South Africa in *SA Flyer*, October 2009, p 34.

³²⁹ Anon. "Aeroplane sold for £29", *Rand Daily Mail*, 30th July 1921, p 9.

³³⁰ Anon. *The Pictorial*, 7th May 1920, p 701.

³³¹ J. Byrom, *Fields of Air*, p16.

³³² *Natal Advertiser*, 4th June 1920.

³³³ Escourt High School's War Record in *Escourt Gazette*, 18th August 1956; Anonym, *Personalities in SA Motoring and Aviation*, p 341. Remarkably, given how obsolete his aircraft had become by then, Douglas Mail took the DH6 to Bulawayo in August 1927 and set up yet another venture. The Rhodesian Aviation syndicate was very short lived. On the first cross country charter flight with a local notable, Duc de Nemours, as passenger the aircraft was forced to land and never flew again. J McAdam, Birth of an Airline: Establishment of Rhodesia and Nyasaland Airways in *Rhodesiana*, Number 21, Dec 1969, pp 36-37.

³³⁴ Anon. "Flying in the Transvaal", *Rand Daily Mail*, 9th February 1921, p 5.

The other enterprise based in Natal was that of the Maritzburg Aviation Company set up in Pietermaritzburg in early 1920 by Holmes and Simpson who had, like Mail, imported a pair of DH6 aircraft for the purpose of operating local charter flights and joy rides. The first test flight was supposed to take place on 19th March 1920 and was to be conducted by Harrison but he refused when the engine seemed to malfunction. The next day, Major Walter Stockdale, an ex-RAF pilot teaching at Maritzburg College was persuaded to take on the task. He crashed on take-off from Scottsville after the elevator control cables were reversed! The aircraft was a write off, but Stockdale went on to carry out joy rides in the area in the second of the DH6 aircraft.³³⁵

The Department of Defence summary of all civil aviation in the country up to mid-1921 makes mention of "Hattersley and Sarigny" as an outfit that was carrying out passenger flights in Pretoria and the surrounding area using a DH6 initially and later a BE2e.³³⁶ It is possible that this report is inaccurate and that the DH6 was in fact that of Douglas Mail who was in the Transvaal for a period that year. There is no evidence that a BE2e was ever operated privately, although it is not impossible that one of the Wartime Miller recruiting aircraft was sold by the SAAF as it never operated the type. What is known is that a Mr Hattersley in partnership with a Mr F Booth started the Central Aircraft Company in September 1921. They bought one of the Avro 504K aircraft when the Ross-Thompson operation stopped. Taking off from Baragwanath the following month the aircraft was crashed causing serious injuries to Hattersley and his two passengers.³³⁷ This was probably the end of this enterprise.

One of the factors that allowed several companies to co-exist and ply their trade simultaneously was that there was very little overlap in the areas of the country in which they operated. This meant that there was virtually no competition for the population who were to be enticed into taking flights. Frank Solomon makes mention of only one other pilot being in direct competition to them for a few days and this was one of the

³³⁵ N.Juul, *Harvest of Optimism*, pp153-154; *The Natal Witness*, 22nd March 1920. Curiously, the operation at Pietermaritzburg did not feature in the Department of Defence summary of civil aviation in its annual report for the year ended June 1921.

³³⁶ *Department of Defence Annual Report*, year ending 30 June 1921, p 33.

³³⁷ Anon. "Aeroplane Crash", *Rand Daily Mail*, 17th October 1921, p 5.

Transvaal pilots (almost certainly from the South African Aerial Transports) during their second visit to Port Elizabeth.³³⁸

In contrast to the efforts of the joy riding operations, there was one company that proposed to operate much larger aircraft on a scheduled passenger and mail service, with local passenger flights being an additional source of income. The Handley Page South African Transport (Ltd) was a subsidiary of the British aircraft company that had risen to fame in the War as the manufacturers of the largest British bomber aircraft. In common with most other military aircraft, the large bombers were surplus to the needs of the RAF and the market for building them evaporated overnight on the cessation of hostilities. What the Handley Page O/400 bombers had in their favour, was that being twin engine aircraft with a good lifting capacity, they could be readily converted into passenger airliners (designated HP O/7) simply by fitting between fourteen and sixteen wicker seats into the section of the fuselage that had previously been the bomb bay and the fuselage fuel cells.³³⁹ In Britain the company became one of the first into the air transport field, using nine of the converted O/400 bombers as part of Handley Page Transport Ltd, which began operations in May 1919.³⁴⁰ In an attempt to exploit the British Empire market, Handley Page also set up businesses in India and South Africa with five and three aircraft being shipped to these countries respectively.³⁴¹

Having set up a base at Youngsfield in Cape Town in the closing months of 1919, the local company assembled the two aircraft in anticipation of starting operations. As with the companies already described, all of the pilots were South Africans who had flown with the RFC and RAF during the War. They comprised Major H Meintjies MC, AFC (manager and chief pilot), Captain CJ Venter DFC and Lieutenant CW Meredith AFC.³⁴² Like the barnstorming companies, Handley Page SA represents a perfect example of how the War produced the men and machines needed to establish the first civil aviation companies.

The Handley Page SA Company, after some test flights of the first aircraft assembled, carried out some joy riding flights over the Cape Peninsula in February 1920 and a flight

³³⁸ F. Solomon, *Flying Adventures in SA in Cape Argus*, 29th April 1922.

³³⁹ P. Ellis, *British Commercial Aircraft*, p 12.

³⁴⁰ P. Ellis, *British Commercial Aircraft*, p 12.

³⁴¹ D. Becker, *It Started with a Crash in SA Flyer*, May 2003, p40; J Illsley, *In Southern Skies*, p 66.

³⁴² L. Wyndham, *The Airposts of South Africa*, p 14.

with thirteen passengers to Saldhana and back.³⁴³ The Company also secured some advertising sponsorship from a local brandy manufacturer which resulted in "Commando Brandy" being emblazoned on the wings and fuselage!³⁴⁴

The ambitious aerial service planned by the company involved the establishment of a service between Cape Town and Johannesburg. The inaugural northbound flight was scheduled for 15th February 1920 and was intended to be completed in one day, spanning twelve hours from 6am to 6pm. A refuelling stop was planned at De Aar and mail bags would be dropped from the nose of the aircraft at Beaufort West and Kimberley. After a few days of joy rides on the Reef, the return flight was earmarked for local passenger flights at Kimberley and Beaufort West. No proving flight over a section of the route was undertaken and the consideration of possible setbacks in a confidential Company memo noted that "strong contrary winds" might make additional landings necessary and that "forced landings may result in the machine being behind scheduled times".³⁴⁵ Despite this being an as yet unproven service, seven passengers were carried on the first upcountry flight.³⁴⁶

The Handley Page aircraft, optimistically named "Pioneer", lifted off from the airfield at Youngsfield at 6:30am on the 15th February and was soon in trouble. The intention seems to have been to follow railway lines, but in trying to weave through the Hex River mountains (which already showed the limitations in the aircraft's performance), the pilots became horrendously disorientated over the Karroo and ended up landing on a farm about a hundred miles off track to get their bearings! Attempting to reach Laingsburg the pilots were forced down by fuel starvation and spent three days at Blaauwheuvell, 59 miles short of their destination. When fuel finally caught up with the aircraft, it was able to be flown to Laingsburg on the 18th and then to Beaufort West the same afternoon. The following day the flight resumed, but shortly after take-off a structural failure led to a forced landing in which the aircraft was wrecked, although

³⁴³ *Department of Defence Annual Report*, year ending 30 June 1921, p33; G De Vries, *Wingfield*, p 17.

³⁴⁴ J. Illsley, *In Southern Skies*, p 67.

³⁴⁵ Museum Africa, Aviation file 387.7, Company Itinerary for Cape Town-Johannesburg Mail Flight, 13th February 1920.

³⁴⁶ L. Wyndham, *The Airposts of South Africa*, p 15.

there were no injuries among those on board.³⁴⁷ The ill-fated first flight to Johannesburg came to an end five days after departure and with the aircraft still in the Cape Province.

Evaluating the commercial potential of the proposed service is very difficult given that the Company did not even achieve one successful flight. Reaching conclusions about the practicality of the service is somewhat easier. Even by the standards of the day, the operation appears to have been dangerously amateurish and could have ended in tragedy. Apart from the poor navigation ability displayed by the crew (admittedly in the absence of any navigation aids apart from maps and landmarks), the aircraft type was probably ill-suited to operating inland where the combination of altitude and high temperature bedevilled flying, compared to conditions in Europe. The headwinds encountered on some of the legs had reduced the speed of the lumbering plane to speeds of around 45mph, which was little more than that of a train, which was of course what the service was supposed to improve upon.³⁴⁸ The achievement of a regular Cape Town-Johannesburg air service would have to wait until the following decade. The Handley Page SA Company, after its ill-starred attempt at a passenger and mail service from Cape Town to Johannesburg, confined itself to local joy rides and advertising at Cape Town until June 1920 after which the company went into liquidation in September of that year.³⁴⁹

Appeals to the state

Although the preceding pages outline the full lifespan of each company's operations, it took only a few months of trying to make a living from flying, or facing the challenge of launching an aviation venture, for the key players on the South African scene to realise, by early 1920, that they were going to need government assistance and that meant financial support. The government, insofar as it displayed any interest in aviation, was looking at state regulation of the almost non-existent industry, through legislation. The only government initiative relating to aviation by the start of 1920 was a conference of various government departments in Johannesburg on 26th January 1920 to decide how civil aviation would be controlled and developed in South Africa.³⁵⁰ The cabinet had

³⁴⁷ Museum Africa, Aviation file 387.7, Anon, Handley Page Flight 15/19th February 1920, an assessment based mainly on Trevett's notes; L Wyndham, *The Airposts of South Africa*, pp15-16

³⁴⁸ D Becker, It Started with a Crash in *SA Flyer*, May 2003, p38.

³⁴⁹ *Department of Defence Annual Report*, year ending 30 June 1921, p33; G De Vries, *Wingfield*, p18.

³⁵⁰ DFA, CGS Gp 2, Box 20, File 13/3, Memorandum prepared by WW Hoy, 19th January 1920.

decided that aviation did not warrant a separate department (unlike Britain where an Air Ministry had been established) and that it should fall under the control of the Minister of Railways and Harbours who in turn delegated responsibility to the General Manager of SA Railways and Harbours, Sir William Hoy.³⁵¹ The January 1920 meeting led to the formation of the Civil Air Board on which sat representatives of the Defence Department, The Post Office, the Commissioner of Customs, the Government Mining Engineer and the Department of Irrigation.³⁵²

The conference set in motion fifteen months of inter-departmental conflict over which ministry should exercise control over aviation in the country. This was mainly instigated by Sir Roland Bourne, the Secretary of Defence, who had personal differences with Hoy and who believed that his pre-War involvement with aviation (the training of the first military aviators at Kimberley) made him better suited to the task.³⁵³ Bourne's mischief-making began with the January 1920 conference which he did not attend, instead delegating Captain EFC Lane to represent Defence so that Bourne could have, as he put it, a "free hand".³⁵⁴ He kept up a barrage of correspondence in the months that followed arguing for the Department of Defence to be responsible for *all* aviation, which at one point led the frustrated Hoy to threaten that he would resign from the position of Chairman of the Civil Air Board.³⁵⁵ Some of the arguments Bourne put forward were no doubt cogent at the time and included the technical expertise which existed within the emerging Air Force to supervise commercial aviation and that military aviation would be a necessity from the outset, while civil aviation would take longer to develop.³⁵⁶ He pointed out that "South African Railways and Harbours administration do not contemplate flying as a present factor in its transportation system and it is very unlikely that it can become a real factor as an adjunct to railway transportation for many years to come".³⁵⁷

³⁵¹ DFA, CGS Gp 2, Box 20, File 13/3, Memorandum prepared by WW Hoy, 19th January 1920.

³⁵² DFA, CGS Gp 2, Box 20, File 13/3, Minutes of conference to consider best method of control and development of civil aviation in South Africa, 26th January 1920.

³⁵³ DFA DC Gp 2, Box 424, File 51750, Sir Roland Bourne to Minister of Defence, 17th May 1920; Sir Roland Bourne to Minister of Railways and Harbours, 17th March 1921.

³⁵⁴ DFA DC Gp 2, Box 424, File 51750, Sir Roland Bourne to Minister of Railways and Harbours, 17th March 1921.

³⁵⁵ DFA DC Gp 2, Box 424, File 51750, Sir William Hoy to Colonel Mentz (Minister of Defence), 11th May 1920.

³⁵⁶ DFA DC Gp 2, Box 424, File 51750, Sir Roland Bourne to Minister of Defence, 4th February 1920.

³⁵⁷ DFA DC Gp 2, Box 424, File 51750, Sir Roland Bourne to Minister of Defence, 4th February 1920.

The cabinet was unmoved by Bourne's protests and having accepted the recommendations of the January 1920 conference, when they did decide to move control to another department in March 1921, it was to Posts and Telegraphs, thereby denying the military direct control of aviation.³⁵⁸ The issue would however emerge again a decade later and would have a different outcome. In the meantime, in the absence of aviation legislation, the Civil Air Board (which began drafting an aviation bill) was the only governmental body, albeit non-statutory, that could deal with any civil aviation questions that arose. At this point such enquiries arose as a result of the parlous state of the private flying enterprises in the Union.

Miller's appeal for financial assistance directed to the Prime Minister on behalf of SA Aerial Transports, has already been described, but on 15th May 1920, representatives of four companies met with Smuts to sound him out on the government's likely support for aviation if the companies were to amalgamate their interests. Smuts indicated that while the government did not favour a monopoly, it would look favourably at supporting a "combine". He advised them to draw up concrete proposals that could be presented to Hoy as chairman of the Civil Air Board and which would form the basis of a final submission to the Prime Minister.³⁵⁹

Following the encouraging meeting with Smuts, representatives of four companies met in Pretoria between 22nd and 25th June 1920 for the purpose of:

..considering the advisability of combining their several interests and to present a united opinion in order to obtain the most favourable consideration from the Government and so enable the latter to deal comprehensively with aviation matters without in any way, tending to favour any particular interest or Company engaged in aviation.³⁶⁰

The companies represented at this conference were: SA Aerial Transports (Major AM Miller and Colonel HJ Armes); Aviation Limited (the Solomon brothers represented by GL Graham and FCC Passman); the Handley Page Company (Major H Meintjies and Captain SM Wood) and the Vickers [aircraft] Company (Professor JH Dobson and

³⁵⁸ DFA DC Gp 2, Box 424, File 51750, Secretary of Minister of Railways and Harbours to Sir Roland Bourne, 18th March 1921.

³⁵⁹ DFA, DC gp 2, Box 1103, JH Dobson to WW Hoy, 29th June 1920.

³⁶⁰ DFA, DC gp 2, Box 1103, JH Dobson to WW Hoy, 29th June 1920.

Captain GR McCubbin). The first three of these companies were operating aircraft in the country at the time, while Vickers, via their local representatives, the Dowson and Dobson Company, were seeking to import and utilize their products.³⁶¹

In sending Hoy an overview of the conference on the 29th June, JH Dobson indicated that they were now in a position to present proposals to the government with a view to "obtaining a subsidy to assist the South African Commercial Aviation in the initial or pioneering stages of its development".³⁶² On behalf of the companies represented, he urged Hoy to urgently secure a decision from the government so as to allow the starting of aerial services as from 1st January 1921. To facilitate this he asked for a meeting of the companies with the Prime Minister, Minister of Defence, the Postmaster General and Hoy in his capacity as chairman of the Civil Air Board.³⁶³ Hoy declined the request for a meeting and asked that the detailed proposals be presented for tabling at the Board where the Post Office and the Department of Defence were both represented.³⁶⁴

By the time a set of proposals was sent to Hoy in August 1920, it emanated from Major H Meintjes of the Handley Page Company rather than Dobson and it is possible that by this stage only two of the four original companies were represented. SA Aerial Transports had gone out of business a few months earlier and Vickers may not have pursued its interests in South Africa at this point. In essence, what was put forward was a plan for government subsidization of regular air services for air mail and passengers for Pretoria and Johannesburg to Cape Town and to Durban, both working in conjunction with the mail ships from Britain. The state would help absorb the expected initial losses associated with offering these services by providing a subsidy that would start at £100 000 and reduce to £50 000 by the last two years. Much was made of the time saving afforded by air travel (about a quarter of that on train routes); the service to commerce and the promotion of civil aviation by governments in Germany, France, Italy, Canada and India. Among the other arguments in favour of this scheme, were some that were similar to Miller's earlier in the year. This included the notion that these civil aviation services could absorb the aviation personnel trained in the War which would mean that the government had at its disposal "in case of disturbances, a number of the most modern machines and accessories; fully trained pilots and personnel;

³⁶¹ DFA, DC gp 2, Box 1103, JH. Dobson to WW. Hoy, 29th June 1920.

³⁶² DFA, DC gp 2, Box 1103, JH. Dobson to WW. Hoy, 29th June 1920.

³⁶³ DFA, DC gp 2, Box 1103, JH. Dobson to WW. Hoy, 29th June 1920.

³⁶⁴ DFA, DC gp 2, Box 1103, WW. Hoy to JH. Dobson, 9th July 1920.

permanent hangars on aerodromes... and aerodromes constructed in different parts of the Union".³⁶⁵ Finally, in what was almost certainly a case of gilding the lily, the report stated that two of the aircraft manufacturers (Handley Page and Vickers) would look at starting factories in South Africa if the use of their products warranted this, thereby heralding an entire new industry in the country.³⁶⁶

The wheels of government turn slowly and so by the time the proposals of the four companies were tabled at the first meeting of the Civil Air Board in December 1920, two of these had gone out of business (SAAT and Handley Page) and one (Vickers) had no aircraft operating in the country. Still soldiering on were the Solomon brothers (Aviation Limited) and they used the fact that they alone were still flying as an argument in their own approach to the Minister of Defence and then the Civil Air Board. In proposing a government subsidy of an expanded air service they too pressed the argument that this civilian operation could provide a reserve squadron when required.³⁶⁷

In the absence of any bold state move to support civil aviation and with prevarication in terms of introducing legislation, the Civil Air Board in December 1920 recommended that "the whole question of subsidies in any form whatever remain over until legislation has been enacted".³⁶⁸ This was communicated to the Solomon brothers, who by this stage were the last company that could have materially benefitted.³⁶⁹

Enterprises that failed to get off the ground

In concluding this overview of the first short-lived flourish of civil aviation in South Africa, it should be mentioned that there were at least three stillborn ventures in the same period. Mention has already been made of the representatives of the Vickers aircraft company in the meetings with the government held in mid-1920. The company, represented by the Johannesburg engineering firm Dowson and Dobson, appears to have been acting as agents of this large British aircraft manufacturing company. Presumably they were hoping for government support for a passenger and mail service

³⁶⁵ DFA, DC gp 2, Box 1103, H. Meintjes to WW. Hoy, 11th August 1920.

³⁶⁶ DFA, DC gp 2, Box 1103, H. Meintjes to WW. Hoy, 11th August 1920.

³⁶⁷ DFA, DC Box 1103 , F. Solomon to WW. Hoy, 4th November 1920 and F. Solomon to H. Mentz, undated, c. October 1920.

³⁶⁸ DFA, DC gp 2, Box 1103, AC. McColm memorandum for Civil Air Board, 29th November 1920; Minutes of Civil Air Board, 6th December 1920.

³⁶⁹ DFA, DC gp 2, Box 1103, AC. McColm to F. Solomon, 23 November 1920.

which would justify the importation of Vickers products. In the absence of a positive government response, the venture collapsed.³⁷⁰

Another company that never took to the air, was the grandly named African Aerial Travel and Transport Company of one Victor Kelly. As early as May 1919, he had informed the Minister of Defence that his company proposed to start regular passenger and postal services in South Africa and Rhodesia. In June of the following year, Kelly informed the Postmaster General that in 1921 he would be flying air mail between almost all of the largest cities using a fleet of forty aircraft. Adding to the hyperbole, in August 1920, he claimed in a letter to the Civil Air Board, to have secured over four hundred mail and parcel contracts in the major cities. His service, he stated, would commence operations in February 1921 and he required no government subsidy. The response from the Board simply noted his plans and indicated that South African aviation legislation was likely to be passed the following year. Kelly's claims were probably all fabrications as nothing came of his proposed service although it was not the last that a government department heard from this individual.³⁷¹

The final example of an air service that got no further than a paper plan, was that put forward by B Joubert Celliers, the manager of the Benoni Garage Ltd in 1920. He proposed to set up an airmail service between Benoni and Delagoa Bay in the then Portuguese East Africa (today Mozambique). His modest scheme involved two Bristol Fighter aircraft on a direct service.³⁷² In some respects, Celliers seems to have done some sensible groundwork in that he had secured support from the Portuguese colonial authorities and he had selected a military surplus aircraft type which had been successfully used in Australia. The route was also the shortest distance from the Reef to a port city. However, the usefulness of the service would have been limited by the fact that the mail ships which served South Africa from Europe, first arrived in Cape Town. Putting the proposals to the Civil Air Board, Celliers asked whether an airfield would be established at Benoni; what the customs requirements would be and whether the mail service could be subsidized by the Post Office and the aircraft utilized by the Department of Defence (the latter on the understanding that they could be used by the

³⁷⁰ DFA, DC Box 1103 (Continued), JH. Dobson to Sir WW. Hoy, 29th June 1920.

³⁷¹ DFA, DC Box 1103 (Continued), Proposed services by African Aerial Travel and Transport Company, memorandum from AC. McColm for Civil Air Board, 29th November 1920.

³⁷² DFA, DC Box 1103 (Continued), BJ. Celliers (Benoni Garage) to Civil Air Board, 19th November 1920.

Air Force if needed).³⁷³ The Air Board ruled against establishing an airfield at Benoni and subsidizing civilian aircraft from the Defence budget. It intimated that an unsubsidized airmail service was feasible if arrangements were made with the Postmaster General.³⁷⁴ For reasons unknown, the service was never pursued by Celliers.

Conclusion

The immediate post-War years in South African aviation were broadly similar to many other countries in that improved aircraft technology, war-surplus aircraft and a surfeit of military-trained pilots, combined to give an initial impetus to civil aviation. Local flying conditions as well as the tardiness of the state in passing suitable legislation; offering no financial support and displaying a lack of imagination when it came to encouraging private aviation ventures, would be the main factors in the complete demise of commercial flying by 1921. The re-emergence of flying within the country, both military and civil, later in this decade would be largely due to the birth of an Air Force and that in turn would emanate from the War and the generosity of Britain in trying to give its self-governing dominions a head start in aviation.

³⁷³ DFA, DC Box 1103 (Continued), BJ. Celliers (Benoni Garage) to Civil Air Board, 19th November 1920

³⁷⁴ DFA, DC Box 1103, File RB/010, Minutes of Civil Air Board, 6th December 1920.

CHAPTER FOUR

PEGASUS AS A GIFT HORSE: THE ORIGINS OF THE SAAF

The Civil Air Board and the advent of aviation legislation

Before turning to the role that the Air Force would play in South African aviation in the 1920s, it is worth evaluating the position of civil aviation in South Africa by 1922 when private and commercial flying ceased to exist for some years. The Civil Air Board officially established in October 1920 concerned itself in the next six months primarily with the drafting of an aviation bill. During that time, three air accidents occurred in the country, two of them involving fatalities, which added to the pressure to have legislation enacted.³⁷⁵ By the time the board next met, control of civil aviation had been moved to the Minister of Posts and Telegraphs, although the constitution of the Board remained unchanged for the time being.³⁷⁶

The absence of aviation legislation was a major reason why aviation in the Union of South Africa lagged behind other British dominions. Australia passed an Air Navigation Act in 1920.³⁷⁷ By the end of 1923, Australia's Controller of Civil Aviation had established fifty-five landing grounds in the country along approved air routes. Several municipalities had set up airfields in Victoria, Queensland and New South Wales. Four air routes were being flown by private companies offering regular airmail and passenger services from Geraldton to Derby; Adelaide to Sydney; Sydney to Brisbane and Charleville to Cloncurry. The government subsidies on each of these routes amounted in that year to £25 000; £17 500, £11 000 and £12 000 respectively.³⁷⁸ By contrast, South Africa had no air services operating and the infrastructure was limited to one air force station (Zwartkop), the airfields created by the RAF parties (in 1918-9) and two cities (Durban and Cape Town) that had municipal airfields.³⁷⁹

The slow progress in local aviation attracted criticism both from within the country and from Britain. At its annual dinner in 1921, the Aero Club of South Africa directed

³⁷⁵ DFA, DC Box 1103, File RB/010, Minutes of Civil Air Board, 19th April 1921. The air accidents included the Solomon brothers' DH6 at Green Point described above; an Avro 504K at Baragwanath (with three fatalities) and a crash at Harrismith with no loss of life.

³⁷⁶ DFA, DC Box 1103, File RB/010, Minutes of Civil Air Board, 19th April 1921.

³⁷⁷ CGS Gp 2, Box 20, File 13/3, Memorandum for Civil Air Board, undated, c. November 1921.

³⁷⁸ CGS Gp 2, Box 20, File 13/3, Third memorandum for Civil Air Board, 2nd November 1923.

³⁷⁹ H. Klein, *Winged Courier*, pp 37-38; D. Becker, *Zwartkop*, pp 9-10.

negative comments against the government's lack of encouragement.³⁸⁰ The British aviation journal, *Flight*, in September 1921, under the heading "South Africa's Slow Progress", commented on the fact that the country seemed to be "suffering from a lack of enterprise, especially so far as the Union Government is concerned".³⁸¹

The Civil Air Board had drawn up a draft Aviation Bill by November 1921, but although it was put before parliament in the 1922 session, it did not pass into law that year. This was partly due to the fact that the Minister responsible, Sir Thomas Watt, was indisposed and partly due to more urgent legislation taking precedence.³⁸² The frustration of the chairman of the Board was expressed in correspondence with the Secretary of Defence in mid-1922 in which he stated that:

...the Board should again press upon the Government the urgent need for legislation so that there may be no artificial restriction to the development of air transport, particularly in view of the fact that South Africa is now practically the only country with no legislative provision for the regulation and control of air services.³⁸³

When the Aviation Act passed into law in 1923³⁸⁴ it represented a very succinct piece of legislation. Apart from ratifying the International Air Convention of 1919 in South African law, it dealt mainly with the regulation and licensing of pilots, aircraft and airfields in the country. The role of the Civil Air Board as an advisory body was confirmed in the Act. The carriage of air mails was subject to the approval of the Postmaster General. The only respect in which the law dealt with the overlap between military and civil aviation was in allowing civilian aircraft and airfields to be utilised by the Union Defence Forces or British forces during times of emergency or war.³⁸⁵

Britain's gifting of a substantial number of military surplus aircraft to the country had a limited influence on the thinking of those tasked with administering aviation in the Union. From the very first meetings of the Civil Air Board it is evident that the gift from

³⁸⁰ CGS Gp 2, Box 20, File 13/3, Memorandum for Civil Air Board, undated, c. November 1921.

³⁸¹ South Africa's Slow Progress in *Flight*, 1st September 1921.

³⁸² DFA, DC Gp 2, Box 403, File 50438, EFC. Lane to WW.Hoy, 14th June 1922; AC. McColm to R. Bourne, 22nd June 1922.

³⁸³ DFA, DC Gp 2, Box 403, File 50438, WW Hoy to R Bourne, 1st July 1922.

³⁸⁴ SA Aviation Act, Act 16 of 1923.

³⁸⁵ DFA, DC Gp 2, Box 403, File 50438, Draft Aviation Bill as approved by Civil Air Board, 16th November 1921; NTG. Murray, History of Civil Aviation in South Africa in *Personalities in South African Motoring and Aviation*, p 57.

Britain of over a hundred aircraft and other equipment was viewed as an aviation asset that could serve other government departments and pave the way for commercial enterprises. The Secretary of Defence, Sir Roland Bourne, at the first meeting of the Board in December 1920 expressed the view that once the Air Force was operational, it would be in a position to "consider the question of running experimental mail services and undertaking photographic surveys and other work on behalf of other government departments", the latter including railway and irrigation survey work. Such Air Force flying, it was argued, would also help civil aviation in the country by showing "the possibility of conducting civil work on a commercial basis and at the same time educate the public as to the value of aircraft services".³⁸⁶

Although it was readily acknowledged that the Air Force, once it was operational, could play a positive role in civil aviation, in a material sense, apart from parting with two Avro 504K trainers (to Miller's company), the SAAF possessively guarded its aircraft holdings. New Zealand, by comparison, accepted only thirty-three aircraft from the "Imperial Gift" and retained only six for government use, the remainder being loaned to companies for the development of civil aviation.³⁸⁷ In an interesting contrast to South Africa, the government of New Zealand on the advice of its own Air Board pushed civil aviation as a priority over military. This was at least in part a response to what one New Zealand aviation author has described as "the mood of disarmament after the 'war to end all wars'".³⁸⁸ The Avro 504K and DH9 aircraft released by the government to enterprising Kiwi aviators allowed entire companies to emerge, including the Canterbury Aircraft Company and the New Zealand Aero Transport Company.³⁸⁹

Given the considerably bigger number of aircraft accepted by South Africa, the possible usefulness of some of these in stimulating commercial operations could potentially have been far greater. This was at the core of a stinging editorial in *Flight* in September 1920 which criticised the acceptance of the "Gift" which it said had been "put to no use at all" despite the machines and stores being "offered and accepted for the definite purpose of giving a start to aviation in South Africa".³⁹⁰ Although this pointed to the fact that the "Imperial Gift" could have been the basis for establishing both military and civil aviation

³⁸⁶ DFA, DC Gp 2, Box 1103, Minutes of Civil Air Board, 6th December 1920.

³⁸⁷ DFA, CGS Gp 2, Box 20, File 13/3, Memorandum for Civil Air Board, 27th February 1923.

³⁸⁸ M. Wright, *Wings over New Zealand*, p 28.

³⁸⁹ M. Wright, *Wings over New Zealand*, pp 28-31.

³⁹⁰ Editorial, *Flight*, 26th August 1920.

in the country, it was somewhat premature in jumping to the conclusion that the "Gift" would not be used, considering that the equipment had only just arrived in the country and that an air force was still in the process of being established. The suggestion that the "Gift" aircraft were an under-utilized asset arose again during the 1923 parliamentary debate leading to the passing of the Aviation Act. Opposition MP Tommy Boydell of the Labour Party argued for the use of "Gift" aircraft for the establishment of an air mail service, adding caustically that the government had been quick to utilize these aircraft in suppressing industrial unrest and they were available for civil aviation purposes!³⁹¹

However, as will be shown, the SAAF, by becoming the biggest concentration of aircraft and aviation expertise in the country, would play a considerable role in the decade in support of government departments and private flying, once this re-emerged.

The "Imperial Gift" and the origins of the SAAF

If in the years immediately following the First World War, aviation in South Africa was dominated by the efforts of civilian operators, then the situation was reversed from 1921 as civilian flying all but disappeared and the South African Air Force (SAAF) came into being. As outlined above, the first foray into military aviation by the Union of South Africa had been the establishment in 1913 of the SAAC which went on to see limited service in the War. The founding of the SAAF however was as indicated a result of Britain's offer, in mid-1919, of one hundred aircraft, now surplus to RAF requirements, to each of its dominions. Unlike some of the dominions, General Smuts accepted this offer in its entirety and issued instructions for Captain EFC Lane and Colonel Pierre van Ryneveld to select the equipment and have it crated ready for shipment. When the Air Ministry indicated that it was not in a position to do the packaging, Smuts ordered the South African officers in London to hire discharged servicemen (at 2/6 a day) to do the job, rather than have a choice of "cast off machines".³⁹²

By September 1919, the full extent of the offer, which became commonly known as the "Imperial Gift", was detailed by the Air Ministry. In terms of aircraft, the British were donating two squadrons of DH9 aircraft (light bombers); an SE5a (fighter) squadron and

³⁹¹ Aviation in the Union, *Cape Times*, 24th March 1923.

³⁹² DFA, DC Gp 2, Box 975, EFC Lane to Colonel Herbert, 8th July 1919.

an Avro 504K training squadron. In support of these units would be spares, hangars, fuel, oil, fabric dope, photographic equipment, tools and vehicles.³⁹³ In short, the country was being given, in respect of equipment, a complete air force with sufficient consumables to operate for at least a year. The only equipment that the South African government turned down was an offer in 1920 of naval observation airships. Van Ryneveld advised against accepting these on the grounds of cost of the required hangar; the likely deterioration of the envelope and the fact that they probably could not be used inland.³⁹⁴

Outside of the "Imperial Gift", but constituting a potential further addition to the Air Force inventory, were two Handley Page 0/400 bombers apparently abandoned at Cape Town after the Handley Page SA Company went out of business. The Department of Customs and Excise withdrew these from a rummage sale in September 1921 and offered them to the Air Force, but Van Ryneveld indicated that they were of no use to the SAAF and declined to buy them.³⁹⁵

Although much of the writing about the origins of the SAAF refers to the fabled one hundred original aircraft, there were in fact additional aircraft that were obtained. The two BE2e aircraft used by Miller and Gearing in 1917-18 and still in South Africa, became the first types handed over to the Union.³⁹⁶ The Overseas Club donated ten DH4 light bombers³⁹⁷ and the City of Birmingham donated a further DH9.³⁹⁸

The hasty acceptance of the "Imperial Gift" meant that the country had secured the equipment for an Air Force (or an air wing) in advance of recruiting the personnel; establishing the first military airfield and most urgently, finding a storage facility for the equipment on its arrival. In the absence of any of these necessary elements being in place, the responsibility for at least securing the equipment on its arrival fell to the army. With Colonel van Ryneveld, the man destined to be appointed as Director of Air Services still in London, a somewhat exasperated Chief of the General Staff, Brigadier

³⁹³ DFA, DC Box 975, WA. Robinson (Air Ministry) to SA High Commissioner, 12th September 1919.

³⁹⁴ DFA, DC Gp 2, Box 975, P. Van Ryneveld to Department of Defence, undated telegram, c.10th July 1920.

³⁹⁵ DFA, DCGp2, Box 2165, File 623/12, Commissioner of Customs to Secretary of Defence, 7th September 1921; Secretary of Defence to Commissioner of Customs, 12th October 1921.

³⁹⁶ L. Wyndham, *Airposts of South Africa*, p12. The BE2e ("Rio de Janeiro Britons") was flown to Roberts Heights and handed to the Commanding Officer of Artillery on 30th October 1919.

³⁹⁷ DFA, DC, Gp 2, Box 975, Brig Gen JJ Collyer to Secretary for Finance, 13th February 1919.

³⁹⁸ D. Becker, The Avro 504 in South Africa in *SA Flyer*, October 2009, p 32.

General JJ Collyer, was obliged to set up a depot to receive the first consignments of aviation equipment at the end of 1919. Believing that "all our military establishments should be concentrated as far as possible at Roberts Heights", he set in motion the creation of what would become the Aircraft and Artillery Depot (hereafter referred to simply as the Aircraft Depot) within the main military base.³⁹⁹ This move effectively determined the siting of the first air station at nearby Swartkop a few years later.⁴⁰⁰

The shipping of the "Imperial Gift" almost immediately created three unforeseen scenarios. The one arose from the fact that the military was now in possession of the largest repository of aviation-related stores in the country, but was not yet operating an air force. The second was that the "free" "Gift" had major cost implications in terms of shipping and railing the bulky aircraft crates, the latter item alone incurring a cost of around £100 000.⁴⁰¹ The third was that it became apparent that the government's military eyes in accepting the gift from Britain was to prove to be bigger than the treasury's stomach for funding its operation within the defence budget. The implications of these interrelated issues began to play out during 1919 and 1920.

The local civilian flying companies viewed the equipment and supplies of the "Imperial Gift" as a convenient resource on which they could draw in the absence of any other aviation supplies in the country. Almost every company approached the Defence Force (and more particularly the Depot) and purchased items. Apart from the sale of two Avro 504k trainers to Miller's company and a propeller to J Simpson for one of his DH6 aircraft, it is not known exactly what was being purchased by the other companies, although the small figures involved would seem to indicate that it was probably oil, fuel and fabric dope.⁴⁰² It was the requests by Simpson and Miller which first raised the question of whether and how items from the "Imperial Gift" should be sold to civilian operators.⁴⁰³

In May 1920, the Secretary for Defence was proposing that the Financial Under Secretary look into the creation of "a replacement fund into which proceeds of sales of

³⁹⁹ DFA, DC Gp 2, Box 975, Brig Gen JJ. Collyer to Secretary of Defence, 29th November 1919.

⁴⁰⁰ J. Illsley, *Swartkop 1921-1986*, p 4.

⁴⁰¹ DFA, DC Gp 2, Box 975, Memorandum to Secretary of Defence, 24th May 1920.

⁴⁰² DFA, DC Gp 2, Box 976, Sales of Aircraft Stores on Repayment 1920-21, undated table of sales.

⁴⁰³ DFA DC Gp 2, Box 976, J Simpson to Officer Commanding Air Force, 10th May 1920; Under Secretary of Finance to Secretary of Finance, 20th May 1920.

"Gift" air equipment should be credited".⁴⁰⁴ In motivating the creation of this fund to the Secretary of Finance, the Under Secretary pointed out that until the Union Air Force was properly constituted it would not be possible to make full use of the "Gift" from the British government. Furthermore, private firms, he stated, were aware that the government held machines and spare parts "greatly in excess of immediate needs" and that applications were being received to purchase items, including two Avro trainers. It was argued that if the Defence Department was allowed to maintain the proceeds of such sales in a special account it would in the future allow the "Union Government eventually to purchase more up-to-date material".⁴⁰⁵

By September 1920, the Treasury had agreed to the creation of an Aircraft Replacement Fund with funds being lodged with the Public Debt Commissioners.⁴⁰⁶ This later had to be amended in legislation in the Financial Adjustments Act.⁴⁰⁷ During the negotiations which led to this decision, the question of whether the government was entitled to sell items from the Gift and hold the funds also had to be dealt with to the satisfaction of various departments.⁴⁰⁸

It is possible that had the small aviation companies survived for longer, that they would have depended on the Air Force stores to a greater extent. Nevertheless the Imperial Gift did, in a small way, play a role in the earliest post-war civil aviation enterprises.⁴⁰⁹ The Air Force for its part, materially benefitted from the Aircraft Replacement Fund for a decade, in that £23 757 accrued to this account from the sale of "Imperial Gift" items from 1920 to 1931. This helped mainly in the period 1926 to 1928 to finance the purchase of aircraft engines, parachutes and the aircraft to be used for evaluating a new trainer.⁴¹⁰ One of the largest projects that drew on the fund was the installation of new engines in four Avro 504 and four DH9 aircraft in 1926 at a cost of £13 000. This allowed the Air Force to upgrade the ageing aircraft within the limited defence budgets

⁴⁰⁴ DFA, DC Gp 2, Box 976, Under Secretary of Finance to Secretary of Finance, 20th May 1920.

⁴⁰⁵ DFA, DC, Gp 2, Box 976, Under Secretary of Finance to Secretary of Finance, 25th June 1920.

⁴⁰⁶ DFA, DC Gp 2, Box 976, Secretary for Finance to Secretary for Defence, 27th September 1920.

⁴⁰⁷ DFA, DC Gp 2, Box 976, Secretary for Finance to Secretary for Defence, 25th November 1920.

⁴⁰⁸ DFA, DC Gp 2, Box 976, Under Secretary of Finance to Secretary of Finance, 20th May 1920; Secretary of Defence to Financial Under Secretary, 6th July 1920.

⁴⁰⁹ Government departments also purchased items from the Imperial Gift, including vehicles purchased by the Department of Posts and Telegraphs. All income from these sales also accrued to the Aircraft Replacement Fund.

⁴¹⁰ DFA, DC Gp 2, Box 975, Memorandum: History of Aircraft Replacement Fund, 20th May 1935.

without having to replace entire aircraft.⁴¹¹ The Air Force had thus benefitted from the sale of assets to the civil aviation interests and other government departments. Viewed differently, the sale of some of the Imperial Gift helped to ensure that the balance continued to serve the Air Force throughout the 1920s and, in the case of some equipment, into the next decade.⁴¹²

By 1921, the creation of a functioning Air Force was underway. Colonel, now Sir, Pierre van Ryneveld, as the Director of Air Services, was back in South Africa having become one of the first two men, together with Quintin Brand, to fly aircraft from Britain to Cape Town, for which achievement he had received a knighthood.⁴¹³ Although the Imperial Gift made possible the creation of a sizeable air force, it became obvious at the outset that the defence budget was going to limit the force size considerably. By the time Van Ryneveld met with the Chief of the General Staff and the Quartermaster General, among others, in February 1921 to discuss how the "Imperial Gift" would be utilized and disposed of, the government's initial plan was to bring a single squadron into being in 1921-2 and a second squadron in 1922-3, each consisting of eighteen aircraft. It was within this financial stringency, that the military top brass had to make decisions regarding the use of the aviation "Gift" from Britain. They were under pressure from the Secretary of Defence, HRM Bourne, to work out the costs associated with a functioning air force so that the anticipated increase in expenditure could be justified "not only from the point of view of the military value of the Force, but also of its general usefulness to the Union of South Africa."⁴¹⁴ In this respect, Bourne anticipated that the Air Force would render services to other government departments (he quoted aerial surveying of the Orange River islands as an example); be responsible for "all the executive work in connection with the control of civil flying" and carrying out the "experiments as to the

⁴¹¹ DFA, DC Gp 2, Box 976, Financial Under Secretary to Secretary for Finance, 27th March 1926. The upgrade of DH9 and Avro 504K aircraft involved the purchase of Bristol Jupiter and Lucifer engines and Armstrong Siddeley Jaguar and Lynx engines.

⁴¹² Some of the DH9 aircraft were converted as trainers and were being used in this role in the early 1930s. Hangars used at Roberts Heights (to house the AAD) and at Zwartkop Air Station would be in use for several decades.

⁴¹³ M. Barraclough, *The Race for the Cape*, pp 31-38.

⁴¹⁴ DFA, DC Gp2, Box 390, File 41387, Secretary of Defence to Chief of the General Staff, Memorandum on Services rendered by the Union Air Force, 12th February 1921.

practical commercial uses to which flying can be put", for which he used air mail as an example.⁴¹⁵

The February 1921 conference decided that "steps must be taken to dispose of as much of the Imperial Gift as the department [of Defence] does not require immediately for the development of a small air force". To this end, the Aircraft Replacement Fund was endorsed, but with an important rider, namely that future replacement equipment could not be financed purely from the fund and that additional parliamentary votes would be required periodically.⁴¹⁶

More important to the role the Air Force would play in serving other government departments and civil aviation in the country as a whole, were those decisions relating to how it was envisaged this aviation entity could be utilized beyond a purely military function. In determining how other government departments would be charged for stores utilized in, for example, carrying out aerial surveys, the military were indicating that they anticipated this support role as one they would play.⁴¹⁷ Government departments would not be charged for the use of personnel as such flying would be treated as training. Similarly, it was recognised that the Air Force workshops (part of the Aircraft and Artillery Depot) represented a body of technical expertise that could benefit civil aviation. Van Ryneveld made the point that: "...one great reason why civilian flying is financially precarious is that workshop machinery for the repair of aircraft is so expensive as to be practically beyond the reach of private enterprise".⁴¹⁸ Based on this reading of the South African aviation landscape at this time, the conference decided that "...in making Aircraft Workshops available for repair work in connection with civilian flying incentive will be given to such undertakings".⁴¹⁹ Despite the fact that civil aviation was about to enter a hiatus for the next few years, with no civil flying in the country after the demise of the various joy riding operations, the unanimous decision to allow the Air Force workshops to be used by private and commercial aviators would play a

⁴¹⁵ DFA, DC Gp2, Box 390, File 41387, Secretary of Defence to Chief of the General Staff, Memorandum on Services rendered by the Union Air Force, 12th February 1921.

⁴¹⁶ DFA, DC Gp 2, Box 976, Finance Under Secretary, Department of Defence to Secretary of Defence, Memorandum: Services rendered by the Union Air Force, 14th February 1921, pp 1-4.

⁴¹⁷ DFA, DC Gp 2, Box 976, Finance Under Secretary, Department of Defence to Secretary of Defence, Memorandum: Services rendered by the Union Air Force, 14th February 1921 pp 4-5.

⁴¹⁸ DFA, DC Gp 2, Box 976, Finance Under Secretary, Department of Defence to Secretary of Defence, Memorandum: Services rendered by the Union Air Force, 14th February 1921, p 5.

⁴¹⁹ DFA, DC Gp 2, Box 976, Finance Under Secretary, Department of Defence to Secretary of Defence, Memorandum: Services rendered by the Union Air Force, 14th February 1921, p 5.

significant part in helping to maintain civil aviation when it did reappear. The basic principles of charging for Air Force labour and stores were worked out at this conference, some years ahead of them being utilized.⁴²⁰

The weak economy of South Africa in the years following the War was to impact adversely on the size of the original Air Force establishment strength. By mid-1921, the limited budget allocation envisaged for "air services" within the Defence budget for 1921-22 was forcing Van Ryneveld to put forward proposals for the smallest viable air wing that could be sustained on a miniscule £68 000.⁴²¹ This meant that the Air Force would come into being with only two flights of aircraft or less than one full squadron. The balance of the budget would be needed for personnel; completing the aircraft depot and erecting hangars at Zwartkop.⁴²² It is therefore hardly surprising that Van Ryneveld would have to use any means possible to show the usefulness of the Air Force.

One of the obvious uses to which air force aircraft could be put to use was in the flying of airmail as part of a government-sponsored system. In the USA such a scheme had given that country one of the world's first scheduled airmail services. Such a suggestion was not long in coming. In August 1921, the Postmaster General, on behalf of the Minister of Posts and Telegraphs, Sir Thomas Watt, approached the Secretary for Defence to enquire as to the possibility of the Air Force carrying out experimental air mails services.⁴²³ Because the Air Force was still in the process of setting up its infrastructure and assembling its first personnel, the response was that the "South African Air Force was not yet sufficiently developed to undertake the carriage of mails", but there was an indication that by early the following year it might be able to carry out an experiment.⁴²⁴ The following year Van Ryneveld indicated that the SAAF was able to provide aircraft and pilots for a Cape Town-Pretoria service, but that the Defence budget would not permit the establishment of emergency landing grounds on the route or the manning of intermediate aerodromes, so that this cost would have to be borne by

⁴²⁰ DFA, DC Gp 2, Box 976, Finance Under Secretary, Department of Defence to Secretary of Defence, Memorandum: Services rendered by the Union Air Force, 14th February 1921, p 6.

⁴²¹ DFA, DC Gp 2, Box 475, File 52219, Secretary of Finance to Minister of Finance, 25th June 1921.

⁴²² DFA, DC Gp 2, Box 475, File 52219, Director of Air Services to Secretary of Defence, 4th June 1921.

⁴²³ DFA, CGS, Gp 2, Box 20, Postmaster-General to Secretary for Defence, 22nd August 1921.

⁴²⁴ DFA, CGS Gp 2, Box 20, Postmaster General to Minister of Posts and Telegraphs, 17th September 1921.

Posts and Telegraphs. Since that Department was also not in a position to foot the bill at a time of economic recession, the proposal was again put on hold.⁴²⁵

In 1923, the confluence of several developments made the introduction of an air mail service more likely. That year saw the passing of the Aviation Act which provided for a legal framework within which civil aviation could function.⁴²⁶ The Civil Air Board, which had been meeting since 1920, now also had a legal basis as an advisory body and significantly, the chairman of this board would now be the Minister of Posts and Telegraphs, effectively placing the control of civil aviation under that government Department. The Minister of Posts and Telegraphs kept up pressure on his counterpart at Defence, Colonel Mentz, to use the Air Force for an experimental air mail service. Since the Air Force would, in the course of its routine flying be carrying out cross country flights, he suggested that some of this flying could be utilized for the speeding up of mail delivery, by a day, from the coast to Johannesburg. Pointing to the progress in the USA, Europe, Australia and the air mails service in the Belgian Congo, he encouraged cooperation between the two departments in making this a reality.⁴²⁷ The Civil Air Board, meeting in October, put forward the recommendation that if the SAAF was unable to operate an experimental service due to financial reasons, that the government budget an amount in the 1924-25 financial year for the Air Force to fly an experimental service between Pretoria-Johannesburg and Cape Town for three months. The Director of Air Services was asked to produce cost estimates. The Board used the Australian government's extensive subsidization of air routes to help justify the need for a state initiative in South Africa which was lagging badly in the development of civil aviation. The Board saw the experimental service as a means of gathering data on the support such an air mail service would enjoy from the commercial community and the practical issues associated with operating such a service. This would be used to help the Board decide how best to encourage civil aviation in the country.⁴²⁸

By the time the Civil Air Board met in November 1923, the Department of Defence was able to provide figures for an experimental air mail service. Although the Air Force had the capacity to undertake the service, Brigadier General AJE Brink representing the

⁴²⁵ DFA, CGS Gp 2, Box 20, Postmaster General to Minister of Posts and Telegraphs, March 1922.

⁴²⁶ SA Aviation Act, Act 16 of 1923.

⁴²⁷ DFA, CGS Gp 2, Box 20, Private Secretary of Minister of Posts and Telegraphs to Private Secretary of Minister of Defence, 29th May 1923.

⁴²⁸ DFA, CGS, Gp 2, Box 20, Minutes of Civil Air Board meeting 18th October 1923.

Department of Defence, emphasised that it could not afford the additional expenditure which would have to be carried by other government departments. The scheme was estimated to cost £12 000. Agreement was reached that the Air Force would absorb the salaries and wages of Air Force personnel and some of the costs arising from maintenance and fuel. The Post Office would pay £8000 towards the balance, including an airfield at Cape Town and hangars en route.⁴²⁹ This formed the basis of a report submitted to the Minister of Posts and Telegraphs a few days after the two meetings of the Civil Air Board in November 1923.⁴³⁰

In recommending that the government budget for the experimental mails service the following year, the Board put forward several arguments in support of its proposal. In making the case for government subsidization of civil aviation in its "earlier stages", the report placed at the forefront the fact that "the existence of civil aviation is a valuable asset to the Defence Force of the country".⁴³¹ Civil aviation was presented as a means of creating a reserve that would be "available as a backing to the air force of the country".⁴³² Although the benefits accruing to the "commercial community" and to a large country as a whole were also mentioned, it is striking how civil aviation was viewed in this light.⁴³³ The role of military aviation in the War and the aviation asset which the SAAF represented in the absence of commercial aviation at this juncture, almost certainly influenced thinking along these lines. The role that an air force could play in a country ruled by a white minority was never explicitly stated, but there was a hint that this was a major justification for its existence.

The SAAF had first seen action the previous year when it played a significant and controversial role in suppressing the 1922 Rand Revolt. This mine workers strike had become a violent confrontation between the Smuts government and disaffected white gold miners on the Reef.⁴³⁴ Clearly the Air Force could play a role in suppressing internal dissent in addition to providing an arm of the country's defence. Whatever the

⁴²⁹ DFA, CGS Gp 2, Box 20, Minutes of Civil Air Board meetings held on 6th and 9th November 1923.

⁴³⁰ DFA, CGS Gp 2, Box 20, Report of the Civil Air Board on proposed inauguration of a Civil Air Mail Service in the Union, 13th November 1923.

⁴³¹ DFA, CGS Gp 2, Box 20, Report of the Civil Air Board on proposed inauguration of a Civil Air Mail Service in the Union, 13th November 1923.

⁴³² DFA, CGS Gp 2, Box 20, Report of the Civil Air Board on proposed inauguration of a Civil Air Mail Service in the Union, 13th November 1923.

⁴³³ DFA, CGS Gp 2, Box 20, Report of the Civil Air Board on proposed inauguration of a Civil Air Mail Service in the Union, 13th November 1923.

⁴³⁴ R.Ross, *A Concise History of South Africa*, p 113.

chief considerations of the Civil Air Board, it was clear in its recommendations that the experimental air mail should run for only three months and that "it should then be left to civil aviation companies to make proposals in regard to permanent civil aviation services in South Africa".⁴³⁵ The fact that the British Vickers aircraft company was again making enquiries as to the possibility of establishing government subsidized air services in the country, may have contributed to the confidence that proving the viability of such services by way of an initial government-operated service would indeed help stimulate interest among commercial concerns.⁴³⁶ Unfortunately all of the work done to initiate an experimental air mails service in February 1924 came to nought in that year, because when tabled at a Cabinet meeting, the financial situation again put paid to the proposal.⁴³⁷

Almost a year would pass before the next move would be made to bring to an end the long gestation of a South African airmail service, albeit an experimental one. During that year there was a change of government to the so-called Pact Government, a coalition of the National Party and Labour Party.⁴³⁸ The new Minister of Posts and Telegraphs, Thomas Boydell, of the Labour Party was determined to move the matter along. He asked for revised cost estimates for operating commercial inland and coastal routes and once these were ready, requested that he be present at the next meeting of the Civil Air Board.⁴³⁹ This took place on the 28th October 1924 and there was again some haggling over which department would bear the bulk of the cost, with Defence insisting that the Post Office carry the lion's share. Van Ryneveld tried to adopt an extreme position by arguing that sinking money into the Air Force was more cost effective than subsidizing civil aviation. Since the proposed air mail scheme was an attempt to stimulate the growth of civil aviation enterprises, his position received no support. The recommendation of the previous year was again put forward for government consideration but with one important change, namely that the experimental service should run from Cape Town to Durban and back, as Durban stood to gain more

⁴³⁵ DFA, CGS Gp 2, Box 20, Report of the Civil Air Board on proposed inauguration of a Civil Air Mail Service in the Union, 13th November 1923; Secretary of Civil Air Board to Brigadier General AJE. Brink, 7th November 1923.

⁴³⁶ DFA, CGS Gp 2, Box 20, Report of the Civil Air Board on proposed inauguration of a Civil Air Mail Service in the Union, 13th November 1923; Secretary of Civil Air Board to Brigadier General AJE. Brink, 7th November 1923.

⁴³⁷ DFA, CGS Gp 2, Box 20, Extract from Civil Air Board Memorandum number A.29070/19 of 6th February 1924.

⁴³⁸ R. Ross, *A Concise History of South Africa*, pp 113-114.

⁴³⁹ DFA, GGS Gp 2, Box 20, T Boydell to Acting Postmaster General, 1st October 1924.

commercial benefit in terms of speeding up mail received from the Union Castle mail ships.⁴⁴⁰ This became the basis for the Civil Air Board's report to the Minister the following month on which he would put the proposal to the Cabinet. The projected loss over revenue from carrying letters and parcels on the route over three months in Air Force aircraft was placed at £4 795.⁴⁴¹

The Board's proposal was approved by the government on the 16th January 1925 and thanks to an amount of £9000 being voted by parliament, the experimental airmail service became a reality. While the Air Force would carry out the operation, the amount which was voted for the service would be to the Posts and Telegraphs budget to cover additional costs including fuel, oil, hangars and ground transport as well as absorbing the estimated loss on the entire exercise.⁴⁴² Airfields were set up by local municipalities at Wynberg (Cape Town), East London and Mossel Bay in addition to the existing one at Durban. Air force hangars were erected at each airfield.⁴⁴³ Airmail stamps and postmarks were produced and the Post Office set up a system to tie in with the new service.⁴⁴⁴ As the first of its kind in South Africa, the experimental airmail service would place the fledgling Air Force under close public scrutiny. For this reason, Van Ryneveld in the opening paragraphs of the standing orders for the pilots of the service included the reminder to his men:

The Air Force is, so to speak, on trial with the Public and much depends on its ability to carry out this demonstration Mail Service in an able and highly satisfactory manner. By so doing it not only demonstrates its ability to undertake such duties should necessity arise, but also paves the way for civilian effort. All must clearly realise, therefore, that prompt and safe delivery of the mail is dependent upon their individual efforts.No other considerations should be allowed to interfere in any way with the primary scheme.⁴⁴⁵

In February 1925 a trial flight took place down the coast from Durban to test the system which was to have pairs of DH9 aircraft flying each of the legs between Durban, East

⁴⁴⁰ DFA, CGS Gp 2, Box 20, Minutes of the Civil Air Board meeting, 28th October 1928.

⁴⁴¹ DFA, CGS Gp 2, Box 20, Second Report of the Civil Air Board on proposed inauguration of a demonstration air mail service between Durban and Cape Town, 8th November 1924.

⁴⁴² DFA, CGS Gp 2, Box 21, SA Air Liaison Letter number 1, 13th February 1925.

⁴⁴³ DFA, CGS Gp 2, Box 21, SA Air Liaison Letter number 1, 13th February 1925.

⁴⁴⁴ L. Wyndham, *The Airposts of South Africa*, pp 22-24.

⁴⁴⁵ DFA, DC Gp 2, Box 521, Standing Orders Air Mail Service, Cape Town-Durban, 3rd February 1925.

London, Port Elizabeth, Mossel Bay and Cape Town.⁴⁴⁶ An accident at Mossel Bay related to the foggy conditions led to Oudtshoorn being substituted for the coastal town for the service.⁴⁴⁷ The first official mail flight left Cape Town on 2nd March 1925 with the first official return flight setting out from Durban on the 5th March.⁴⁴⁸

The experimental service continued until the 15th June 1925 and although run with 100% efficiency and with no serious accidents, the revenue was disappointing.⁴⁴⁹ The Air Force had done itself proud by maintaining an efficient service, often through adverse weather. In doing so, its main achievement was in carrying out a "proof of concept" demonstration. It is worth noting that in the year ending June 1925, the SAAF had flown 1065 hours in service of the mails service compared to 1825 hours on all other flying it undertook within the country that year.⁴⁵⁰

As indicated by the Civil Air Board, the future of air services would lie with private enterprise and four years would elapse before anyone took up the challenge of flying mail and passengers on the back of a limited £8000 per annum government subsidy, available for three years. In 1929 Allister Miller started Union Airways which constituted the first commercial scheduled air services in the country.⁴⁵¹ The amount set aside by the government for assisting a private company to start a commercial air service was based on the figures obtained from the experimental mails service and the assumption that a civilian operation would use more economical aircraft than the military type used by the SAAF for the experimental service. Nevertheless, just how conservative was the South African government's commitment to civil aviation can be judged by comparing it with the Australian example in the same period. In 1927, that Dominion's government voted an additional £200 000 for the development of civil aviation, bringing the total allocation per annum to £315 000. This disparity was something which the Secretary of the Civil Air Board was at pains to point out, although it did nothing to alter government policy.⁴⁵²

⁴⁴⁶ L. Wyndham, *The Airposts of South Africa*, p 18.

⁴⁴⁷ L. Wyndham, *The Airposts of South Africa*, p 18.

⁴⁴⁸ L. Wyndham, *The Airposts of South Africa*, p 19.

⁴⁴⁹ L. Wyndham, *The Airposts of South Africa*, pp 21-25.

⁴⁵⁰ Annual Report of the Department of Defence, Year ended 30th June 1925, p 22.

⁴⁵¹ L. Wyndham, *The Airposts of South Africa*, pp26-27; H Klein, *Winged Courier*, p 71.

⁴⁵² DFA, CGS Gp 2, Box 20, Memorandum from Secretary of the Civil Air Board, PL Lindup, to members, 25th October 1927.

The experimental air mail service represented the most ambitious undertaking of the Air Force in a role associated with civil aviation, but there were several other instances in the 1920s of the SAAF taking on tasks on behalf of government departments or in support of state enterprises. One of the roles which the Air Force was able to fulfil from its first years of flying was that of aerial photography because all of the requisite equipment was included in the "Imperial Gift".

In July and August 1925, two SAAF aircraft assisted the Department of Irrigation in a scheme to survey and photograph areas of the Zambezi and the Chobe from Livingstone with a view to setting up an irrigation scheme for the Kalahari.⁴⁵³ Between August 1925 and February of the following year, an aircraft was fitted with an experimental hopper for the dusting of Eucalyptus plantations to combat Snout Beetles.⁴⁵⁴ In 1926 aerial photography was carried out in the Transkei on behalf of the Surveyor General for the purpose of mapping the "native reserve".⁴⁵⁵ With the acquisition of F.8 aerial cameras by mid-1928,⁴⁵⁶ the Air Force was able to offer an improved aerial survey capacity and consequently by the end of the decade was taking on work for several government departments including the Department of Irrigation (the Vaal-Harts irrigation scheme); SA Railways (Waterval Boven, Waterval Onder, Belfast and Machadadorp) and the Coastal Service (Saldhana Bay).⁴⁵⁷ Although a British company, The Aircraft Operating Company (AOC) was at the time carrying out survey work in Northern and Southern Rhodesia,⁴⁵⁸ no such enterprise existed in South Africa and so it fell to the Air Force to carry out such tasks on behalf of government departments. In doing so, this section of the Defence Force, could justify the relatively expensive costs associated with operating even a small air force.

The establishment in the mid-twenties of a state-owned diamond mine at Alexander Bay gave the Air Force a regular function in serving a government enterprise. The distance between the mine and Cape Town (from where the diamonds were shipped to Europe for cutting), made the task of transporting them overland too risky. An aerial

⁴⁵³ Annual Report of the Department of Defence, Year ended 30th June 1926, p29; D. Becker, *The Eagles of Swartkop*, p 27.

⁴⁵⁴ Annual Report of the Department of Defence, Year ended 30th June 1926, p29; D. Becker, *The Eagles of Swartkop*, p 27.

⁴⁵⁵ Jaarverslag van die Departement van Verdediging vir die boekjaar tot 30 Junie 1927, p 21.

⁴⁵⁶ Jaarverslag van die Departement van Verdediging vir die boekjaar tot 30 Junie 1928, p 23.

⁴⁵⁷ Jaarverslag van die Departement van Verdediging vir die boekjaar tot 30 Junie 1929, p 21.

⁴⁵⁸ J. Illsley, *In Southern Skies*, pp 215 – 217.

transportation system was thus instituted in June 1928 using Air Force aircraft that would periodically fly a triangular route which included an Alexander Bay to Cape Town leg.⁴⁵⁹ In 1929 the Department of Mines had placed the costs of the diamond service aircraft and personnel on its budget.⁴⁶⁰ Because of its usefulness, the service continued into the 1930s.

When Britain's Imperial Airways company was surveying an extension of its airline routes into Southern Africa, the SAAF, at the behest of the Department of Posts and Telegraphs, played a small part by flying Air Ministry and Imperial Airways personnel to places in Bechuanaland (today Botswana) and the northern Transvaal.⁴⁶¹

The revival of civil aviation and the role of the Air Force.

If the above examples serve to illustrate how the Air Force, as the main locus of aviation equipment and expertise in the 1920s, carried out tasks that could potentially have been sub-contracted to private enterprises - had such existed - then the same can be said of the central role the SAAF would play in this decade in support of civil aviation. The officers of Zwartkop (the only permanent air station at the time) and the artisans of the Aircraft and Artillery Depot at Roberts Heights would be relied upon heavily by civilian pilots and aircraft operators once these returned to the scene in South Africa.

After a period in which no civilian flying took place in South Africa, a renewed interest was evident by 1928 with the establishment of six flying clubs across the country, all in the major cities.⁴⁶² Without a doubt the most important factor in this revival was the appearance in Britain of a practical light aircraft, in the form of the De Havilland DH 60 Moth series of aircraft, suited to the training and cross country needs of flying clubs and private owners.⁴⁶³ Not surprisingly, the first Moth imported into the country was that of the tireless advocate of aviation, Major Allister Miller, who assembled his aircraft at Cape Town in April 1927. He proceeded to fly it around the country, as one author put

⁴⁵⁹ Jaarverslag van die Departement van Verdediging vir die boekjaar tot 30 Junie 1928, p 23.

⁴⁶⁰ Jaarverslag van die Departement van Verdediging vir die boekjaar tot 30 Junie 1929, p 21.

⁴⁶¹ DFA, CGS Gp 2, Box 24, File 13/32, P. Lindup (Civil Air Board) to CGS, 10th December 1929.

⁴⁶² Jaarverslag van die Departement van Verdediging vir die boekjaar tot 30 Junie 1928, p 22. The civilian flying clubs were in Cape Town, Port Elizabeth, East London, Durban and Johannesburg. A Defence Flying Club was established at Zwartkop Air Station.

⁴⁶³ NTG. Murray, History of Civil Aviation in South Africa in *Personalities in South African Motoring and Aviation*, p 61.

it, "determined to spread the gospel of Airmindedness as far afield as possible."⁴⁶⁴ Within months it had the desired effect. The De Havilland Moth was adopted by most of the new flying clubs in the country and soon allowed a new generation of pilots to emerge who were not products of wartime military training, even if many instructors were of that generation.⁴⁶⁵

The government also played a role in the revival of civil aviation, specifically in the form of flying clubs, in part by allowing the SAAF to directly assist in the setting up of the clubs and in part by offering financial assistance. Each of these, in turn, needs to be briefly outlined. In March 1927, Allister Miller in his capacity as chairman of the Aero Club of South Africa requested a meeting with the Minister of Defence, Frederic Creswell.⁴⁶⁶ The deputation met with Creswell on the 28th March⁴⁶⁷ and asked for certain concessions which would facilitate the establishment of flying clubs, two of which had come into being by this stage in Cape Town and Johannesburg. Although some of the requests lay outside of the remit of Defence, Creswell was happy to allow SAAF pilots and mechanics to be "loaned" to new flying clubs for a short period in order to provide initial instruction and to assist with the assembly of new club aircraft. An alternative offer was for pilots to be trained as instructors by the SAAF in Pretoria.⁴⁶⁸ These offers were taken up by several of the new flying clubs in the months that followed.⁴⁶⁹

In turning to the financial support that was forthcoming from the state, in November 1927, the Civil Air Board made several recommendations that would benefit the new clubs. Significantly, all the men present at that meeting, with one exception, were serving military officers or had a military background.⁴⁷⁰ The motivation to assist the flying clubs was not derived purely from an attempt to stimulate civilian flying, but also to derive a benefit for the Air Force. In essence the flying clubs were seen as a means of training not only pilots, but to have the clubs employing ground engineers. Both of

⁴⁶⁴ JH. Willard, The Light Aeroplane Club Movement in *Personalities in South African Motoring and Aviation*, pp 395-396.

⁴⁶⁵ J. Illsley, *In Southern Skies*, p 144.

⁴⁶⁶ DFA, CGS Gp 2, Box 21, File 13/17, A Miller to F Creswell, 21st March 1927.

⁴⁶⁷ DFA, CGS Gp 2, Box 21, File 13/17, F Creswell to A Miller, 22nd March 1927.

⁴⁶⁸ DFA, CGS Gp 2, Box 21, File 13/17, F Creswell to A Miller, 7th April 1927.

⁴⁶⁹ DFA, CGS Gp 2, Box 21, File 13/17, DAS to CGS, 3rd December 1927.

⁴⁷⁰ Brigadier General AJE. Brink (Chief of the General Staff) was acting chairman; Colonel Sir PA. van Ryneveld (DAS); Lt Col J. Dickson (SAR&H); Lt Col WD. Beatty and Captain PL. Lindup (Secretary of the Board).

these skills, if available to the SAAF, via the SAAF Reserve, could bolster the size of the Air Force in times of need. The maintenance of airfields by flying clubs, was seen as another justification from a military point of view, for supporting them financially. Van Ryneveld's hope that assisting the flying clubs could result in the establishment of an aircraft factory in the country was rather wishful thinking as the local market for aircraft would have had to expand to a far greater extent than what was the case.⁴⁷¹

What emerged was a resolution by which any trainee pilot who obtained an "A" licence (the equivalent of today's Private Pilot's Licence) would be entitled to a £50 grant provided that they met the requirements of the SAAF Reserve and joined that Reserve. In the case of "B" or "D" ground engineers, who held technical skills, sought after in the Air Force, they would be entitled to a £100 grant if employed by a club for a year.⁴⁷² Two other resolutions to financially assist flying clubs took the form of duty-free aviation fuel being made available to clubs and preferential railway rates for the transporting of aircraft and spares.⁴⁷³

The establishment of flying clubs in South Africa immediately presented two requirements, the one legal and the other practical. Flying instructors would need to qualify for licences and civilian aircraft would need to be maintained. The Air Force ensured that both of these needs could be met. In the absence of a government department devoted to the administration of civil aviation, the regulation of licensing of flying instructors was undertaken by the Air Force which offered free courses at Roberts Heights from 1928 after which pilots who were deemed suitable could qualify for the so-called "B Licence", which allowed them to give instruction and fly commercially. This service was offered subject to instructors becoming members of the General Reserve (while under instruction) and to join the SAAF Special Reserve on qualifying.⁴⁷⁴ Clearly the Air Force, while undertaking to assist the new flying clubs, was again seeking to expand its own reserve of flying officers. The system represents another one in which civil and military aviation benefitted mutually.

The other necessity for flying clubs was having access to a maintenance organization that could service aircraft; overhaul engines and, if necessary, carry out repairs on the

⁴⁷¹ DFA, CGS Gp 2, Box 20, Minutes of the Civil Air Board, 30th November 1927.

⁴⁷² DFA, CGS Gp 2, Box 20, Minutes of the Civil Air Board, 30th November 1927.

⁴⁷³ DFA, CGS Gp 2, Box 20, Minutes of the Civil Air Board, 30th November 1927.

⁴⁷⁴ Jaarverslag van die Departement van Verdediging vir die boekjaar tot 30 Junie 1928, p 22.

airframes of the all-wood aircraft. The importation of the first club aircraft did not see the immediate emergence of any companies which could undertake such work as the number and dispersal of aircraft across the country would hardly warrant such a business enterprise. These clubs thus turned to the only functioning aircraft workshop in the country at the time, the Aircraft Depot at Roberts Heights in Pretoria. The Johannesburg Light Plane Club (JLPC) appears to have been the first club to utilize the Depot for the repair of an aircraft in November 1927 after Allister Miller had set a precedent a few months earlier with the reconditioning of three wings for his Moth.⁴⁷⁵ By January of the following year, no fewer than four club aircraft or parts thereof were in the Air Force workshops and the issue of how repair work was going to be charged under the Defence Budget was becoming somewhat more pressing.⁴⁷⁶ Although Treasury authority was received for the accounting basis under which work performed for the clubs would be credited to the Defence Budget, some interesting correspondence proceeded to fly between the Treasury and the Department of Defence over the rates for work carried out on behalf of clubs. Both were in agreement that the growth in civil aviation would benefit the Air Force. The Financial Under Secretary made the point that "the more civil aviation is encouraged the greater will be the potential resources of the Air Force in the matter of reserve pilots".⁴⁷⁷ He supported the need for the employment of an additional carpenter-rigger to meet the rising demand from the flying clubs. In arguing for the most favourable rates being passed on to the clubs, Van Ryneveld reminded the Treasury that the government was trying to encourage civil aviation and that:

Certain valuable advantages will accrue to us such as the preparation and maintenance of aerodromes, availability of skilled mechanics, training of pilots who will be available for the Special Reserve. All of the above have a definite

⁴⁷⁵ DFA, DAS Box 37, File DAS 806/1/1, Summary of services rendered to Civil Aircraft, 26th May 1929; Chief of the General Staff to Secretary of the Civil Air Board, 23rd September 1927.

⁴⁷⁶ DFA, DAS Box 37, File DAS 806/1/1, OC Aircraft Depot to Director Air Services, 12th January 1928. The aircraft were Moths G-UAAD and G-EBTJ from the JLPC; Moth G-UAAB from the East London club and Avro Avian wings of G-UAAC from the Cape Town club.

⁴⁷⁷ DFA, DAS Box 37, File DAS 806/1/1, Financial Under Secretary to Chief of the General Staff, 23rd January 1928.

value and as far as we are aware will be granted free of cost by Light Aeroplane Clubs.⁴⁷⁸

With the fine detail of charging for work had been settled, the flying clubs were able to depend on a government agency for the maintenance and repair of their aircraft. Apart from the log of Depot work undertaken, the extent to which the clubs came to rely on the SAAF can be gauged, in one instance, from the amusing correspondence emanating from the flying instructor of the East London Light Aero Club. In a letter to Van Ryneveld written on 27th November 1927 he thanks him for sending a Flight Sergeant to help rig the club's Moth and waxes lyrical about flying at the coast.⁴⁷⁹ In the next letter, penned eleven days later, having crashed the aircraft into a motorcycle, he informs Sir Pierre that the club has dismantled the aircraft and is sending it to Pretoria "where I am sure you will assist our little club in having the machine repaired!"⁴⁸⁰

A further refinement of the conditions under which the Air Force would carry out work for clubs emerged after a mishap involving two club aircraft at Zwartkop in March 1928 when a JLPC Moth on the compass swing base was hit by a Durban club aircraft.⁴⁸¹ The ensuing insurance claim led the Department of Defence to belatedly adopt a policy of reminding flying clubs that it would not carry any of the costs of repair to club aircraft in accidents for which it carried no liability. Also that while at Zwartkop or the Aircraft Depot, the Defence Department would not accept liability for "accident, loss or damage."⁴⁸²

It should be noted that the flying clubs not only relied on the SAAF for maintenance and repair work, but also for the supply of oil and fuel. In this respect, the Aircraft Depot acted as conduit for these consumables in the absence of a private supplier.⁴⁸³ Mention can also be made of the SAAF supporting new flying clubs with displays or fly pasts of Air Force aircraft at the opening of new airfields and club houses. The JLPC was the first to approach the Defence Force for an air display at their Baragwanath airfield to

⁴⁷⁸ DFA, DAS Box 37, File DAS 806/1/1, Director of Air Services to Financial Under Secretary, 26th March 1928.

⁴⁷⁹ DFA, DAS Box 40, File DAS 806/132/3, FW Kurtz to P van Ryneveld, 27th November 1927.

⁴⁸⁰ DFA, DAS Box 40, File DAS 806/132/3, FW Kurtz to P van Ryneveld, 7th December 1927.

⁴⁸¹ DFA, DAS Box 40, File DAS 806/132/2, Chief of the General Staff to Director of Air Services, 2nd April 1928.

⁴⁸² DFA, DAS Box 40, File DAS 806/132/2, Director of Air Services to Secretary of Civil Air Board, undated.

⁴⁸³ DFA, DAS, Box 37, File DAS 806/1/1, Financial Under Secretary to Director of Air Services, 17th July 1929.

promote interest in the club and to raise funds towards its activities.⁴⁸⁴ Although the Minister of Defence flatly refused to have bombing demonstrations with live ordinance or to allow the public to take flights in SAAF aircraft (despite several appeals from the JLPC),⁴⁸⁵ the flying display held on 4th June 1927 showcased all the military aircraft types in use at the time and their capabilities.⁴⁸⁶

Two years later, on the 19th October 1929, the JLPC again benefitted from an air display that was dominated by SAAF participation. This was a relatively elaborate affair modelled on the popular Hendon displays staged annually by the RAF. The SAAF items included aerobatics; formation flying; parachute jumps; mock aerial combat and an attack on a Middle East "rebel" village.⁴⁸⁷ (The latter was probably deemed to be more tactful than showing a local native village!) The day proved a great success for both the JLPC and the SAAF, with twenty thousand people turning out to watch the display. The event raised £1500 which was distributed amongst the flying clubs of South Africa.⁴⁸⁸ This was therefore an example of a SAAF flying display having a direct financial benefit to civilian flying clubs.

Although regular appearances by one or two aircraft were made at so-called "Wapenshouws" (weapons demonstrations), arranged in many towns by the local Rifle Associations (or Commandos), the SAAF in the 1920s, apart from the air shows in Johannesburg, did not see fit to undertake displays on a bigger scale for the benefit of the public.⁴⁸⁹ Support for new clubs was limited to a few aircraft appearing at the opening of those clubs that were in reasonable proximity to Pretoria including Witbank and Benoni.⁴⁹⁰

Before leaving the question of flying clubs and their relationship to the Air Force, brief mention should be made of the flying club set up *within* the SAAF during this period. As all SAAF pilots were officers, other ranks did not take to the air, except during the occasional fulfilling of duties, in March 1928 a group of Air Force Non Commissioned

⁴⁸⁴ DFA, CGS Gp 2, Box 21, File 13/17, Chairman of JLPC to Col HHM. Burne (District Staff Officer, Johannesburg), 11th January 1927.

⁴⁸⁵ DFA, CGS Gp 2, Box 21, File 13/17, Brigadier General AJ. Brink to JLPC, 19th February 1927.

⁴⁸⁶ DFA, CGS Gp 2, Box 21, File 13/17, Programme of events for SAAF display at Baragwanath Aerodrome, 4th June 1927.

⁴⁸⁷ J. Illsley, *In Southern Skies*, p 299.

⁴⁸⁸ DFA, DC Gp 2, Box 3761, Annual Defence Report for year ending 30th June 1930.

⁴⁸⁹ DFA, CGS Gp 2, Box 21, File 13/17, Brigadier General AJ Brink to EFV Wells (Witbank) 4th April 1929.

⁴⁹⁰ DFA, CGS Gp 2, Box 21, File 13/17, Benoni Air Pageant convenor to Brigadier General AJ Brink 17th January 1929.

Officers (NCOs) drafted a proposed constitution for a "SAAF Aircraft Club"⁴⁹¹ and the following month approached Van Ryneveld with a request to establish such a club under the same conditions as that applying to civilian flying clubs.⁴⁹² He enthusiastically supported the idea. Suggesting that it should be known as the "Defence Light Aeroplane Club", he motivated its formation to the Chief of the General Staff on the basis that "it is bound to tend to an improvement in workmanship and keener interest, if that were possible, in flying".⁴⁹³ Subject to the condition that its operation was not to incur any cost to the state, the Club came into being and was based at Zwartkop Air Station.⁴⁹⁴ Similar clubs already existed within the RAF and some of the rules for operating the entity were based on advice from that Air Force.⁴⁹⁵ The formation of this club represented an instance where military personnel were, in effect, being trained as civilian pilots and notwithstanding Van Ryneveld's hoped-for indirect benefits to the military, principally as a recreational activity.

The inter-war years were those in which there was a plethora of attempts to set and break records on the trans-Africa air routes.⁴⁹⁶ After the Van Ryneveld and Brand flight of 1920, there was a five year period of inactivity before any pilot again undertook a flight that traversed the continent. Alan Cobham arrived in South Africa in 1926 and became the first of several civilian flyers to stop at Zwartkop Air Station and to benefit from the technical support of SAAF personnel.⁴⁹⁷ The same would be true of the first two aviatrixes to undertake flights across the continent. Lady Heath flew from Cape Town to London between December 1927 and May 1928 while Lady Bailey completed both southbound and northbound flights over this route in 1928 and 1929. Both women pilots had extensive work carried out on their aircraft, Avro Avian (G-EBUG) and DH Moth (G-EBTG) respectively, by men from the Aircraft Depot during these flights. In the case of Lady Heath's Avian, much work was done to allow her flight north to continue, including modifications to the fuel tanks.⁴⁹⁸ Lady Bailey's Moth (the second one used on

⁴⁹¹ DFA, CGS Gp2, Box 21, File G13/17/5, Minutes of meeting to constitute SAAF Aircraft Club, 27th March 1928.

⁴⁹² DFA, CGS gp 2, Box 21, File G13/17/5, AMA. Ottley to P van Ryneveld, 3rd April 1928.

⁴⁹³ DFA, CGS gp 2, Box 21, File G13/17/5, P. van Ryneveld to A. Brink, 30th April 1928.

⁴⁹⁴ DFA, CGS gp 2, Box 21, File G13/17/5, A. Brink to P. van Ryneveld, 12th December 1928.

⁴⁹⁵ DFA, CGS gp 2, Box 21, File G13/17/5, CGS to Chief of Air Staff, Air Ministry, London, SAAF Liaison Letter, 27th August 1928.

⁴⁹⁶ M. Barraclough, *The Race to the Cape*, pp 41-81.

⁴⁹⁷ Annual Report of the Department of Defence, Year ended 30th June 1926, p 29.

⁴⁹⁸ DFA, DAS Box 40, File DAS 806/132/8, OC Aircraft Depot to Director of Air Services, 1st February 1928.

the southbound flight) had to be repaired by a team from the Depot after it was damaged in a force landing near Warmbaths.⁴⁹⁹

Before concluding this survey of the ways in which the SAAF positively influenced the revival of civil aviation, one final element of that contribution should be noted, namely the addition of infrastructure in the form of airfields. The locus of SAAF training and operations in the 1920s was Zwartkop, but as early as September 1922, a site for a second Air Force airfield was being identified by Van Ryneveld in Cape Town.⁵⁰⁰ Although the area chosen for the aerodrome, namely the Salt River Outspan in Maitland, was Crown Land, what followed was four years of intransigence and obstructionism on the part of the Department of Railways and Harbours who wished to use the land and the Department of Lands in whom control was vested. Van Ryneveld, via the Chief of the General Staff did not waver and continued to bring pressure for the land to be transferred to Defence.⁵⁰¹ By 1926, the matter had reached the attention of the Cabinet which ruled in favour of the Department of Defence,⁵⁰² although there was still further wrangling before the site was surveyed and cleared in 1927.⁵⁰³ By that juncture, various other SAAF "outstation" aerodromes had been created for the operation of the experimental air mail service as described earlier and these, together with the airfield in Cape Town, constituted an asset which flying clubs and private flyers were allowed to utilize. In clarifying in 1928 whether Maitland fell into the same category as the other coastal airfields, given that its levelling had cost over £1000, Van Ryneveld wrote to the Chief of the General Staff, Brigadier General AJ Brink: "I presume...that in view of the [Defence] Department's policy to encourage civil aviation as much as possible, that it will not be considered desirable to make any charge for the use of the aerodrome."⁵⁰⁴ It was agreed that subject to an understanding that SAAF aircraft operations were not interfered with, the airfield *could* be used by civilians and an

⁴⁹⁹ DFA, DAS, Box 37, File DAS 806/1/1, Summary of Services rendered to Civil Aircraft, 26th May 1928.

⁵⁰⁰ DFA, CGS Gp 2, Box 245, file 391/16/2, DAS to CGS, 12th September 1922.

⁵⁰¹ DFA, CGS Gp 2, Box 245, file 391/16/2, inter alia Secretary of Defence to Secretary of Lands, 7th May 1923; CGS to Secretary of Lands 12th December 1924; Secretary of Lands to CGS, 15th April 1925; Minister of Railways and Harbours to Minister of Defence, 12th February 1926.

⁵⁰² DFA, CGS Gp 2, Box 245, file 391/16/2, Secretary of Lands to CGS, 3rd May 1926.

⁵⁰³ DFA, CGS Gp 2, Box 245, file 391/16/2, OC 1 Military District to Quartermaster General, 29th March 1927. The Maitland airfield is still in use today as Air Force Base Ysterplaat. The original SAAF hangar from the 1920s survives as part of the SAAF Museum, Cape Town branch.

⁵⁰⁴ DFA, CGS Gp 2, Box 245, file 391/16/2, P. van Ryneveld to A. Brink, 23rd November 1928.

area for civilian aircraft parking and even the erection of hangars was allocated on the opposite side of the airfield.⁵⁰⁵

When Allister Miller's Union Airways company started operating its mail and passenger service in 1929, one of the conditions of the government mail contract was that he was granted the "right of free use of Government Hangars and Aerodromes where such exist on the route to be operated".⁵⁰⁶ Maitland was where he intended to assemble the DH Moth aircraft of the company fleet after they had arrived from Britain, but the use of the SAAF hangar raised objections because the airfield was being utilized as the southern terminus of the diamond service from Alexander Bay. Among the concerns raised was the possibility that it could compromise the enforcement of Illicit Diamond Buying (IDB) laws and on a rather more petty level, the safety of Air Force tools stored in the building!⁵⁰⁷ The matter was resolved when the Department of Mines accepted responsibility for Union Airways using the SAAF hangar in the short term⁵⁰⁸ and the Department of Defence agreeing to the Post and Telegraphs Department erecting a separate hangar for Miller's use in operating the postal service in another corner of the aerodrome.⁵⁰⁹ The episode illustrates both the willingness of the Air Force to accommodate civil aviation enterprises at its airfields and the associated practical problems.

Union Airways was the only company after the era of the barnstormers to materially benefit, albeit in a small way, from Air Force support in the 1920s because it was the only local commercial aviation enterprise to operate in the country in that period. There were however two approaches made to the Department of Defence by parties interested in opening up commercial air transport services on the Cape Town-Pretoria route. The first in 1922 was from the same Victor Kelly of Cape Town who had proposed similar grand plans in preceding years.⁵¹⁰ The second, in 1923, shortly after the passing of the Aviation Act, was from the Vickers aircraft company, a British manufacturer which still had a South African representative.⁵¹¹ In both cases, the Air

⁵⁰⁵ DFA, CGS Gp 2, Box 245, file 391/16/2, A. Brink to P. van Ryneveld, 11th December 1928.

⁵⁰⁶ DFA, CGS Gp 2, Box 245, file 391/16/2, A. Miller to Minister of Mines and Industries, 5th August 1929.

⁵⁰⁷ DFA, CGS Gp 2, Box 245, file 391/16/2, CGS to Secretary for Mines and Industries, 8th August 1929.

⁵⁰⁸ DFA, CGS Gp 2, Box 245, file 391/16/2, Secretary of Mines and Industries to A Miller, 6th August 1929.

⁵⁰⁹ DFA, CGS Gp 2, Box 245, file 391/16/2, CGS to Town Clerk of Cape Town, 10th December 1929.

⁵¹⁰ DFA, CGS Gp 2, Box 21, file 13/9, V. Kelly to Minister of Defence, 13th May 1922.

⁵¹¹ DFA, CGS Gp 2, Box 21, file 13/9, Vickers Company to Chief of the General Staff, 1st November 1923.

Force indicated that it was willing to offer free use of airfields on a reciprocal basis; repair facilities at hourly labour rates and spares at cost price.⁵¹² The offers ended up being of academic interest as neither venture became a reality, but once again they do provide an insight into the positive attitude to civil aviation displayed by senior officers in Defence and the Air Force.⁵¹³

It should be evident that services which the SAAF extended to civil aviation in this period were not provided from a sense of altruism, but because there was a need to expand the capacity of the Air Force in times of emergency without incurring additional cost. That needs to be understood partly in the context of the financial stringency in the Defence budgets of the 1920s. From an initial budget of £68 000 in 1921-22 and £93 786 in 1922-23, the Air Services allocation for 1923-24 rose to £103 178 before sinking to £93 875 in 1925-26. By the budget year 1927-28 it had been increased to £122 018.⁵¹⁴ Apart from placing a limitation on the purchasing of new aircraft, the conservative parliamentary votes also severely limited the size of the Air Force in terms of manpower. As previously explained, the sale of equipment from the "Imperial Gift" made possible an Aircraft Replacement Fund (together with a more substantial budget allocation of £130 182 in 1928-29) allowed for the upgrading of aircraft with more modern radial engines rather than their replacement with newer aircraft types.⁵¹⁵ However, the manpower of the SAAF remained almost entirely stagnant through the decade with just below 400 personnel of all ranks. Of these around 255 were technical staff, 108 were black labourers and just 28 were pilots.⁵¹⁶

A small cadet intake (in January 1926) and the assistance extended to the flying clubs with the *quid pro quo* of their instructors and subsidized trainee pilots joining the special reserve, could not be relied on to sufficiently increase the number of pilots on the special reserve. The Air Force was forced to look to a further source of pilots, without

⁵¹² DFA, CGS Gp 2, Box 21, file 13/9, P van Ryneveld to Secretary for Defence, 23rd May 1922; CGS to Civil Air Board, 20th November 1923.

⁵¹³ In the late 1920s, two other companies approached the government regarding air services, namely the Junkers aircraft company in 1924-5 and Alan Cobham (via Allister Miller) in 1927. Neither of these resulted in local companies being established. In both cases the Defence Department was only asked to comment (by the Air Board) and was not approached directly for assistance. DFA, CGS Gp 2, Box 21, file 13/9.

⁵¹⁴ Annual Report of the Department of Defence, Year ended 30th June 1925; Jaarverslag van die Departement van Verdediging vir die boekjaar tot 30 Junie 1928, p 20.

⁵¹⁵ Jaarverslag van die Departement van Verdediging vir die boekjaar tot 30 Junie 1928, p 20.

⁵¹⁶ Annual Report of the Department of Defence, Years ended 30th June 1925, p 22 and 1926 p 27; Jaarverslag van die Departement van Verdediging vir die boekjaare tot 30 Junie 1927 p 19, 1928 p 21, 1929 p 20.

increasing the permanent force numbers. It was this scenario which led in 1927 to the introduction of the Transvaal University College Squadron under which students of TUC (today the University of Pretoria) could sign up for pilot and officer training over the course of a three year degree.⁵¹⁷ Attrition of the candidates trained in 1927 and 1928 meant that few reserve pilots emerged from the scheme. However it survived in a modified form when the newly-instituted training of technical citizen force cadets was combined with the University Squadron to form the Transvaal Air Training Squadron (TATS) which over the next few years trained pilots and technical artisans on a part time basis.⁵¹⁸

In assessing the importance of the SAAF in this decade in its primary role of military aviation relative to the part it played in assisting government departments, state enterprises and civil aviation, one has to consider how much of the flying undertaken by the Air Force was directly related to military operations. Apart from routine training, the SAAF carried out exercises in conjunction with army units, particularly the artillery, and occasionally with the Royal Navy.⁵¹⁹ An annual feature of Air Force flying beyond its main base at Swartkop was in attending *wapenschouwings*. By way of example, in the year ending June 1927, the SAAF flew aircraft to thirty of these and in the next year to forty-nine.⁵²⁰ These were arranged by the Defence Rifle Associations of the Union's districts, which made up the bulk of the citizen force at the time. These gatherings featured representative units from the Defence Force and the SAAF that would assign an aircraft or two to fly to these events. As a result the population of districts who attended the shows could see live bombing and machine gun demonstrations. While these no doubt made an impression, for different reasons, on the local populace of all races, the dangers inherent in carrying live ordinance were shown in the resultant accidents. There were fatal accidents involving a machine gun at Douglas in 1923 and a bomb at Kuruman in 1924, the latter killing three spectators.⁵²¹ Apart from the intended military purpose of the shows, the attendance by the Air Force had a positive consequence for aviation in general because the hosting of *wapenschouwings* which

⁵¹⁷ Jaarverslag van die Departement van Verdediging vir die boekjaar tot 30 Junie 1928, p21.

⁵¹⁸ D. Becker, *Yellow Wings*, p 6.

⁵¹⁹ Jaarverslag van die Departement van Verdediging vir die boekjaare tot 30 Junie 1927 p 20; D. Becker, *The Eagles of Swartkop*, p 24, p 33.

⁵²⁰ Jaarverslag van die Departement van Verdediging vir die boekjaare tot 30 Junie 1927 p20; Jaarverslag van die Departement van Verdediging vir die boekjaar tot 30 Junie 1928, p 21

⁵²¹ D. Becker, *The Eagles of Swartkop*, p 22.

included SAAF participation necessitated, the clearing of an aerodrome or landing strip for many of the country's settlements. These in many cases continued to serve the purpose for years to come.⁵²²

The most ambitious flights carried out by the Air Force were a number of long distance flights in conjunction with the RAF. Starting in 1926, the RAF started undertaking trans-Africa flights each year from its base in Egypt. This was intended to give Britain's Air Force experience in flying across the continent with its range of different climates and to initiate some cooperation with the SAAF. From 1928 until the end of the decade, the SAAF hosted visits by the RAF and then accompanied them on part of the return flight, in some cases flying as far north as Khartoum.⁵²³ These exercises provided valuable experience for the Air Force, although in the absence of local airlines they did little for civil aviation.

The SAAF was deployed three times in the 1920s in actions that saw it being used as a means of exerting or threatening force. Mention has already been made of the SAAF being used to suppress the 1922 white miners' strike on the Witwatersrand, during which Air Force DH9 aircraft were used to bomb and machine gun militant strikers in Fordsburg and Benoni. Aircraft were also used for reconnaissance and the dropping of government leaflets.⁵²⁴ The bombing of the Trades Hall in Benoni, although successful in hitting the target, also resulted in poorly sighted bombs causing collateral damage and the deaths of women and children. As one historian of the strike put it: "It was one of the most embittering occurrences in the strike".⁵²⁵ Nor was the bitterness one-sided: the SAAF suffered its first two casualties in the strike, one of which was the adjutant of the Air Force, Captain Carey Thomas.⁵²⁶ The use of aircraft as part of the military and police actions needed to restore order on the Reef played a role in the defeat of the Smuts government in the 1924 election, in which an electoral pact secured power for the Nationalist and Labour parties of Hertzog and Creswell.⁵²⁷

⁵²² D. Becker, *The Eagles of Swartkop*, p 22.

⁵²³ Jaarverslag van die Departement van Verdediging vir die boekjaare tot 30 Junie 1927 p 20 ;
Jaarverslag van die Departement van Verdediging vir die boekjaar tot 30 Junie 1928, p 22 ;
Jaarverslag van die Departement van Verdediging vir die boekjaar tot 30 Junie 1929, p 21.

⁵²⁴ DFA, *Diverse (Miscellaneous)*, Boxes 67 and 69.

⁵²⁵ N. Herd, 1922 *The Revolt on the Rand*, pp 92-94.

⁵²⁶ N. Herd, 1922 *The Revolt on the Rand*, p 92

⁵²⁷ R. Steyn, *Jan Smuts*, pp 108-109.

The next episode in which the SAAF saw action was in the suppressing of the "Bondelzwart rebellion" (1922) in South West Africa, a League of Nations mandate territory administered by South Africa. The dispute arose out of the imposition of dog taxes to curb the use of hunting dogs. When the Bondelzwart tribe became militant in their resistance to the taxes, the Administrator of the territory called for assistance from the South African police and army. A small SAAF contingent was sent as part of the intervention. The use of SAAF aircraft to bomb and machine gun the protestors during actions between May and July 1922, resulted in questions being asked in both the British parliament and in the League of Nations.⁵²⁸

The SAAF was again called upon to deal with a disturbance in South West Africa when in 1925 the Rehoboth Bastards defied the Administration on the issue of cattle branding. The intimidating effect of the Air Force aircraft being flown at low level over the village brought the confrontation to a bloodless conclusion.⁵²⁹ In order to show off the effects of air power to as much of the indigenous population of the territory as possible, an extensive tour of other districts was undertaken with live bombing demonstrations making the obvious point to other potentially restive elements. This was deemed necessary because what was described in the annual Department of Defence report as "the general state of native unrest".⁵³⁰

Very little academic writing has been devoted to aviation in the context of South African history, but one recent piece mentioned in the literature review is that of Tielman Dederling of UNISA dealing with Air Power in South Africa from 1914 to 1939.⁵³¹ If aviation in this period is viewed in a broader context, which is the central theme of this thesis, his arguments are I believe somewhat flawed. It is questionable as to whether military flying within the country prior to the 1920s really constituted a meaningful example of "air power" as none of the aircraft were armed. The examples used to illustrate how the Air Force helped to "consolidate the colonial order" in the 1920s are not at all convincing. The Bulhoek massacre (1921) near Queenstown is mentioned as the first time that the government *considered* using aircraft but since none were

⁵²⁸ DFA, Diverse (Miscellaneous) Box 39; DFA DC 3520; D. Becker, *The Eagles of Swartkop*, pp 17-18.

⁵²⁹ D. Becker, *The Eagles of Swartkop*, pp27.

⁵³⁰ Annual Report of the Department of Defence, Year ended 30th June 1925, p 24.

⁵³¹ T. Dederling, Air Power in South Africa 1914-1939 in *Journal of Southern African Studies*, Vol 41, No 3, 451-465.

deployed it can hardly be regarded as a useful illustration.⁵³² Indeed the massacre of the Israelite sect's followers was entirely due to police force action and the army unit which was present was not called upon for support.⁵³³ Dederling then goes on to deal with the use of the SAAF in the 1922 strike with the opening statement: "Remarkably, this time the targets were not 'backward' Africans but white miners".⁵³⁴ Contrary to the implication, this was the very first time the Air Force had been used in *any* policing action. The target of Air Force sorties on the Rand in 1922 surely begs the question: was the Air Force (as part of the Union Defence Force) not at the disposal of the government of the day for use in *whatever* role, in the service of the state, was deemed appropriate. The miners were seen as "red revolutionaries" whose actions had brought about the imposition of martial law along the Witwatersrand, something that Dederling acknowledges.⁵³⁵ The use of the Air Force as an armed force (something which the government initially tried to avoid) was part of deploying every armed force at its disposal (police, army and commando units) to quell a violent strike and restore order.

The last two of Dederling's examples from this decade relate to the Air Force in South West Africa in 1922 and 1925.⁵³⁶ These were, strictly speaking, not within South Africa and while constituting the high-handed and even brutal application of force from the air, were not in the service of a white minority, but as part of the maintenance of order in a League of Nations mandate territory. Dederling's analysis of the Air Force using a narrow military frame of reference, in my view, ignores the other ways in which the SAAF served the state in a non-military sense and the role it played in support of civil aviation. The experimental air mail and the diamond service are two examples of the former and the support to aircraft owners and flying clubs is evidence of the latter.

⁵³² T. Dederling, Air Power in South Africa 1914-1939 in *Journal of Southern African Studies*, Vol 41, No 3, p 456.

⁵³³ I. van der Waag, The Union Defence Force Between the Two World Wars, 1919-1940 in *Scientia Militaria*, Vol 30, No 2, p 190.

⁵³⁴ T. Dederling, Air Power in South Africa 1914-1939 in *Journal of Southern African Studies*, Vol 41, No 3, p 456.

⁵³⁵ T. Dederling, Air Power in South Africa 1914-1939 in *Journal of Southern African Studies*, Vol 41, No 3, p 457.

⁵³⁶ T. Dederling, Air Power in South Africa 1914-1939 in *Journal of Southern African Studies*, Vol 41, No 3, pp 457-458.

Conclusion

It is clear that Van Ryneveld, who commanded and personally participated in all of the military operations described above, was keen to prove the worth of the Air Force when military action permitted this to be demonstrated and that he was not one to shy away from the use of force. Nevertheless, his vision for the young arm of service was most assuredly not limited to its purely military role. Although guarding the interests of the Air Force he had helped create, he saw the need to advance civil flying through the use of the Air Force's resources and saw this as mutually advantageous.

In light of the above, it is fair to conclude that the role which the SAAF played in aviation, was so diverse as to be regarded as pivotal in serving both military and civil aviation interests in the country. This was largely thanks to the "Imperial Gift" having made it the most significant, and at times the only, aviation entity in the country, but it is evident that justifying the cost of even a limited Air Force would require it to serve a variety of roles. There was also the recognition that in aviation terms, this was a case of the one hand washing the other. Because of the limited defence budgets and the concomitant small standing force, the Air Force needed arrangements which grew the size of the Reserve force. The following decade would see further attempts to swell the manpower and equipment available to the Air Force which meant that the symbiosis between military and civil aviation would continue and indeed become more urgent in the context of a threatening international situation.

CHAPTER FIVE

EXTRACTING A QUART FROM A PINT

The 1930s: a troubled decade

Any consideration of the decade of the 1930s with regard to military and civil aviation in South Africa, whether examining each in isolation, or as in the case of this study, as interrelated activities, will find the decade dominated by two major external influences. The one was the impact of the Great Depression from 1929-32 and the other the reaction to the invasion of Abyssinia by Mussolini in 1935. The first of these would severely curtail defence spending and would impact on private flying. The second would force a reassessment of South Africa's defence capability, particularly with regard to the Air Force. In this, Oswald Pirow, the Cabinet Minister who held the portfolios of both Minister of Defence and Railways and Harbours from 1933 to 1939, would be a central figure. His imaginative moves to build both military and civil aviation and to achieve the most cost-effective overlap of these two branches of aviation means that a re-evaluation of his contribution is necessary.

One of the most obvious consequences for South Africa's government of the ripple effect from the economic disaster which started in the USA and spread across the world, was the decline in state revenue. The economic crisis in the country was aggravated for some time by the Hertzog government's stubborn refusal to abandon the gold standard. In an era when most governments avoided massive deficits, severe measures to limit state spending were an immediate consequence and defence budgets became one of the casualties. From a budget of £1 019 529 in the 1929-30 financial year, the defence allocation dropped to £859 323 in 1930-31, £755 706 in 1931-32 and its lowest level in 1932-33 with a mere £720 976 being voted.⁵³⁷

The SAAF did not suffer appreciably as a result of the diminishing spending. It managed to maintain its force strength and number of annual flying hours. A new aircraft type, the Westland Wapiti came into service, partly thanks to the Air Force undertaking its own aircraft assembly.⁵³⁸ The air wing of the UDF also managed to continue to fulfil the disparate roles it had undertaken in the previous decade. It may not

⁵³⁷ DFA, DC Gp 2, Box 3761, Annual report of the Department of Defence, 1935 p 1.

⁵³⁸ DFA, DC Gp 2, Box 3761, Annual reports of the Department of Defence, 1930-34.

have been able to expand in the first half of the 1930s, but as a mainly permanent force unit the SAAF did not face the type of deep cuts that were imposed on the Active Citizen Force units, forty-nine of which were disbanded in 1929 and training suspended until 1934 for the remaining units.⁵³⁹ The Defence Rifle Associations had fifty-four units disbanded in 1931 with ammunition allocations cut by half.⁵⁴⁰ The drastic defence cuts to land forces, many of which were citizen force "commando" units, led the Chief of the General Staff, Major General AJ Brink, who also served as Secretary of Defence, to repeat his assertion in both 1931 and 1932 that "financial considerations are of paramount importance but when a Defence organization is called upon to curtail so large a portion of its activities, efficiency must perforce be sacrificed and if this is long continued, must be permanently impaired".⁵⁴¹ The only expansion in the UDF during these years was by way of the creation of the Special Service Battalion in 1933 as a means of absorbing some of the unemployed white male population who were a product of the Depression.⁵⁴²

The recognition of the usefulness of South Africa's tiny Air Force, no doubt staunchly defended behind the scenes by its founding father, Sir Pierre van Ryneveld, was important in retaining a centre of aviation expertise that could continue to serve civil aviation and provide the basis for future SAAF expansion. With respect to the overseeing of civil aviation, the decade began with its administration being transferred to the Department of Defence on the 7th September 1931 from the Department of Posts and Telegraphs. The official reason given for this change was "to use to better advantage the technical staff and machinery at the disposal of the [Defence] Department".⁵⁴³ Since this move predated the rearmament period in the country, it must be taken as an administrative reshuffling that built on the prevailing view that the Air Force represented the best concentration of aviation proficiency in the country. In the short term, this meant that Van Ryneveld, as Director of Air Services, initially served as the chairman of the Civil Air Board.⁵⁴⁴ When in May 1933 he was promoted to the Chief

⁵³⁹ I. van der Waag, The Union Defence Force between the two World Wars, 1919-40 in *Scientia Militaria*, Vol 30, 2, 2000, p 204.

⁵⁴⁰ I. van der Waag, The Union Defence Force between the two World Wars, 1919-40 in *Scientia Militaria*, Vol 30, 2, 2000, p 204.

⁵⁴¹ DFA, DC Gp 2, Box 3761, Annual report of the Department of Defence, 1931, p1 and 1932, p 1.

⁵⁴² I. van der Waag, The Union Defence Force between the two World Wars, 1919-40 in *Scientia Militaria*, Vol 30, 2, 2000, pp 205-6.

⁵⁴³ DFA, DC Gp 2, Box 3761, Annual report of the Department of Defence, 1932, p 2.

⁵⁴⁴ DFA, DC Gp 2, Box 3761, Annual report of the Department of Defence, 1932, p 2.

of the General Staff and the position of Director of Air Services was abolished, Lt Colonel John Holthouse became the Director of Civil Aviation as well as being the Officer Commanding (OC) of the Aircraft and Artillery Depot.⁵⁴⁵ That arrangement lasted until November 1934 when Brigadier General AJ Brink (both Secretary of Defence and General Officer Commanding Union Defence Forces) took over the role of Director in addition to his other duties, on the instruction of the Minister of Defence, Oswald Pirow.⁵⁴⁶

The SAAF continues to play a role within civil aviation

As elucidated in the outline of the previous decade, the SAAF played a key role in providing services to private pilots, flying clubs and government departments. This pattern persisted into the 1930s although with a waning influence in some respects.

The Air Force continued to undertake tasks on behalf of a number of government departments rather than these being contracted to civilian operators. Hence the transporting of diamonds from the state-owned mine at Alexander Bay to Cape Town was still flown on a monthly basis by SAAF crews, although with some economising as the personnel stationed in the mother city were removed.⁵⁴⁷ In 1934 and 1935 experimental work was carried out in Zululand and Natal in controlling locusts using aircraft.⁵⁴⁸ Aerial photography of large areas for the planning of agricultural projects, irrigation schemes and roads or for the updating of maps continued to be an Air Force role with the Department of Irrigation, Department of Forestry, Department of Agriculture, Roads Board and the Public Works Department making the most use of this Air Force capability.⁵⁴⁹ The extent of some of the aerial surveys can be gauged from two of the tasks undertaken in the late 1930s, the one in the Lowveld covering 6000 square miles and that in the George-Knysna region covering 1000 square miles. However, from 1934 this work was no longer the sole preserve of the SAAF aircraft. The Aircraft Operating Company (AOC), previously based in Rhodesia, started carrying

⁵⁴⁵ DFA, DC Gp 2, Box 3761, Annual report of the Department of Defence, 1933, p 2.

⁵⁴⁶ DFA, CGS Gp 2, Box 24, File 13/43, Secretary of Defence to Director of Civil Aviation, 19th November 1934.

⁵⁴⁷ DFA, DC Gp 2, Box 3761, Annual report of the Department of Defence, 1930, p19; 1931, p15; 1932 p18; 1933, p 10; 1934 p 16.

⁵⁴⁸ DFA, DC Gp 2, Box 3761, Annual report of the Department of Defence, 1934, p 16 and 1935, p 17; D. Becker, *The Eagles of Swartkop*, p 72.

⁵⁴⁹ DFA, DC Gp 2, Box 3761, Annual report of the Department of Defence, 1930, p 20; 1931, p 15; 1932, p 18; 1933, p 10; 1934, p 6; 1935, p 6; DFA, DAS Box 37, File DAS 806/2, Schedule of aircraft stores issued and services rendered on repayment, monthly reports from 1931 to 1937.

out large aerial survey contracts throughout the sub-continent. Within South Africa, local and central government contracts awarded to AOC included the Reef towns; the Lowveld region; the Northern Natal coalfields and Transvaal surveys for the Forestry Department.⁵⁵⁰

In the direct service of civil aviation, the SAAF continued until 1937 to carry out the examination of both pilots and ground engineers on behalf of the Director of Civil Aviation.⁵⁵¹ To this was added in the 1930s the rather grimmer task of convening boards of enquiry into civilian aircraft accidents where injuries and fatalities had resulted. Using a similar format to that used for Air Force accidents, these boards investigated the handful of accidents which befell private and commercial pilots each year.⁵⁵²

One of Pirow's bold moves to provide better facilities for the advanced training of aircrew reduced the direct role that the SAAF played in the examining of commercial pilots who held the "B" licence (private pilots held the "A" licence). In 1937 Pirow approved a scheme for the establishment of a School of Aeronautics as an extension of the Witwatersrand Technical College in Johannesburg. Henceforth, this institution would be responsible for all ground instruction, flying training and examining required for the issue of "B" licences; Ground Engineers licences; Second Class Air Navigator's licences and Radio Operators licences. In short, all of the training and examining required for the issuing of licences required by commercial aviation would fall under the College which would be reimbursed for theory and practical tests carried out on behalf of the Directorate of Civil Aviation. Licences would still be issued by the Director of Civil Aviation.⁵⁵³ The establishment of this branch of the Witwatersrand Technical College was justified by the Director of Civil Aviation thus: "The training in all branches of aeronautics now provided by this Institution meets a long felt need in a manner which was quite beyond the resources of the local flying clubs".⁵⁵⁴ The School of Aeronautics, based at Germiston Airport and with a satellite airfield at Witbank, became the largest civil aviation training institution in pre-Second World War South Africa with the largest

⁵⁵⁰ DFA, DC Gp 2, Box 3761, Annual report of the Department of Defence, 1934, p 6; 1935, p 6.

⁵⁵¹ DFA, DC Gp 2, Box 3761, Annual report of the Department of Defence, 1930, p 20; 1931, p15; 1932, p 19; 1933, p 4; 1934, p 6; 1935, p 8.

⁵⁵² DFA, DC Gp 2, Box 3761, Annual report of the Department of Defence, 1930-1937.

⁵⁵³ DFA, DC Gp 2, Box 2832, Director of Civil Aviation to Chief Clerk, Defence, 10th May 1937.

⁵⁵⁴ DFA, DC Gp 2, Box 2832, Director of Civil Aviation to Chief Clerk, Defence, 10th May 1937.

fleet. In meeting the need for commercial aviation aircrew, including South African Airways (SAA) after it came into being in 1934, the School would indirectly serve the secondary military role envisaged for the state airline, as will be shown in due course.

The provision of workshop and stores support by the SAAF was another system adopted in the 1920s which continued into the next decade. A survey of the civil aviation customers relying on the SAAF reveals a greater diversity and more turnover in the accounts of the "aircraft stores issued and services rendered on repayment".⁵⁵⁵ In the financial year ending June 1932, the value of these goods and services was placed at £2930.⁵⁵⁶ As airline companies emerged in Southern Africa each of them utilized the SAAF for specialized work and the source of certain hardware and consumables. Hence Union Airways (until taken over by the state), South West Africa Airways (until absorbed into SAA) and Imperial Airways (until it relinquished overland routes in SA) all regularly used the Air Force workshops and stores, in addition to their own maintenance facilities and engineers. The same would be true once SAA became the major player in the provision of air transport in the region.⁵⁵⁷

The growth in the civil aviation sector in the 1930s also saw the establishment of the first air charter companies and flying schools, representing other local companies who would rely, to some extent, on the SAAF for technical support. These included the Air Taxi Company at Wingfield in Cape Town; Aero Services at Wynberg; African Air Transport at Germiston; Arrow Airlines in Durban and Haller Aviation in the Eastern Cape. The sole aerial photography company flying in the country, the AOC, was also a customer. New to the aviation scene in this period were the first gliding clubs in various parts of the country. The Cape Pioneer Gliding Club was formed in Cape Town; the Rand Gliding Club at Germiston; The Paarl Gliding and Sail Planing School and a German gliding club *Deutsche Segelflug Sport Gemeinschaft* on the Reef. All of these ended up on the SAAF's books. The balance of the customers were made up of flying clubs and private aircraft owners, some of the latter from overseas making trans-Africa flights. Martin and Osa Johnson, an American husband and wife duo of wildlife film makers had their Sikorsky aircraft serviced by the SAAF when passing through Pretoria in February 1933. When Sir Alan Cobham undertook his ambitious Air Display tour of

⁵⁵⁵ DFA, DC Gp 2, Box 3761, Annual report of the Department of Defence, 1932, p 19.

⁵⁵⁶ DFA, DC Gp 2, Box 3761, Annual report of the Department of Defence, 1932, p 19.

⁵⁵⁷ DFA, DAS Box 37, File DAS 806/2, Schedule of aircraft stores issued and services rendered on repayment, monthly reports from 1931 to 1937.

the country in 1932-33, several of the aircraft which made up his fleet were serviced at Zwartkop.⁵⁵⁸

However, a new development saw the importance of this Air Force role being significantly diminished in respect of one company's products. In 1930, the major British aircraft manufacturer, De Havilland, set up the third of its overseas subsidiary companies in Johannesburg at Baragwanath airfield.⁵⁵⁹ Since many of its products were flying in South Africa, this commercial enterprise made sense and it meant that fewer aircraft were going to be serviced and repaired by the SAAF.⁵⁶⁰ This really represents the end of the Air Force monopoly over aircraft maintenance work within South Africa, despite the fact that De Havilland South Africa itself regularly used the services and products available from Zwartkop and the Aircraft Depot.⁵⁶¹

With respect to the actual assembly of military aircraft, the Air Force's hold on an aspect of aviation which might have been expected to be undertaken by a local company, showed that it was still a major player in the technical sphere. When the new Westland Wapiti aircraft was adopted as the type intended to replace the aging DH9 types as the general purpose aircraft of the SAAF, the decision was taken to manufacture most of these under licence in South Africa at the Aircraft Depot.⁵⁶² Although engines, instruments, armament and all raw materials would still be imported from Britain, the airframe would be locally made according to factory drawings.⁵⁶³ Ten were completed by mid-1931, a further eight within the next year and ten more by the end of 1932.⁵⁶⁴

The unusual situation thus arose of the first true aircraft industry in the country being an entirely in-house undertaking by the Air Force in which it was both the customer and the supplier! The expertise available within the SAAF workshops was such that their artisans were sufficiently skilled to handle the range of tasks involved in aircraft parts manufacture and assembly. The situation prevailing in the 1920s in which the Aircraft

⁵⁵⁸ DFA, DAS Box 37, File DAS 806/2, Schedule of aircraft stores issued and services rendered on repayment, monthly reports from 1931 to 1937.

⁵⁵⁹ AJ. Jackson, *De Havilland Aircraft since 1909*, p 10.

⁵⁶⁰ DFA, DC Gp 2, Box 3761, Annual report of the Department of Defence, 1931, p 15.

⁵⁶¹ DFA, DAS Box 37, File DAS 806/2, Schedule of aircraft stores issued and services rendered on repayment, monthly reports from 1931 to 1937.

⁵⁶² DFA, DC Gp 2, Box 3761, Annual report of the Department of Defence, 1930, p 20.

⁵⁶³ DFA, DC Gp 2, Box 3761, Annual report of the Department of Defence, 1930, p20; D. Becker, *The Eagles of Swartkop*, pp 49, 51, 57.

⁵⁶⁴ DFA, DC Gp 2, Box 3761, Annual report of the Department of Defence, 1931, p15; 1932, p18; 1933, p 10.

Depot had maintained both civilian and SAAF aircraft, upgrading a number of Imperial Gift aircraft so as to allow them to soldier on in the face of small defence budgets, paid off in the 1930s with the adoption of ambitious projects to assemble newer aircraft types.⁵⁶⁵ Also remarkable was the fact that the project was entrusted by the OC of the Aircraft Depot, Major John Holthouse, to a senior NCO, the Chief Artisan, Sergeant Major H McQueen.⁵⁶⁶

In almost all cases where aircraft were licence-built in other countries, this work was taken on by a local aircraft manufacturer; a subsidiary of an overseas company or a state-owned aviation company. South Africa did not have access to any of these, mainly due to it being a very small market and so almost every aircraft operated in the Union was simply purchased directly from Britain, continental Europe or the USA. South Africa traditionally bought its military aircraft, engines and armament from Britain as a member of the British Commonwealth. The SAAF by taking on its own aircraft production, trod something of a unique path. In doing so, it can be argued, it assumed a role traditionally carried out by aircraft companies in other countries, even if in some cases these happen to be state-owned enterprises. Nor was the Wapiti production line a one-off example as the Air Force would later undertake precisely the same type of project with the assembly of twenty Avro Tutor training aircraft (from 1933) and sixty-five Hawker Hartbees army cooperation aircraft (from 1937).⁵⁶⁷

Although the majority of the aircraft purchased or assembled by the SAAF in this period were purpose-built military types, brief mention can be made of four exceptions that illustrate the fact that occasional use could be found for ex-civil aircraft, especially if they were cheap. In 1934, three DH66 Hercules airliners, hitherto operated by Imperial Airways, were purchased for a bargain basement price of £775 each. These were operated as transport aircraft well into World War Two, although one was used to drop arsenical dust on locusts in northern Natal in the year after it entered military service.⁵⁶⁸ The other aircraft acquired by the SAAF in a similar fashion, was the Gloster A.S.31, a

⁵⁶⁵ The South African conversions of the DH4 and DH9 aircraft with radial engines gave rise to indigenous derivatives known as the DH9N (Nimbus engine) and DH9J (Jaguar engine). Later the "Mpala" and "Mantis" emerged as modifications of the DH4 and DH9 respectively. Some of the Avro 504K trainers were also upgraded to 504N standard. D Becker, *The Eagles of Swartkop*, pp 35,36, 41.

⁵⁶⁶ D. Becker, *The Eagles of Swartkop*, p 51.

⁵⁶⁷ DFA, DC Gp 2, Box 3761, Annual report of the Department of Defence, 1933, p10; D. Becker, *The Eagles of Swartkop*, pp 59, 63-67.

⁵⁶⁸ AJ. Jackson, *De Havilland Aircraft since 1909*, p 274.

type specially developed for aerial survey photography and used by the AOC for photographing large parts of central Africa between 1930 and 1935. The SAAF acquired it in 1935 and operated it in the same role up until 1942.⁵⁶⁹

The Italian invasion of Abyssinia and its impact on South African defence thinking

In October 1935, Italian forces invaded Abyssinia (today Ethiopia), one of the only African countries at the time not under some form of colonial rule. This aggressive move, initiated by the fascist dictator Benito Mussolini to create a modern "Roman Empire", represented a startling piece of twentieth century imperialist expansionism, decades after the end of the so-called "Scramble for Africa" era of the previous century. The action would have far-reaching consequences, not least of which was the damage to the standing of the League of Nations (of which both Italy and Abyssinia were members) and two of its most powerful member states, Britain and France.⁵⁷⁰

In his piece "South Africa and the Italo-Ethiopian War 1935-36", Tilman Dederling has explored the implications of this invasion within South African political circles, both black and white, including Hertzog's defence of the League of Nations and his criticism of Britain's role.⁵⁷¹ Most of these reactions are beyond the scope of this study, but the element which does have a direct bearing relates to the role of aviation in the invasion and the possibility of new military threats to the Union arising from expansionist powers.

When in 1933 Pirow assumed the position of Minister of Defence in the new coalition or "fusion government" of Hertzog and Smuts, he was taking over Defence at a point when the military capacity of the country had been substantially scaled down to reduce government spending. With the economy starting to recover and under pressure from senior officers, he reversed the trend with an increased Defence budget in that year and all subsequent years of his tenure.⁵⁷² By 1938 the Defence budget was £1 760 400, close to double that of 1931.⁵⁷³ Although the Citizen Force units would again be

⁵⁶⁹ AJ. Jackson, *De Havilland Aircraft since 1909*, p 276.

⁵⁷⁰ M. Roberts, *The New Barbarism?*, p 264.

⁵⁷¹ T. Dederling, South Africa and the Italo-Ethiopian War, 1935-36 in *The International History Review*, 35, 5.

⁵⁷² I. van der Waag, The Union Defence Force between the two World Wars, 1919-40 in *Scientia Militaria*, Vol 30, 2, 2000, p 205 and p 208.

⁵⁷³ DFA, CGS Gp 1, Box 66, Memorandum on Defence, 1st January 1939.

expanded,⁵⁷⁴ Pirow, in his meeting with the Committee of Imperial Defence in London on 24th July 1933, committed the country to a very modest contribution to defence within the Commonwealth. Much to the irritation of the British Admiralty he tried to reduce South Africa's financial contribution to the minesweepers operated by the RNVR,⁵⁷⁵ the only element of naval defence for which the country paid, its main defence being the Royal Navy under the Simonstown agreement of 1921.⁵⁷⁶ He did indicate that he thought South Africa could, subject to parliamentary approval, contribute forces to helping British colonies in Africa as this would "in effect be a case of protecting whites against natives".⁵⁷⁷ In terms of "internal defence", he expressed the view that the armed police force backed by some aircraft and artillery could "cope with any trouble which might arise from industrial or native causes".⁵⁷⁸ Later, in asking for the Committee to hear South Africa's case before making a final decision on the issue of which weapons could be used to suppress internal resistance, he added the chilling observation that in police actions "for dealing with native troubles gas and bombs were the most humane and effective method".⁵⁷⁹ Apart from the role that the Air Force might be called to play internally, the only other time it featured in the discussions was in Pirow suggesting that aircraft could be based at coastal cities such as Cape Town and Durban to augment the upgraded coastal batteries which were being proposed.⁵⁸⁰

In the 1934 parliamentary debate for the Defence budget, Pirow had sketched his vision for the defence forces in South Africa as he believed they should be expanded in the next five years. Apart from naval forces which were still to be almost entirely a British responsibility, he proposed a rearmament scheme that would substantially increase the size and capacity of the land forces and coastal defences. At this point, his envisaged

⁵⁷⁴ I. van der Waag, The Union Defence Force between the two World Wars, 1919-40 in *Scientia Militaria*, Vol 30, 2, 2000, p 208.

⁵⁷⁵ DFA, CGS Gp 2, Box 62, Minutes of the 295th meeting of the Committee of Imperial Defence, 24th July 1933, pp 2-6.

⁵⁷⁶ H. Martin and N. Orpen, *South Africa at War*, p 1.

⁵⁷⁷ DFA, CGS Gp 2, Box 62, Minutes of the 295th meeting of the Committee of Imperial Defence, 24th July 1933, p 2.

⁵⁷⁸ DFA, CGS Gp 2, Box 62, Minutes of the 295th meeting of the Committee of Imperial Defence, 24th July 1933, p 2. T Dederling, Air Power in South Africa 1914-1939 in *Journal of South African Studies*, 41, 3, p 462 erroneously states that Pirow "stated categorically that South Africans would not fight outside of South Africa, when the minutes reflect "...under no conditions would the South African forces be available for service outside of Africa" [my emphasis].

⁵⁷⁹ DFA, CGS Gp 2, Box 62, Minutes of the 295th meeting of the Committee of Imperial Defence, 24th July 1933, p 6.

⁵⁸⁰ DFA, CGS Gp 2, Box 62, Minutes of the 295th meeting of the Committee of Imperial Defence, 24th July 1933, p 2.

expansion for the Air Force was rather less impressive and consisted of three squadrons which he described as "one high speed bomber, one general purpose and one tutor [sic] squadron for *ab initio* training".⁵⁸¹

What the invasion of Abyssinia in 1935 and its successful conclusion in 1936 did in South Africa, apart from showing the failure of the League to protect its member states, was to focus attention on issues arising out of the role that air power had played in the Italian military action. The Italian Air Force had made extensive use of aircraft to bomb both military and civilian targets using conventional bombs and poison gas. As Dederling makes clear in his analysis, the fact that this was being used by a European nation in Africa raised the spectre of air power being used against South Africa. There was now also a substantial part of the *Regia Aeronautica* based in East Africa. In alarmist letters to the press and to Hertzog, the fears of a country facing aerial bombardment were articulated.⁵⁸² Afrikaner nationalist politicians on both sides of the house had to now reconsider their attitude to defence priorities. There now seemed to be a viable threat to South Africa from outside the country but from within the continent and air power had made this threat all the more real. Defence spending could no longer be viewed as something which committed South African expenditure to something that might be used for imperial defence.

Even before Pirow had started to make bold moves to expand the Air Force, van Ryneveld was already making some changes to give the SAAF a modicum of air defence in the wake of the Italian aggression. In December of 1935, he issued an internal order for the Immediate Development Programme of the SAAF under which the best CFS pilots were released to become pilots on the seven Hawker Fury aircraft that constituted the only fighters available in the Air Force at that time. Measures were put in place to increase the civilian artisan staff at the Aircraft Depot to increase aircraft production and to release military technical staff to the flying units.⁵⁸³ This was intended to allow the expansion of the CFS in terms of aircraft and ground personnel. When the

⁵⁸¹ DFA, DC Gp 2, Box 3761, Annual report of the Department of Defence, 1934, p 9. The reference to a "tutor" squadron was an error as this comprised Avro Tutor trainers.

⁵⁸² T. Dederling, South Africa and the Italo-Ethiopian War, 1935-36 in *The International History Review*, 35, 5, p 1019.

⁵⁸³ DFA, CGS Gp 2, Box 63, CGS to OC CFS, OC AAD, OC Cape Squadron and Director of Technical Services, 5th December 1935.

Minister decided in March 1936 that within the expansion of the armed forces, "Air Expansion was to be Number One", these moves were all endorsed as priorities.⁵⁸⁴

In pressing for a major expansion of the SAAF in parliament in April 1936, Pirow used the argument that advances in air power made the country less secure in its geographical isolation.⁵⁸⁵ In his statement to the house, Pirow made specific reference to events in Abyssinia, which he said had necessitated a review of defence policies and that his new five year plan was one that would provide South Africa with a thousand pilots, three thousand air mechanics and a minimum of twelve flights, each comprising five high speed multi engine bombers which would be based on existing civil aircraft.⁵⁸⁶

Dedering in a separate piece, "Air Power in South Africa 1919-39", examines several possible motives for Pirow's aviation plans. Apart from the perceived military threat to the country, these included being able to deal with the threat of black Africans within the country and beyond its borders and also the aim of pursuing a "Greater South Africa". However, Dedering makes only the briefest mention of what would constitute the expansion of the Union's military air capability and makes no attempt whatsoever to explain how this was attempted.⁵⁸⁷ The same is true of Ian van der Waag's lengthy overview of the inter-war period in "The Union Defence Force between the two World Wars, 1919-40".⁵⁸⁸ In addition, the relevant volumes of the official history of South Africa in World War Two make only passing reference to the Pirow aviation initiatives.⁵⁸⁹

How Pirow set about making good on his plans forms the basis for the remainder of this chapter. It will provide an analysis of how Pirow used two plans which can be regarded as both pragmatic and cost effective by exploiting the expanding civil aviation sector in South Africa to serve a military role.

⁵⁸⁴ DFA, CGS Gp 2, Box 63, Van Ryneveld to AG and DMOT, memo #6, 30th March 1936.

⁵⁸⁵ Hansard, House of Assembly Debates, 24th January to 17th June 1936, Vol 26, column 2502 to 2503.

⁵⁸⁶ Hansard, House of Assembly Debates, 24th January to 17th June 1936, Vol 26, column 2502 to 2503; H Martin and N Orpen, *South Africa at War*, p 9.

⁵⁸⁷ T. Dedering, Air Power in South Africa 1914-1939 in *Journal of South African Studies*, 41, 3, pp 463-4

⁵⁸⁸ I. van der Waag, The Union Defence Force between the two World Wars, 1919-40 in *Scientia Militaria*, Vol 30, 2, 2000.

⁵⁸⁹ H. Martin and N. Orpen, *South Africa at War*, pp16-19; JA Brown, *A Gathering of Eagles*, pp 19-22.

The Thousand Pilot Scheme

The flying clubs of South Africa, which had received something of a boost in the 1920s, became one of the casualties of the Depression years. Of the nine clubs which existed at the start of the 1930s, only two were still functioning by 1933.⁵⁹⁰ A lack of government subsidies and the decline in disposable income among many private pilots had combined to severely diminish the amount of non-commercial private flying taking place in these years.

In 1935, once South Africa had left the Gold Standard and the economy had started to recover, the government introduced a subsidy to flying clubs which assisted them financially and made flying more affordable to its members by way of a rebate after a prescribed number of hours had been flown. Under this subsidy, £25 was paid to clubs for each member completing twenty-five hours and obtaining an "A" Licence, of which £10 was refunded to the member. After completing a further twenty-five hours of solo flying, the club would receive a further £30 of which half would be refunded to the pilot. These subsidies were available to both male and female pilots. In order to provide a more direct benefit to the Air Force Reserve, a subsidy of £100 was payable for each male pilot who was appointed to the SAAF Special Reserve, a commitment which would entail military training and obligations as a reservist. In these cases, the pilot received a £90 rebate.⁵⁹¹ The subsidy scheme had a very positive effect and the number of flying clubs grew as a result. By 1939 there were a dozen active flying clubs in the Union.⁵⁹²

But a far more ambitious means of revitalizing civilian pilot training and simultaneously of building a SAAF pilot reserve was to follow. One of Pirow's initiatives as Minister of Defence was a scheme under which around a thousand civilian pilots would be trained by flying schools and clubs, *entirely* at government expense, on the understanding that they would form part of the SAAF Special Reserve. The original plan was to accomplish the training of these pilots in the period from 1937 to 1945, although the last intake

⁵⁹⁰ DFA, DC Gp 2, Box 3761, Annual report of the Department of Defence, 1933, p 4.

⁵⁹¹ JH. Willard, The Light Aeroplane Movement in *Personalities in SA Motoring and Aviation*, p 406.

⁵⁹² JH. Willard, The Light Aeroplane Clubs of South Africa in *Personalities in SA Motoring and Aviation*, pp 447-456.

would be in 1941.⁵⁹³ This became commonly known as the "Thousand Pilot Scheme" but was officially referred to as the Pupil Pilots Training Scheme. The original planning in late 1936 made provision for 630 university students and 455 civilian employees (including the civil service) to be trained. The university students, who were expected to have more time available, would be trained over a period of one year and nine months with 110 hours of flying. The other trainees, who would be working citizens and so have more limited free time for flying training, would be trained over an extended period of three years and three months encompassing 215 hours in the air. The budget allocation per pupil pilot would be £440 and £860 respectively.⁵⁹⁴ In the initial discussions around the scheme, the Secretary of Defence, Major General AJ Brink, argued for a uniform period for all trainees but was persuaded that this was impractical.⁵⁹⁵

In some respects, the scheme was an extension of the concept of the TATS originally established in the late 1920s which allowed a small number of university students from the TUC in Pretoria to qualify as pilots through SAAF training. This had expanded somewhat in the early 1930s and by 1934 candidates from both the University of Pretoria and the University of the Witwatersrand between the ages of 18 and 26 were eligible, with the annual quota made up from other citizens if there were spaces. In the latter category, pilots with at least fifty hours of solo flying with a private club could also be considered as long as they were under 32 years of age. The contract entered into with the state meant that cadets were trained over four years. On qualifying for their Air Force wings they would then be required to serve as part of the SAAF Special Reserve of Flying Officers for a further ten years, during which time they would be obliged to attend annual refresher courses at Zwartkop, each lasting about three weeks.⁵⁹⁶

Under the far more ambitious scheme which was envisaged by Pirow from 1937, South Africa would draw on the system used in Britain to build up the RAF Volunteer Reserve. The British Air Ministry in November 1936 provided documentation detailing the conditions of entry and service for candidates and these were used as the basis for the

⁵⁹³ DFA, DC Gp2, Box 2832, Draft of letter from Secretary of Defence to flying clubs and schools, undated (circa November 1936).

⁵⁹⁴ DFA, DC Gp2, Box 2832, Secretary of Defence to Minister of Defence, 3rd February 1936; Draft of letter from Secretary of Defence to flying clubs and schools, undated (circa November 1936).

⁵⁹⁵ DFA, DC Gp2, Box 2832, Secretary of Defence to Minister of Defence, 3rd February 1936.

⁵⁹⁶ DFA, DAS, Box 30, File AD424/6, Memorandum of information regarding cadetships in training squadrons, SAAF, Active Citizen Force, September 1934.

scheme which would be launched in South Africa the following year.⁵⁹⁷ Central to the scheme was the concept of outsourcing the training of pilots to a number of flying schools and clubs in the major cities and towns of the Union. This was precisely how the British system, which started in 1936, was designed to help swell the ranks of pilots available to the Air Force in times of war.⁵⁹⁸

To gain some sense of perspective on the scale of the proposed scheme relative to the existing number of pilots and reservists at the time, some key statistics are useful. By mid-1935, before the subsidy scheme for flying clubs was introduced, there were in the country a total of 124 pilots who held "A" (private) Licences and 36 who held "B" (commercial) Licences. The civil aviation sector was being served by 43 ground engineers and there were a total of 81 aircraft registered to private owners or companies.⁵⁹⁹ By the middle of the previous year, the total number of SAAF reservists from the TATS stood at 43.⁶⁰⁰ Hence, the Pupil Pilots Training Scheme, if it ran its full course, stood to increase the number of private pilots by roughly seven fold and the number of SAAF reservists to more than twenty times as many. The impact on both civil and military aviation, could have represented the single most important government initiative to increase the number of flying personnel in the inter-War period in South Africa.

In terms of cost effectiveness, the concept of using civilian flying schools and clubs as contractors to undertake flying training was based on the Air Force using the instructors, infrastructure and aircraft of these organizations and in doing so, limiting state expenditure on pilot training. This type of training also meant that an Air Force reserve of pilots could be grown without the introduction of conscription. Those entering the scheme would carry out flying training in their own free time, but at government expense. Under the scheme the civilian organizations would provide 10 250 hours of flying instruction in 1937 which would increase to 20 035 in 1938 and 28 645 in 1939.⁶⁰¹ The cost estimate for running the scheme over eight years (1937 to 1945) was £653

⁵⁹⁷ DFA, DC Gp2, Box 2832, Air Ministry to Director of Civil Aviation, 7th November 1936; AM Pamphlet 62 (RAF Volunteer Reserve, Pilot Section, Notes for the information of candidates).

⁵⁹⁸ DFA, DC Gp2, Box 2832, Air Ministry to Director of Civil Aviation, 7th November 1936; Draft of letter from Secretary of Defence to flying clubs and schools, undated (circa November 1936).

⁵⁹⁹ DFA, DC Gp2, Box 3761, Report of the Department of Defence, year ended 30th June 1935, p 8.

⁶⁰⁰ DFA, DC Gp2, Box 3761, Report of the Department of Defence, year ended 30th June 1934, p 26.

⁶⁰¹ DFA, DC Gp2, Box 2832, Draft of letter from Secretary of Defence to flying clubs and schools, 30th November 1936.

500.⁶⁰² The new scheme did not replace the earlier subsidy system which was amended to a single grant of £30 for each pilot obtaining an "A" Licence, of which half was refunded to the pilot. Pilots entering the new Pupil Pilot Training Scheme were not eligible for the subsidy.⁶⁰³

At a meeting on 30th October 1936 in the office of the Secretary of Defence the final draft of a document was discussed which would form the basis for a contract entered into with flying schools and clubs that were amenable to the terms. Among those present were the Chief of the General Staff, the Officer Commanding the SAAF Central Flying School and a representative of the Directorate of Civil Aviation.⁶⁰⁴ The application of military standards in the equipping of training aircraft led to some amendments to the contract, including an insistence on seat harnesses and parachutes. It was agreed that parachutes would be loaned to the clubs and schools who signed the contract. Something of the sense of urgency regarding the scheme from the Department of Defence can be gauged from the decision to allow civilian pilots with fifty hours flying to their credit to be attested without delay and to be brought into the scheme under the January 1937 intake.⁶⁰⁵

By the end of 1936, the Department of Defence had prepared a letter explaining the scheme and inviting participation from ten companies and clubs across three of the provinces. The initial approach was to the Baragwanath Flying School; Johannesburg Light Plane Club; Rand Flying Club; Witwatersrand Technical College (WTC); Natal Aviation (in Durban); Aero Services (in Cape Town); Air Taxi Company Flying School (in Cape Town); African Air Transport (at Kimberley and Port Elizabeth) and Haller Aviation (East London).⁶⁰⁶ Each of these was asked to quote an hourly rate for instruction in a three year contract which had to include both flying and ground

⁶⁰² DFA, DC, Gp 2, Box 2832, Training of Air Force pilots in Light Plane Clubs, basis of provision in estimates 1937-38, 10th November 1936.

⁶⁰³ JH. Willard, *The Light Aeroplane Movement in Personalities in SA Motoring and Aviation*, p 406.

⁶⁰⁴ DFA, DC Gp2, Box 2832, Notes made at a meeting held to discuss the draft memorandum of agreement in connection with the training of pupil pilots by approved light plane clubs and schools, 30th October 1936.

⁶⁰⁵ DFA, DC Gp2, Box 2832, Notes made at a meeting held to discuss the draft memorandum of agreement in connection with the training of pupil pilots by approved light plane clubs and schools, 30th October 1936.

⁶⁰⁶ DFA, DC Gp2, Box 2832, Draft of letter from Secretary of Defence to flying clubs and schools, undated (circa November 1936). It would appear that the Director of Civil Aviation also made an approach to the South African Light Aircraft Company, a new company being established in Pretoria at the time the approach was made to the existing clubs and schools. DFA, DC Gp2, Box 2832, SA Light Aircraft Company to Director of Civil Aviation, 29th December 1936.

instruction.⁶⁰⁷ It was accepted that trainees would receive instruction on a range of aircraft types depending on what comprised the fleets of the clubs and schools. An initial list of approved types was provided, with the rider that additional types could be added.⁶⁰⁸

Parallel to the approaches made to the civilian companies and clubs, press releases were issued announcing the scheme to the public. Although not stated explicitly, the outline of the scheme implied that it would be limited to "white male applicants".⁶⁰⁹ The intake of trainees over the next five years would be 125 in 1937 followed by 186, 234, 282 and 208 in succeeding years. Trainees under the scheme would receive free equipment, uniforms and transport to the civilian airfields. Although all *ab initio* training would be carried out at the civilian clubs and schools, entrants into the scheme would be required to undergo periods of ground training, variously described as "intensive" or "continuous" training, at the Central Flying School, so as to be trained in the military aspects of flying. During these periods they would be allowed free rations; a messing allowance and pay of five shillings a day.⁶¹⁰ The trainees had to agree to ninety days of military training comprising fifteen and thirty day stints at various intervals in the flying training. They also had to sign a contract that would bind them to flying training for four years and ten years as SAAF reservist pilots.⁶¹¹ By the time the official Defence Force memorandum on applications for the training of pupil pilots had been published in January 1937, some of the conditions had been more carefully defined, including that candidates had to be "a British subject of pure European descent".⁶¹² There was still no specific exclusion based on gender, it presumably being taken as a given that women simply did not fly for the Air Force.

The new scheme, although nationwide, retained a preference for university students as the basis for recruiting trainees. In some intakes there were as many as six university candidates for every one non-university entrant, although in most cases the ratio was

⁶⁰⁷ DFA, DC Gp2, Box 2832, Draft of letter from Secretary of Defence to flying clubs and schools, 30th November 1936.

⁶⁰⁸ DFA, DC Gp2, Box 2832, Draft of letter from Secretary of Defence to flying clubs and schools, undated (circa November 1936). The initial types that were approved were the DH Moth, DH Tiger Moth, Avro Avian, Avro Cadet and Miles Hawk.

⁶⁰⁹ DFA, DC Gp 2, Box 2832, Press release: SAAF Scheme for the training of 1000 reserve pilots, 30th November 1936.

⁶¹⁰ DFA, DC Gp 2, Box 2832, Press release: SAAF Scheme for the training of 1000 reserve pilots, 30th November 1936.

⁶¹¹ JH. Willard, *The Light Aeroplane Movement in SA Motoring and Aviation*, p 407.

⁶¹² DFA, DAS, Box 32, File 427/18/1, Memorandum "A": training of Pupil Pilots, January 1937.

closer to two-to-one.⁶¹³ Apart from the belief that they displayed an intellectual ability, they were not tied to full day working hours and they also had the benefit of long holidays. This meant that they could afford more time for flying training compared to men in full-time employment.

No sooner had the scheme been launched than the Secretary for Defence, Lt General Andries Brink, was having second thoughts about the occupations of the men from which the pupil pilots should be recruited. He was of the opinion that apart from university students the balance of the quota for each intake should, if possible, be drawn from the civil service and the railways. His logic was that as state employees it would be easier to arrange for periods of leave during which continuous training with the SAAF could be undertaken. This would effect a reduction in the training time with the Air Force from 165 to 60 hours and thereby achieve a cost saving of approximately £170 000.⁶¹⁴ Van Ryneveld believed that precluding applicants from outside of the categories proposed by Brink would exclude good material and so he made the counter suggestion that applicants all had to complete the training with flying schools within the same period of time as laid down for university students.⁶¹⁵ Brink then put a compromise proposal to Pirow that all applicants from whatever source should undertake to complete training within twenty-two months. The hastening of the scheme and the saving in contracts to the civilian schools were presented as advantages. Pirow concurred and the scheme was modified accordingly.⁶¹⁶

In the six months following the announcement of the scheme, the Department of Defence received 2 010 applications.⁶¹⁷ It is not difficult to understand why the scheme held great appeal. Notwithstanding the fact that there was an obligation to undergo military training and to serve on the reserve, here was an opportunity to learn to fly at state expense. Flying was a comparatively expensive pursuit but held great appeal to young men, most of whom would not be averse to the military side of the scheme if it were not their full time occupation. Indeed, to be trained under the scheme would place these men in not one, but two elites: the civil flying fraternity and those who wore SAAF uniform with pilot's wings. It is also worth remembering that most young males had

⁶¹³ DFA, DAS, Box 32, File 427/18/1, Allotment of Pupil Pilots for courses commencing in 1937.

⁶¹⁴ DFA, DC Gp 2, Box 2832, A. Brink to H. van Ryneveld, 6th April 1937.

⁶¹⁵ DFA, DC Gp 2, Box 2832, H van Ryneveld to A. Brink, 14th April 1937.

⁶¹⁶ DFA, DC Gp 2, Box 2832, A Brink to O Pirow, 4th May 1937.

⁶¹⁷ DFA, DC Gp2, Box 3761, Report of the Department of Defence, year ended 30th June 1937, p 1.

some military background in that the majority of boys' schools had a cadet detachment which served as a first tier of initiation into the military, providing as these did, some background in parade ground drill and musketry.⁶¹⁸

Aviation was still a sufficiently new science and the number of aircraft in the country still so small as to make flying a pursuit that few could enjoy despite the allure. The appeal of being associated with flying clubs even as "non-flying members" is evident from the fact that even in the period in the early 1930s, when most flying clubs in the country ceased to operate due to the Depression, the two which survived on the Reef had a combined membership of 560, of whom only a fraction were pilots.⁶¹⁹ The social status of being connected to flying, even on the periphery, can thus be taken as having played a significant role in attracting trainee pilots under the earlier subsidy system and the later Pupil Pilots Training Scheme.

A usefully detailed insight into the men who learned to fly in the period 1937 to 1939 under the scheme can be gained from a publication entitled *Personalities in South African Motoring and Aviation*.⁶²⁰ This huge tome was published after the outbreak of War, although it had obviously been under preparation for some years. The book includes potted biographies of almost every pilot in the country (male and female) and a close examination reveals the common background of those who were part of the Pupil Pilots Training Scheme. Given the parameters of the entrance requirements and the location of the flying schools, these common traits come as no surprise. Most were thus of white middle-class backgrounds; had attended the biggest state or private boys schools; were good sportsmen; were studying at university or were recently employed in a profession. There was a preponderance of English-speakers, explained mainly by the demographics of the urban population and the number of English-medium universities. Many of the pilots trained under the scheme, again unsurprisingly, featured in the book, as *both* pilots and motorists and as members of clubs devoted to each.⁶²¹ This reinforces the impression that the two activities were connected to social status.

⁶¹⁸ J. Illsley, *Pretoria Boys High*, p 85.

⁶¹⁹ DFA, DC Gp2, Box 3761, Report of the Department of Defence, year ended 30th June 1933, p 4.

⁶²⁰ Anonym, *Personalities in South African Motoring and Aviation*.

⁶²¹ Anonym, *Personalities in South African Motoring and Aviation*, pp 229-392; 411-433, 471-572.

The responses from flying schools and clubs to the scheme ranged from a ready acceptance of the terms (as represented by the Witwatersrand Technical College)⁶²² to the other extreme (most notably the Baragwanath Flying School) where an expression of interest was subject to pages of questions and conditions.⁶²³ While the WTC was able to start training at a reasonable rate of £4, 5s 0d per hour and had a fleet of Tiger Moths as favoured by the contract,⁶²⁴ the Baragwanath Flying School was proposing an initial rate of £6 per hour which would allow it to cover the additional expenses incurred by buying additional Tiger Moths as well as expanding the infrastructure at Baragwanath airfield.⁶²⁵

African Air Transport had training schools in three cities: Cape Town, Port Elizabeth and Kimberley. Because the bulk of trainees under the scheme were to be university students, the company proposed moving two of its schools to neighbouring towns which were home to universities. Hence they proposed to move from Kimberley to Bloemfontein and from Port Elizabeth to Grahamstown, the second move also partly motivated by the high winds at the coastal venue.⁶²⁶ Without giving reasons, the Director of Civil Aviation supported the latter move, but not the former.⁶²⁷

One clause in the contract which clearly worried several of the clubs and companies was the one which allowed the Secretary of Defence to cancel the contract at twenty-four hours notice if the Union Defence Force was mobilized for war. Since the civil organizations would be committing the greater part of their resources, including personnel, to the fulfilment of the contract, a sudden cancellation could be financially calamitous. Those with misgivings about this clause asked that the state take over the

⁶²² DFA, DC Gp 2, Box 2832, Witwatersrand Technical College to Secretary for Defence, 21st December 1936.

⁶²³ DFA, DC Gp 2, Box 2832, Baragwanath Flying School to Secretary for Defence, 29th December 1936.

⁶²⁴ DFA, DC Gp 2, Box 2832, Witwatersrand Technical College to Secretary for Defence, 21st December 1936.

⁶²⁵ DFA, DC Gp 2, Box 2832, Baragwanath Flying School to Secretary for Defence, 29th December 1936.

⁶²⁶ DFA, DC Gp 2, Box 2832, African Air Transport to Secretary for Defence, 31st December 1936.

⁶²⁷ DFA, DC Gp 2, Box 2832, Director of Civil Aviation to African Air Transport, 11th January 1937.

company or allow them to continue as part of the services in the event of war.⁶²⁸ The state refused to alter the agreement in this respect.⁶²⁹

Because the government contract with flying clubs and schools did not include a separate payment for ground instruction (as distinct from flying instruction) Natal Aviation asked for permission to have all of its pupils registered with the Witwatersrand Technical College to undertake some of the theoretical courses by correspondence, the cost of which was included in the flying instruction rate quoted to the state. Other instruction would be carried out by the company chief flying instructor and service manager.⁶³⁰ After consulting with the SAAF Central Flying School the Department of Defence agreed to this concession providing sufficient ground instruction was given; that facilities for practical work were provided and that the company instructors were sufficiently competent to assist students with their correspondence courses.⁶³¹

After negotiating with several companies, the Department of Defence made final amendments in February 1937 to the contract for use with flying schools and clubs. The amendments related mainly to guaranteed payment from the state being based on a minimum number of flying hours achieved in each year. It was not possible to fix the number of flying hours per pupil as this would vary according to the pupil's aptitude and how frequently they were able to fly.⁶³² In a case of minor bureaucratic bungling, the un-amended contracts were sent to flying schools and had to be replaced. The revised agreement stipulated that a school falling short of the guaranteed hours would be paid at a rate of 50% for the completed hours.⁶³³ The following month the government finally settled on the hourly rates to be paid to the companies and clubs undertaking the training, namely £4.7s. 6d for coastal areas and £4.15s.0d for inland centres.⁶³⁴ The reason for this differentiation is not clear, although it may well have had to do with the longer time it would take to gain altitude during training flights in the rarefied highveld air. It is also not clear how the government rate was determined. The tenders submitted by the original nine companies and clubs almost all reflect similar rates only when

⁶²⁸ DFA, DC Gp 2, Box 2832, Natal Aviation to Secretary of Defence, 31st December 1936; African Air Transport to Secretary for Defence, 31st December 1936.

⁶²⁹ DFA, DC Gp 2, Box 2832, Director of Civil Aviation to Natal Aviation, 11th January 1937; Director of Civil Aviation to African Air Transport, 11th January 1937.

⁶³⁰ DFA, DC Gp 2, Box 2832, Natal Aviation to Secretary of Defence, 31st December 1936.

⁶³¹ DFA, DC Gp 2, Box 2832, H. Tasker (OC of CFS) to Director of Civil Aviation, 19th January 1937.

⁶³² DFA, DC Gp 2, Box 2832, A. Brink (GOC, UDF) to Adjutant General, 2nd February 1937.

⁶³³ DFA, DC Gp 2, Box 2832, Secretary for Defence to African Air Transport, 24th February 1937.

⁶³⁴ DFA, DC Gp 2, Box 2832, Memorandum for CGS: Pupil Pilots Training Scheme, 18th March 1937.

based on flying hours in excess of 3000 or more.⁶³⁵ It must be presumed that the government, in determining the rate it would offer, was taking the long term view of the scheme in which these hours *would* be reached over a number of years assuming that a company or club retained the contract. Since all nine of the aviation companies and flying clubs accepted the rates, it must be assumed that that they too accepted the optimistic longer term prospects of the scheme.

Some issues relating to infrastructure needed for the scheme had to be resolved. Natal Aviation did not have access to a forced landing ground to meet the requirement in the contract.⁶³⁶ The CFS told the company that this facility did not have to be owned by them and that an arrangement could be made with a local landowner to use suitable land on an occasional basis.⁶³⁷ The Air Taxi Company in Cape Town agreed to undertake training at a satellite airfield at Stellenbosch so as to train pupils from the university in that town, but indicated that no such airfield yet existed.⁶³⁸ The Department of Defence set in motion steps to acquire a suitable landing ground, although it was ultimately African Air Transport who did the training at this airfield.⁶³⁹

After the Department had expressed its reluctance to have African Flying Services move their school from Kimberley to Bloemfontein, the company, on its own initiative, approached the municipality of Bloemfontein to use the local municipal airfield as an additional training base and to have it upgraded.⁶⁴⁰ The town council was willing to spend up to £12 000 on hangars and other buildings to house the company aircraft and lecture rooms.⁶⁴¹ Their hope was that in having an aviation company which also flew charter flights based at Bloemfontein, they could, to quote a contemporary press report, "establish the city as a permanent centre of civil aviation in the Union, thus rendering it more attractive to industrialists and keeping it generally abreast of the times".⁶⁴² Having secured this pledge from the council, the company informed the government of the

⁶³⁵ DFA, DC Gp 2, Box 2832, Training of Pupil Pilots: Tenders by Flying Clubs or Schools, undated, circa 4th March 1937.

⁶³⁶ DFA, DC Gp 2, Box 2832, Natal Aviation to Secretary of Defence, 31st December 1936.

⁶³⁷ DFA, DC Gp 2, Box 2832, H. Tasker (OC of CFS) to Director of Civil Aviation, 19th January 1937.

⁶³⁸ DFA, DC Gp 2, Box 2832, Air Taxi Company to Secretary for Defence, 30th January 1937.

⁶³⁹ DFA, DC Gp 2, Box 2832, Secretary for Defence to Air Taxi Company, 4th February 1937; DFA, DC Gp 2, Box 2824, Adjutant General to Director of Air and Technical Services, 30th June 1938.

⁶⁴⁰ *The Friend*, "Bloemfontein to have Aviation School", 27th February 1937.

⁶⁴¹ *The Star*, "Bloemfontein's Airport", 1st March 1937.

⁶⁴² *The Star*, "Bloemfontein's Airport", 1st March 1937.

move, hoping that it could gain a contract for this centre as well as others in the Cape.⁶⁴³

In the event, the Thousand Pilot Scheme did not achieve the hoped for change in aviation status for the capital of the OFS. Instead it helped bring about the resuscitation of the Bloemfontein Flying Club, established in 1929, but inactive for some years due to the Depression. With the prospect of the government scheme making a flying club a viable business proposition, around sixty residents met on 4th March 1937 and most of them immediately agreed to collectively provide £5000 in capital to fund the revitalized club in which they would be shareholders. They put in their own bid to become the flying club responsible for training pilots under the government scheme and asked to use the existing military hangars to house the new aircraft they proposed to purchase.⁶⁴⁴ In this they were successful and they duly became the organization carrying out flying training at Bloemfontein.⁶⁴⁵

As the flying schools and companies who showed an interest in the training scheme presented the credentials of their flying instructors it again became apparent how intertwined civil and military aviation was with respect to personnel. Many of the instructors in the civil flying training organizations that were now being relied on to build up a reserve of one thousand pilots were ex-SAAF pilots who had moved on to careers in civil aviation. Now they would be training civilians for a dual role as military reservist pilots.⁶⁴⁶

The ultimate geographical location of the units that made up the training scheme were shaped by a combination of factors. The desire to tap into university students and the population of the largest metropolitan areas overlapped with the location of several of the companies and clubs that could undertake training and this provided the initial structure. However, the number of applications for pilot training received from certain outlying towns, coupled with the ability of some flying schools to split their training to cover more than one location, led to an expansion of the scheme beyond the initial

⁶⁴³ DFA, DC Gp 2, Box 2832, African Flying Services to Secretary for Defence, 2nd March 1937.

⁶⁴⁴ DFA, DC Gp 2, Box 2832, Chairman of Bloemfontein Light Plane Club to Director of Civil Aviation, 5th March 1937.

⁶⁴⁵ DFA, DC Gp 2, Box 2824, Adjutant General to Director of Air and Technical Services, 30th June 1938.

⁶⁴⁶ DFA, DC Gp 2, Box 2832, J. Orr to Secretary for Defence, 28th January 1937 mentions Captain EN. Donnelly ex-SAAF as having been appointed as their Chief Flying Instructor. Various examples of other men who went through this career path can also be found in Anonym, *Personalities in South African Motoring and Aviation* and P. Bagshawe, *Passion for Flight*.

scope. Hence when George Haller offered to divide his training fleet and personnel between East London and Port Elizabeth, the latter city came to be included as a training centre in its own right.⁶⁴⁷ This was not the case with a similar attempt by Haller a few weeks earlier to have Queenstown accepted as a satellite airfield.⁶⁴⁸ Baragwanath Flying School approached the government with a proposal to extend the places where it would offer training to Vereeniging and Randfontein. In the latter mining town, the mining industry was keen to encourage members of staff to take up flying.⁶⁴⁹ The response from the Director of Civil Aviation was that final decisions on where to have training centres would depend on the number of applicants from different areas, but that generally no candidate would be accepted who lived further than ten miles from an aerodrome.⁶⁵⁰ These towns were not initially incorporated into the scheme, but Potchefstroom was included because it had a university, the training being undertaken by the Rand Flying Club.⁶⁵¹

The final training centre added to the scheme was also the most far flung and in some respects the most curious. Sometime between June and October 1938, Windhoek became part of the scheme, despite it lying in a League of Nations mandate territory administered by South Africa.⁶⁵² It is not clear why this city became a late addition, although it is possible that representations had been made to the government by the Windhoek Flying Club who may have also secured the initial contract.⁶⁵³ Whether Pirow's pro-German views and personal connection to the territory played any role is not known, although the fact that it was the only training centre not in the proximity of a university does raise suspicions as to a special concession having been made. The South African government unofficially viewing the territory as a "fifth province" of the Union almost certainly *did* play a role. The following year, the contract for Windhoek was awarded to African Air Transport.⁶⁵⁴

From the combined influences described would emerge the full training scheme which from June 1938 was designated the Union Air Training Group (UATG), the earlier

⁶⁴⁷ DFA, DC Gp 2, Box 2832G G.Haller to Secretary for Defence, 25th March 1937.

⁶⁴⁸ DFA, DC Gp 2, Box 2832, G.Haller to Secretary for Defence, 8th March 1937.

⁶⁴⁹ DFA, DC Gp 2, Box 2832, Baragwanath Flying School to Civil Air Board, 30th January 1937.

⁶⁵⁰ DFA, DC Gp 2, Box 2832, Director of Civil Aviation to Baragwanath Flying School, 16th February 1937.

⁶⁵¹ DFA, DC Gp 2, Box 2824, Adjutant General to Director of Air and Technical Services, 30th June 1938.

⁶⁵² D. Becker, *Yellow Wings*, p 8.

⁶⁵³ DFA, DC Gp 2, Box 2832, Assistant Secretary of Defence to Defence HQ, 5th May 1939.

⁶⁵⁴ DFA, DC Gp 2, Box 2832, Assistant Secretary of Defence to Defence HQ, 5th May 1939.

moniker of the Transvaal Air Training Squadron obviously having become a misnomer. Each of the civilian flying schools was now a Flight within the UATG and consisted of the following: 1 Flight at Stellenbosch (operated by African Air Services); 2 Flight at Cape Town (Air Taxi Company); 3 Flight at East London (Haller Aviation); 4 Flight at Durban (Natal Aviation); 5 Flight at Bloemfontein (Bloemfontein Light Plane Club); 6 Flight at Kimberley (African Air Transport); 7 Flight at Pretoria (Pretoria Light Aircraft Company); 8 Flight at Potchefstroom (Rand Flying Club); 9 Flight at Baragwanath airfield (Baragwanath Flying School); 10 Flight at Germiston (Rand Flying Club); 11 Flight at Germiston (Witwatersrand Technical College); 12 Flight at Grahamstown (Haller Aviation); 13 Flight at Port Elizabeth (Haller Aviation) and 14 Flight at Windhoek (African Air Transport from May 1939).⁶⁵⁵

Given that the scheme was offering young white men the chance to learn to fly at government expense, it is perhaps surprising that there was not more petitioning of the government to further expand the scheme. Such efforts were limited, but one example was a group of "good burghers" (citizens) from the Picketberg district who asked that an airfield be approved for the area and with it an extension of the pilot training scheme which would allow some of the local farmer's sons to learn how to fly in their spare time. The suggestion for clearing an airfield was to use the road workers who were then busy in the district!⁶⁵⁶ Their suggestions were politely, but firmly, turned down on the grounds that the current scheme was already fulfilling the quotas.⁶⁵⁷

In the first allocations to flying schools under the scheme, the Cape Town companies were each allocated fifteen pupils, the company and club serving the Eastern Cape, Durban, Bloemfontein and Kimberley were each granted seven and the largest allocations were to those companies training in Pretoria and Johannesburg, with Pretoria Light Aircraft Company having seventeen and both Witwatersrand Technical

⁶⁵⁵ DFA, DC Gp 2, Box 2824, Adjutant General to Director of Air and Technical Services, 30th June 1938. It would appear that the training at Grahamstown was originally going to be allocated to the Grahamstown Flying Club (see DFA, DC Gp 2, Box 2824, Allocation of pupil pilots for courses in 1937) but that this did not transpire and Haller gained the contract instead. See DC Gp 2, Box 2824, Secretary of Defence to R van der Riet in Grahamstown, 20th May 1938 turning down a request for more students from Rhodes to be trained and stating "Haller Aviation Company has the contract for East London as well as Grahamstown".

⁶⁵⁶ DFA, DC Gp 2, Box 2824, I. Kaplan et al to Secretary for Defence, 16th June 1938.

⁶⁵⁷ DFA, DC Gp 2, Box 2824, Secretary for Defence to I. Kaplan, 5th July 1938.

College and the Baragwanath Flying School having twenty three each.⁶⁵⁸ The size of allocations can obviously be correlated to the size of the urban areas, which in turn influenced the number of applicants within these areas.

By mid 1938 the total number of flying hours amassed by the pupil pilots under the scheme was 16 128.⁶⁵⁹ To put this in perspective, the figure exceeded the total hours flown by the SAAF in the previous year.⁶⁶⁰ Given that the pupil pilots were being trained as the basis for a massively expanded Air Force flying reserve, the training under the Pupil Pilot Scheme had effectively doubled the number of flying hours being flown in service of military aviation, as a result of the basic flying training being done in civilian clubs and companies. Predictably, the largest number of training hours were completed by the companies and schools on the Reef and in Pretoria, with between 2200 and 2600 hours each.⁶⁶¹ When Pirow provided parliament with a Defence review in March 1939 he claimed that there were 432 pupil pilots undergoing training and that this would, in time, support six reservist squadrons, one in Pretoria, two on the Witwatersrand, and one each in Bloemfontein, Durban and East London.⁶⁶²

After the inception of the scheme, various administrative details needed to be ironed out. Among these was the question of absorbing the existing pupil pilots of the TATS into the new scheme.⁶⁶³ Regulations also had to be promulgated to cover cases where pupils did not complete the required fifty hours of "non-continuous" flying training in the prescribed period due to bad weather, illness or leave and who would then have to make up this shortfall with the SAAF Central Flying School.⁶⁶⁴ Finally, there was the question of who carried liability in the event of accidents at the civilian training centres. Legal minds within several government departments were at pains to ensure that the

⁶⁵⁸ DFA, DAS Box 32, File 427/18/1, Allotment of Pupil Pilots for courses commencing 1st April, 1st July, 1st October 1937 and 1st January 1938, undated.

⁶⁵⁹ DFA, DC Gp2, box 3761, Director of Air and Technical Services, Departmental Yearly Report for training year ended 30th June 1938.

⁶⁶⁰ DFA, DC Gp2, box 3761, Department of Defence Report for the year ended 30th June 1937.

⁶⁶¹ DFA, DC Gp2, box 3761, Director of Air and Technical Services, Departmental Yearly Report for training year ended 30th June 1938.

⁶⁶² Anon. "Union to be made strongest country in world for her size", *Rand Daily Mail*, 24th March 1939, p 15.

⁶⁶³ DFA, DC Gp 2, Box 2824, Chief Clerk, Defence to Secretary for Defence, Training of Pupil Pilots, 26th October 1937; Officer Commanding CFS to Secretary for Defence, 18th October 1937.

⁶⁶⁴ DFA, DC Gp 2, Box 2824, Chief Clerk, Defence to Secretary for Defence, Training of Pupil Pilots, 26th October 1937; Officer Commanding CFS to Secretary for Defence, 18th October 1937.

state could not be sued for any losses.⁶⁶⁵ The notion that university students entered into the program would be able to use their long summer holidays for the purpose of learning to fly also proved misplaced in the case of at least one group. Pupil pilots studying at the University of the Orange Free State who presumably came from outlying areas and who would have had to find board and lodging during the university vacation (and whose parents could not afford this) were all sent home by the Officer Commanding OFS Command in December 1937. He indicated that he would have to make arrangements with the Rector to find times that would be mutually convenient to the Flying Club and the University.⁶⁶⁶

It was probably inevitable that in a flying training scheme in which civilian institutions were being contracted to undertake the basic training of pilots who would then be further trained by the Air Force to meet military requirements, that a certain degree of finger pointing would emanate from all three sides of the equation. This arose largely from each group having its own priorities. For the flying schools and clubs it was making a profit or at least remaining solvent. For the pupil pilots it was a case of being able to learn to fly without too much inconvenience at any stage of the process. The Central Flying School wanted to take over pilots who had completed *ab initio* training of a good standard and hone them into service pilots. These priorities did not necessarily gel. As pupil pilots started to damage aircraft in the course of training at civilian clubs and companies, so bitter complaints arose from some that the government rate per hour only covered the cost of training "very good material" and blaming the selection process for putting the training organizations under financial pressure because of the "rapacious insurance rates" in schemes where typically the first £50 in cost was carried by the aircraft operator.⁶⁶⁷

In the case of the men who passed through the civilian training and then encountered the periods of Air Force training, the grousing arose from having to deal with military discipline, including curfews during training periods; the syllabus; mess accommodation; catering arrangements and even the types of aircraft they would have to fly. As one trainee in the scheme pointed out in its defence, the second half of the

⁶⁶⁵ DFA, DC Gp 2, Box 2824, Secretary for Defence to Secretary for Justice, 6th November 1937; Secretary for Justice to Secretary for Defence, 25th November 1937.

⁶⁶⁶ DC Gp 2, Box 2824, OC OFS Command to Secretary for Defence and Defence HQ, 3rd December 1937.

⁶⁶⁷ Pupil Pilot Scheme in *The Star*, 9th August 1939.

training was that intended to produce military pilots flying to Air Force standards and trained by SAAF personnel who were working to RAF criteria.⁶⁶⁸ A more basic problem probably prevented many of the trainees from meeting their obligations to the military training and that was being able to spare the time. Although official documentation gives little indication of this as a limiting factor, one wartime author reflecting on the scheme stated that "Few men in business, few young men starting their careers can afford a vacation of a month and a half each year for flying" and went on to suggest that "This probably explains why the actual number of pupil pilots under training was never at the authorised level".⁶⁶⁹

The Air Force for its part was disparaging of the standard of training in the civilian sector when it inherited pilots and started working with them at the CFS.⁶⁷⁰ This was despite the SAAF carrying out inspections of the civilian schools and spot tests of trainees.⁶⁷¹ Given the disparity in the power and complexity of SAAF aircraft relative to the types on which pupils had completed basic training, as well as the demands of military flying, these views were not unexpected. They probably contained a certain element of the prejudice traditionally harboured by Air Force pilots towards the less intensively trained civilians.

To some extent the criticisms emanating from the civilian training schools and the Air Force were met some years into its operation by adjusting, in 1939, the quotas for different towns and cities based on the suitability of the applicants as assessed by the Central Flying School. This saw the Cape Town and Witwatersrand schools having their quotas decreased, while Bloemfontein and Durban were increased. Despite reservations based on previous applicants, East London was also given an increased quota because under the SAAF expansion, an ACF squadron was planned for that city. The training at Potchefstroom had ended in 1938 because of a lack of applicants.⁶⁷²

Ultimately the more serious weakness within the Thousand Pilot Scheme in its first year lay not so much with the basic flying training being carried out by civilian clubs and

⁶⁶⁸ Government Scheme Defended in *The Star*, 16th August 1939.

⁶⁶⁹ JSM. Simpson, *South Africa Fights*, p 196.

⁶⁷⁰ D. Becker, *Yellow Wings*, p8; D. Becker *The Eagles of Swartkop*, p 68.

⁶⁷¹ DFA, DAS Box 32, File 427/18/1, Lt D. Meaker to OC CFS, Report on the Air Taxi Company, 25th November 1937. Very few of these reports seem to have survived so that it is difficult to gauge the findings of the monitoring of the civilian training institutions.

⁶⁷² DFA, DC Gp 2, Box 2832, OC Union Air Training Group to Secretary for Defence, 27th July 1939.

companies, but rather with the other side of the equation which required the SAAF Central Flying School to undertake the military flying training of the much increased number of active citizen force pilots in addition to its responsibilities training the Permanent Force intake of pilots. In June 1937 the Officer Commanding the Central Flying School, Lieutenant Colonel HTB Tasker, had indicated to the Chief of the General Staff that the "increase in the programme of training has not been supported by a corresponding increase in training facilities".⁶⁷³ In this he was referring to the lack of personnel, aircraft and mess accommodation needed to meet the increased intake of trainee pilots. He asked for and received permission to curtail and even suspend the training of the PF intake in order to cope with the pupil pilots who would be emerging from the civilian schools.⁶⁷⁴

The Air Force's capacity to cope with the demands created by the scheme was thus severely stretched in 1937, but the situation improved the following year. Waterkloof Air Station was opened in August 1938 and became the base of the first two SAAF fighter-bomber squadrons, leaving Swartkop as a training airfield housing CFS.⁶⁷⁵ Pirow had negotiated with Britain to purchase one hundred Hawker Hart aircraft at a mere £200 each. The British rearmament programme, which included the re-equipping of the RAF with modern monoplanes, made this arrangement possible. The cast-off Harts began to arrive in 1938 and added substantially to the fleet of the CFS, making up more than half of the aircraft available.⁶⁷⁶ Another development which took pressure off the CFS and served to make the pupil pilot scheme more workable, was the establishment of "out stations" at Bloemfontein, Cape Town and Durban which became home to the OFS, Cape and Natal Air Training Schools respectively.⁶⁷⁷ Each was intended as the SAAF component of the scheme in the different regions, making it easier to carry out the continuous training element of the scheme under which the civilians would be turned

⁶⁷³ DFA, CGS Gp 2, Box 63, Lt Col HTB. Tasker to CGS, 5th June 1937.

⁶⁷⁴ DFA, CGS Gp 2, Box 63, Lt Col HTB. Tasker to CGS, 5th June 1937.

⁶⁷⁵ D. Becker, *The Eagles of Swartkop*, p 67.

⁶⁷⁶ D. Becker, *The Eagles of Swartkop*, p 72. These aircraft made up the largest single delivery of military aircraft since the Imperial Gift.

⁶⁷⁷ DFA, CGS Gp 2, Box 63, Air Force Development Policy, Van Ryneveld to Secretary for Defence, 26th September 1938.

into service pilots. The newly-acquired Hawker Harts allowed two flights of these to be allocated to each school in addition to a flight of Avro Tutors at each facility.⁶⁷⁸

Even with the expansion of the SAAF being primarily intended to cope with the additional demands of pilot training, the number of pupil pilots meant that certain aspects of training had to be limited or excluded. As Dave Becker, the pre-eminent historian of the SAAF, states in one of his works: "The UATG training scheme strained the service flying training organization to such a degree that practical armament training and associated disciplines had almost entirely been neglected so that although there were many pilots under the UATG, very few could be considered qualified service personnel".⁶⁷⁹ Paradoxically, the field in which the new citizen force pilots were gaining the least experience during SAAF training was in the use of offensive weapons. Converting the pilots on to military aircraft and teaching them the discipline of military flying became the first priority.

Whatever the limitations of the scheme in terms of producing military pilots, the concept of using civilian schools to undertake the primary training made for a major growth phase in civil aviation. As one press report in 1939 put it: "The phenomenal progress evident in every department of civil aviation is largely due to the stimulus given to the flying club movement by the Government's 1000 pilots scheme."⁶⁸⁰ In 1938 the number of new aircraft registered in the country increased by 96 and by 75 in 1939 (to a total of 255), compared to 1931 when the total number of aircraft on the civil register was a mere 49. The total number of "A" licences (private pilots) issued in 1938 was 267 compared to 79 in 1931. More than half of the flying training hours of the Witwatersrand Technical College (3 009 out of 5 837) and the Rand Flying Club (2 358 out of 4 131) were flown by students in the government Pupil Pilots system.⁶⁸¹ The sizeable increase in the number of civil aircraft and pilots obtaining licences can be directly attributed to the scheme which was designed to train white males to become Air Force reservists.

⁶⁷⁸ DFA, CGS Gp 2, Box 63, Force Development Policy, Van Ryneveld to Secretary for Defence, 26th September 1938.

⁶⁷⁹ D. Becker, *The Eagles of Swartkop* p 69.

⁶⁸⁰ Anon. "Civil flying made good progress in 1938", *Rand Daily Mail*, 24th January 1939, p 14.

⁶⁸¹ Anon. "Civil flying made good progress in 1938", *Rand Daily Mail*, 24th January 1939, p 14.

Conclusion

The Thousand Pilot Scheme would make a significant contribution to the country being in a position to mount some form of air operations in the opening stages of World War Two. That contribution does have to be qualified. The Pupil Pilot Scheme did not run its full course because War intervened and so it never fulfilled its full potential. It had by then brought several hundred trainees into the SAAF reserve of pilots via the civilian flying schools which had re-emerged or expanded as a direct result of their role in the UATG. The full worth of the scheme was also limited by the inability to provide modern military aircraft by the time War broke out. That can partly be blamed on Pirow who had cancelled a Hawker Hurricane order in the hope of securing something even more modern only to discover when travelling to Britain in 1938 that South Africa could not obtain more than a handful of modern monoplanes due to the pressure on the British aircraft industry to re-arm the country after the Munich crisis.⁶⁸² Five Hawker Hurricanes and a single examples of the Fairey Battle and a Bristol Blenheim were all that Britain could spare as she frantically re-armed in the year after the Munich crisis.⁶⁸³ Ironically, the most modern types available were the airliners of SAA that were suitable for use as bombers and which, as described, had been purchased exactly with the potential role in mind. Had there been more fighters and light bombers on SAAF strength in 1939 then the pilot training scheme would have provided for an Air Force on a better war footing in the first months of the conflict. The myopic view that military aircraft must be purchased from Britain (something from which Pirow also suffered) meant that the purchasing of American military types did not happen until almost a year into the War. The missed opportunity to link the training programme to better frontline aircraft limited the full potential of the "Thousand Pilot Scheme" but it did not prevent the SAAF from going to war, albeit with mainly obsolete fighter and army cooperation aircraft in East Africa.⁶⁸⁴

⁶⁸² M. Schoeman, *Springbok Fighter Victory*, p 10.

⁶⁸³ JA. Brown, *A Gathering of Eagles*, p22; D. Becker, *The Eagles of Swartkop*, p 72.

⁶⁸⁴ M. Schoeman, *Springbok Fighter Victory*, p 19.

CHAPTER SIX

THE SHADOW AIR FORCE

Expanding SAAF strength

If the Thousand Pilot Scheme was an attempt at expanding the number of Air Force pilots by using civilian flying clubs and schools, then the next initiative from the Department of Defence represented a system whereby the number of pilots and aircraft at the Air Force's disposal would be increased by using a civil aviation enterprise that was state-owned. In essence the 1935 proposal to utilize much of the SAA fleet and many of its pilots to form a so-called "Heavy Bomber Wing", which in time of war would operate as squadrons under the SAAF, was a unique means of expanding the Air Force at minimal cost by allocating a dual role to one sector of civil aviation that was under direct state control. In today's military parlance, this might be referred to as a "force multiplier".

A parliamentary act in 1931⁶⁸⁵ allowed the South African Railways and Harbours administration to operate its own fleet of aircraft for the purpose of carrying passengers and goods, thereby clearing the path for a state-owned airline.⁶⁸⁶ South African Airways came into being in the 1st February 1934 when the assets and liabilities of Union Airways were taken over by the state and placed under the control of SA Railways and Harbours.⁶⁸⁷ Exactly one year later, the state took over South West African Airways which was absorbed into SAA.⁶⁸⁸ In the years following its establishment, the airline greatly expanded its routes, which in turn required an expansion in its fleet and personnel. The concept of using an airline as part of an air force appears to be without historical precedent. Arguably the closest comparative example would be that of the German airline Luft Hansa in the 1930s. In the case of Germany, the strict limitations placed on the country by the 1919 Treaty of Versailles forbade an air force but allowed for civil aviation. This was a loophole that could be exploited to train future military pilots (in gliding clubs and in the German airline) and develop aircraft types ostensibly for

⁶⁸⁵ Railways and Harbours Regulation, Control and Management (further amendment), Act 21 of 1931.

⁶⁸⁶ R. McCormack, Man with a mission: Oswald Pirow and South African Airways, 1933-39 in *The Journal of African History*, Vol 4, No 20, p547; S. Morrison, J. Austin Williams and I. Spring, *The Flying Springbok*, p 18.

⁶⁸⁷ S. Morrison, J. Austin Williams and I. Spring, *The Flying Springbok*, p18; DFA, DC Gp 2, Box 3761, Annual Defence Report, year ended 30th June 1934.

⁶⁸⁸ S. Morrison, J. Austin Williams and I. Spring, *The Flying Springbok*, p 19.

civilian use, but which were in fact the basis for bombers.⁶⁸⁹ Even before Hitler came to power and began rearming the country, Luft Hansa as one of the largest airline companies in the world, was, in effect, a training ground for future military pilots. Its director, Erdhard Milch, became a key advisor to Hermann Göring on his assumption of control of the newly-established Reich's Air Ministry in Hitler's government. Milch was tasked with boosting German aircraft production and did so, at least initially, under the guise of aircraft contracts for Luft Hansa.⁶⁹⁰ This period of subterfuge was short lived as the new German air force, the Luftwaffe, began to be openly flaunted from 1935.⁶⁹¹ Nevertheless, a number of important projects had been initiated in this period including the prototypes of the Dornier 17, the Heinkel He 111 and the Junkers Ju86, all of which would later serve as bombers.⁶⁹²

By comparison, the South African motivation for using SAA aircraft and pilots to form a bomber wing was a pragmatic means of having medium and heavy bomber squadrons on the force strength in time of war, without having to fund these in peace time. Put differently, part of the air force would effectively be self-funding and would keep air crews current in flying skills while serving the local population in the provision of air transport.

Whether or not one accepts the German and South African examples as being analogous, there is indisputably one direct link between the two. Most of the aircraft types which South Africa would purchase for use as airliners (and potentially as bombers) were of German manufacture and they were all available in both military and civilian versions because of the expanding military needs of Nazi Germany. Producing airliners for use by Luft Hansa and for export was a convenient smokescreen behind which the equipment of a clandestine Luftwaffe could be developed. This duality of purpose would serve the South African concept well.

The origins of the concept of utilizing SAA as a wing of the SAAF are difficult to trace with certainty. Although it has never been suggested that the state's chief reason for taking over Union Airways was to create an auxiliary wing for the Air Force, it is not impossible that this was an ulterior motive. Even if the acquisition of Union Airways was

⁶⁸⁹ P. North, *Eagles High*, pp 22-23.

⁶⁹⁰ S. Hyslop, *Fists of Steel*, pp 94-96; P North, *Eagles High*, p 23.

⁶⁹¹ A. Wood and W. Gunston, *Hitler's Luftwaffe*, p 10.

⁶⁹² A. Wood and W. Gunston, *Hitler's Luftwaffe*, pp 144, 180, 204.

driven mainly by a desire to have a state-controlled airline that was well funded and efficiently run, the military motives may have helped inform the decision.

Probably more plausible as an explanation is that it was part of the rearmament initiatives, previously described, that were spurred on by Mussolini's invasion of Abyssinia. The addition of an SAA Wing must therefore be seen in the context of the SAAF expansion programme in the second half of the 1930s which has been outlined above. That expansion catered mainly for additional training units and light ground attack aircraft. Utilizing some SAA aircraft as bombers added another important dimension to the wartime capabilities of the Air Force without imposing an additional burden on the Defence budget. This in turn points to Oswald Pirow having played a central role in devising a means of providing for both the aerial transport and military aviation needs of the country. Pirow assumed two portfolios in the coalition cabinet of 1933, namely Minister of Railways and Harbours and Minister of Defence.⁶⁹³ This meant that he was perfectly placed to create overlapping roles for the newly-created airline and the SA Air Force. This dual-purpose was nicely expressed by JSM Simpson in his 1941 book "South Africa Fights" where, as he puts it: "The left hand of Mr Pirow, the railway branch began an ambitious civil air-line [sic] development scheme, while the right hand, the Defence Department, knew all along that the left hand was working for it".⁶⁹⁴

Robert McCormack in his piece " Man with a Mission: Oswald Pirow and South African Airways, 1933-39" argues that Pirow pursued an aggressive policy of using SAA to challenge British domination of aerial transport routes in Southern and Central Africa, mainly represented by Imperial Airways, but also smaller colonial airline companies such as Rhodesia and Nyasaland Airways and Wilson Airways (in Kenya). McCormack provides ample evidence of Pirow seeking to use the most modern form of transport to fly the flag for South Africa by operating a rival (and arguably better equipped) airline deep into Africa.⁶⁹⁵ As he puts it: "SAA was charged with carrying South African influence aloft and afar".⁶⁹⁶ The airline represented, in this interpretation, a symbol of

⁶⁹³ CJ. Beyers (Ed), *Dictionary of South African Biography*, Vol V, p 595.

⁶⁹⁴ JSM. Simpson, *South Africa Fights*, p 195.

⁶⁹⁵ R. McCormack, Man with a mission: Oswald Pirow and South African Airways, 1933-39 in *The Journal of African History*, Vol 4, No 20, pp 543-557.

⁶⁹⁶ R. McCormack, Man with a mission: Oswald Pirow and South African Airways, 1933-39 in *The Journal of African History*, Vol 4, No 20, p 545.

South African nationalism flying in regions dominated by British imperialist interests. McCormack makes only a passing reference to the other role which Pirow had assigned to SAA, while wearing his defence hat, that of providing a bomber force for the Air Force.⁶⁹⁷ Taken collectively, Pirow was building a major airline capable of potentially fulfilling three roles: civil air transport; an air force bomber wing and a means of extending South African influence north of the Limpopo.

The military connection in SAA was evident from the beginning. On taking control of Union Airways and placing it under South African Railways and Harbours (SAR&H), Lieutenant-Colonel Jack Holthouse, one of the founding officers of the SAAF (who had been appointed Director of Civil Aviation the previous year) was seconded to act as technical advisor to the General Manager of SAR&H.⁶⁹⁸ The military connection was further evident when all SAA pilots were sent for blind flying training with the SAAF at Zwartkop.⁶⁹⁹

When Colonel Holthouse undertook an extensive visit to Europe between July and September 1935 on behalf of both SAA and the Defence Department, one of his aims was definitely to investigate the possibility of converting the Junkers Ju52 aircraft to bombers. His visit to the Junkers factory in Dessau in August, apart from obtaining information that would assist in the upkeep of the SAA Junkers Ju52 fleet, also included detailed enquires as to what it would take to convert the airliner version of the aircraft type into a bomber. Although such a conversion never materialized in SAA, mainly because of the extensive modifications that would be required to the cabin, it seems fair to conclude that serious consideration was already being given to the possible military use of SAA aircraft.⁷⁰⁰ Holthouse's fact-finding mission was meant to serve the interests of both Defence and the state airline, but there already seemed to have been some thought given to how these might directly overlap. Obtaining maximum value from government spending on aviation by allocating a dual role to SAA seems to have been a concept at play.

⁶⁹⁷ R. McCormack, Man with a mission: Oswald Pirow and South African Airways, 1933-39 in *The Journal of African History*, Vol 4, No 20, p 549.

⁶⁹⁸ S. Morrison, J. Austin Williams and I. Spring, *The Flying Springbok*, p 19.

⁶⁹⁹ S. Morrison, J. Austin Williams and I. Spring, *The Flying Springbok*, p 20.

⁷⁰⁰ DFA, Diverse Gp 1, Box 39, Report of official visit to Europe 1935 by Lt Col J Holthouse, 29th October 1935.

The first moves to establish a Bomber Wing within SAA came in September 1935 when Brigadier General Van Ryneveld, by now Chief of the General Staff, asked to meet with TH Watermeyer, the General Manager of SAR&H. The proposed plan was to organise SAA into two squadrons and to train a certain number of SAR&H artisans as Air Force reservists.⁷⁰¹ Pirow appears to have already broached the subject with Watermeyer and so it would appear that the Minister of Defence first proposed the idea as part of the expansion of the SAAF.⁷⁰² Such was Pirow's desire to make the plan a reality that he insisted that Van Ryneveld assist SAA with the training of SAA pilots for their navigator's licences by loaning an instructor to the Witwatersrand Technical College which was responsible for this training.⁷⁰³ In his address to Parliament in April 1936 regarding the Defence policy of the Union and various initiatives in this regard, Pirow made a veiled reference to "the formation over the next five years out of civil aircraft in the Union of 12 Flights - of 5 aircraft each - of high speed multi-engined bombers".⁷⁰⁴ This can only be seen as a cagey description of the SAA Heavy Bomber Wing, then under discussion. Of interest is the reference to sixty aircraft being available, as this represents almost three times as many SAA aircraft as were available as bombers by 1939. It seems that this was an exaggeration of projected strength for the benefit of the opposition parties as it is unlikely that the SAA fleet would have been expanded so rapidly within that time frame. Nevertheless, a 1937 memorandum on the "SAA Group for military purposes" stated that the "fleet of aircraft will increase rapidly in the future" and that "the flying staff of SAA will be increased by at least 100% in the near future".⁷⁰⁵ Clearly the expectation was that the airline would grow rapidly and that the number of bomber squadrons would increase as a result.

With little material progress having been made in the year since the original meetings regarding the organization of SAA (also called the "Railway Air Services" at the time) into a Bomber Wing, Van Ryneveld approached Holthouse in 1936 to take responsibility for the scheme from the airline's side of affairs.⁷⁰⁶ Holthouse was by this stage the Manager of SAA. Van Ryneveld commented at this point that "Although the transfer of

⁷⁰¹ DFA, CGS Gp 1, Box 66, File G109, P. Van Ryneveld to T. Watermeyer, 19th September 1935.

⁷⁰² DFA, CGS Gp 1, Box 66, File G109, P. Van Ryneveld to T. Watermeyer, 19th September 1935.

⁷⁰³ DFA, CGS Gp 1, Box 66, File G109, P. Van Ryneveld to OC Cape Squadron, 12th December 1935.

⁷⁰⁴ DFA, CGS Gp 1, Box 66, File G109, Statement made by the Hon. the Minister of Defence to the House of Assembly, 27th April 1936.

⁷⁰⁵ DFA, CGS Gp 1, Box 66, File G109, Memorandum on the formation of a SAA Group for military purposes, 11th February 1937.

⁷⁰⁶ DFA, CGS Gp 1, Box 66, File G109, P. Van Ryneveld to T. Watermeyer, 9th September 1936.

Lieutenant-Colonel Holthouse to Railways is a heavy loss to us, I must say the fact that he will be in charge of the Railway Air Services gives me a very great feeling of confidence in the future efficiency of that organization as a military unit." ⁷⁰⁷

The approach to Holthouse had the desired effect and discussions were underway by February 1937 as to the organization of the unit and the training requirements of SAA pilots who constituted the Bomber Wing. Based on the anticipated number of aircraft that would be operated by the airline by July of that year, namely twenty-two, Holthouse's proposal was to initially have two squadrons with a third planned on paper. The squadron commanders were to be JDT Louw, PWA Nel and L Inggs who would all in time hold the rank of Lieutenant Colonel commensurate with their role in an Air Force squadron. Flight commanders with the rank of Major would also be selected. ⁷⁰⁸

Dual-role aircrew

A perusal of the first SAA pilots who were selected to serve in the Wing reveals one of the key reasons why it was feasible to adopt a plan whereby SAA aircrew could potentially serve as part of the Air Force in time of war. Without exception all of the SAA pilots had some military background, either because they had seen service in World War One (in the RFC and RAF) or because they had served in the SAAF. Most were also on the SAAF Reserve. ⁷⁰⁹ The military background of the SAA pilots may also have played a role in the genesis of the concept of using the airline as part of the Air Force.

Operating SAA as part of the Air Force in time of war would require more than just air crew and Holthouse in his memorandum on the "Formation of a SAA Group for Military Purposes" indicated that ground crew who would provide technical support would also have to be provided from within the personnel of SAA. In this he did not foresee any problems as the men would be carrying out the trades which were part of their work within the airline. However, there were a range of specifically military skills that would have to be provided from within the SAAF. These included cooks, sanitary personnel, armourers, photographers and air gunners. In short, using SAA to provide a few bomber squadrons would take more than the flying and ground staff of the airline, at

⁷⁰⁷ DFA, CGS Gp 1, Box 66, File G109, H. Van Ryneveld to T. Watermeyer, 9th September 1936.

⁷⁰⁸ DFA, CGS Gp 1, Box 66, File G109, Memorandum on the formation of a South African Airways Group for Military Purposes, 11th February 1937.

⁷⁰⁹ DFA, CGS Gp 1, Box 66, File G109, Memorandum on the formation of a South African Airways Group for Military Purposes, 11th February 1937.

that stage 119 people in all.⁷¹⁰ In terms of personnel, it was not a complete unit which could be mobilized in its own right and would have to be supplemented in a time of war. Holthouse also flagged ground transport as something that would need to be provided to the SAA Wing if it was deployed in an emergency. SAA was based at Germiston (today Rand) Airport, but in wartime would almost certainly need to be sent elsewhere as dictated by the military situation.⁷¹¹

As qualified pilots, the SAA pilots would essentially need to be "militarized" in terms of their understanding of Air Force flying. Holthouse therefore asked for exemption from writing the Air Force exams relating to "flying and airmanship" as well as "airframes and engines" and the topic of aerial photography within the subject of military flying operations. The only other concession he requested was that in parade ground drill, those holding the rank of Lieutenant would not have to do rifle and sword drill and would only be examined in handling a platoon and not a company! For the rest, the SAA pilots would have to be familiar with at least the theoretical aspects of service flying, including air drill, air fighting, bombing, armament and the deployment of air forces in support of ground troops. All of these exams were based on RAF training manuals, which were the basis of the SAAF syllabus. Passing these exams on two levels was linked to the promotion steps from Lieutenant to Captain and Captain to Major.⁷¹² The Officer Commanding the SAAF Central Flying School objected to all of Holthouse's requirements and requested modifications to the training syllabus on the grounds that the "knowledge and training of the Railway Unit of the SAAF should be considerably higher than that of the Special Reserve Officers" and argued that it was "inadvisable to make the standard so low as to make the Unit inefficient".⁷¹³ It is not clear as to how this difference of opinion was resolved.

Aside from the theoretical aspects of training the SAA pilots there had to be a practical component. In this regard, little seems to have been done to make bombing training a reality. The Officer Commanding the SAAF Central Flying School pointed out in 1937 that high altitude bombing could not be practised at Zwartkop and it was recommended

⁷¹⁰ DFA, CGS Gp 1, Box 66, File G109, Memorandum on the formation of a South African Airways Group for Military Purposes, 11th February 1937.

⁷¹¹ DFA, CGS Gp 1, Box 66, File G109, Memorandum on the formation of a South African Airways Group for Military Purposes, 11th February 1937.

⁷¹² DFA, CGS Gp 1, Box 66, File G109, P. de Waal to J. Holthouse, 8th February 1937.

⁷¹³ DFA, CGS Gp 1, Box 66, File G109, Officer Commanding Central Flying School to Chief of the General Staff, 18th February 1937.

that a stretch of ocean be set aside for the purpose. Using such a designated area, a Practice Camp would be held for the purpose of allowing practical bombing training.⁷¹⁴ As far as can be established these suggestions were not acted upon. The most probable reason for this was that there was little point in the SAA pilots doing bomber training on the Westland Wapiti and Hawker Hart aircraft then in SAAF service. For this reason, the SAAF sensibly was of the opinion that "a Junkers fully converted for Air Force duties should be made available for the training of the Railway Unit".⁷¹⁵ No such aircraft was forthcoming, probably because the state could not afford the luxury of an airliner being used as a bomber trainer instead of earning its keep as a commercial aircraft.

A multi-role airliner fleet

This brings one to the question of how it was envisaged the SAA Bomber Wing of the Air Force would be equipped. Obviously the only means by which SAA could play a role in wartime, using part of its fleet as bombers, was if the aircraft the airline operated were designed to be readily converted to the bomber role in a short space of time. Some consideration therefore has to be given to the aircraft types purchased to fulfil this dual role.

It is clear that Holthouse's visit in 1935, to a variety of British, French and German aircraft manufacturers, would influence three future South African purchases. His glowing report after having visited the Junkers works, almost certainly led to SAA later buying fleets made up of two out of the three types that Holthouse saw under production. He spoke of Junkers Flugzeugwerk factory as "the finest in Europe in regard to accommodation, equipment, organization and working conditions" which he said "inspired every confidence in products of the firm and account for the excellence of these".⁷¹⁶ From this would emanate the purchase of further Junkers Ju52 airliners (SAA took over the lease of three from Union Airways) and subsequently a large order for Ju86 aircraft and two Ju90 airliners.⁷¹⁷ His visit to the Airspeed factory in Britain and a

⁷¹⁴ DFA, CGS Gp 1, Box 66, File G109, Officer Commanding Central Flying School to Chief of the General Staff, 18th February 1937.

⁷¹⁵ DFA, CGS Gp 1, Box 66, File G109, Officer Commanding Central Flying School to Chief of the General Staff, 18th February 1937.

⁷¹⁶ DFA, Diverse Gp 1, Box 39, Report of official visit to Europe 1935 by Lt Col J. Holthouse, 29th October 1935.

⁷¹⁷ S. Morrison, J. Austin Williams and I. Spring, *The Flying Springbok*, pp 182-192.

demonstration flight in the Envoy airliner then under development, led him to conclude that "This machine and the Wolseley engine are worth watching".⁷¹⁸ South Africa would later purchase the "Convertible Envoy", a version capable of both military and civil use.⁷¹⁹

Some background on each aircraft type is useful in showing the reasoning behind the purchases. Intriguingly, from the time when the idea of an SAA Wing was first mooted in 1935 through to 1937 when the organization of the unit into two squadrons was being formulated, the largest aircraft operated by the airline which had the potential for military adaptation were the Junkers Ju52/3 tri-motor airliners. Three were taken over from Union Airways and a further twelve were bought or leased between 1935 and 1937, all bar one of the SAA order arriving in South Africa in the latter year.⁷²⁰ The Ju52/3 had originally been designed as an airliner (the Ju52/3mce) but the type became one of those adopted by the Luftwaffe as a military aircraft and the Ju52/3mge and mg3e military variants became the very first bombers of the Luftwaffe. The bomber adaptation featured two vertical bomb bays in the fuselage as well as two defensive machine gun positions.⁷²¹

With a bomb load of around 1500kg, the Ju52/3 was considered by Holthouse in his 1935 evaluation of various types while he was in Europe, to be a "very fine bomber indeed".⁷²² During his 1935 visit to the Junkers factory Holthouse had discussions with the company as to how the conversion from civilian to bomber versions could be undertaken and he returned to South Africa with details of the conversion scheme. It is very evident that Junkers was willing to develop a conversion around specific South African requirements as they had indicated that the specifications for the type of bombs, bomb release systems, bomb sights and machine gun would all need to be supplied for design work to be undertaken. It is also clear that such modifications would be extensive. Aside from stripping the cabin, the bottom skin of the fuselage would have to

⁷¹⁸ DFA, Diverse Gp 1, Box 39, Report of official visit to Europe 1935 by Lt Col J. Holthouse, 29th October 1935.

⁷¹⁹ S. Morrison, J. Austin Williams and I. Spring, *The Flying Springbok*, pp 178-181.

⁷²⁰ S. Morrison, J. Austin Williams and I. Spring, *The Flying Springbok*, pp 171-177.

⁷²¹ A. Wood and W. Gunston, *Hitler's Luftwaffe*, p 202.

⁷²² DFA, Diverse Gp 1, Box 39, Report of official visit to Europe 1935 by Lt Col J. Holthouse, 29th October 1935.

be removed to allow for bomb dropping and air crew would need to have a means to escape by parachute.⁷²³

In addition to the complexity of airframe conversion, there was probably also the problem of securing the requisite information on armaments from the British Air Ministry for passing on to Junkers. Since South Africa used weapons supplied by Britain, they would need to be willing to supply these technical details and some correspondence between SAA and the SAAF would suggest that this could have posed a problem.⁷²⁴

Although the bulk of the JU52/3 delivery (eleven aircraft) took place in 1937 and the planning for the Bomber Wing in that year was definitely based on this type, none ever underwent modification to a bomber, even after the outbreak of War in 1939. There is no evidence that the Junkers company was ever commissioned to provide plans for the conversion of the SAA Ju52/3 fleet or that any local adaptation was considered. It must be assumed that the difficulties associated with the conversion of the Ju52 to a bomber configuration, possibly coupled with concerns over its relatively slow cruising speed, led to a consideration by late 1937 of what other Junkers types might better suit the South African concept of dual-purpose aircraft.

The next Junkers aircraft type that was ordered for SAA was the Junkers Ju86. It was one of the German aircraft designs which came into being as a result of joint specifications drawn up in 1933 by the new Air Ministry and Luft Hansa.⁷²⁵ To meet the needs of the former, the design had to be capable of serving as a medium bomber while the latter would use it as a high speed civil airliner. The two major variants were designated the Ju86K (*Kampf*) and the Ju86Z (*Zivil*).⁷²⁶ Although the airframe was essentially the same, the bomber version carried bomb racks and machine gun positions. The addition of external bomb racks and light machine guns at dorsal and ventral positions allowed for the relatively speedy conversion of the airliner version into the military version. It was this adaptability that appealed to the South African government as it fitted the concept of flying the aircraft as SAA airliners in peace time and transferring them to the SAAF in the event of war. Such was the appeal, that the

⁷²³ DFA, Diverse Gp 1, Box 39, Report of official visit to Europe 1935 by Lt Col J Holthouse, 29th October 1935.

⁷²⁴ DFA, CGS Gp 1, Box 66, File G109, Memorandum on the formation of a South African Airways Group for Military Purposes, 11th February 1937.

⁷²⁵ J. Stroud, Wings of Peace, Junkers Ju86 in *Aeroplane Monthly*, December 1988, p755.

⁷²⁶ J. Stroud, Wings of Peace, Junkers Ju86 in *Aeroplane Monthly*, December 1988, p759.

South African order for seventeen civil Ju 86Z aircraft was the largest export order for this Junkers product.⁷²⁷ Although other countries ordered the military Ju86, most notably Sweden and Hungary, and a small number of the civilian versions were exported, no other country operated the type with the dual role envisaged in South Africa.⁷²⁸

The South African order for SAA also included one example of the bomber version, a Ju86 K-1, bringing the total number of Ju86 aircraft to eighteen.⁷²⁹ All the South African examples were delivered between late 1937 and early 1939. The single bomber version was ordered as a pattern for the conversion of the civilian models should the need arise.⁷³⁰ Because of its configuration, it was not suitable for passenger transport (lacking seats and windows) and so was used as a high speed mail plane by SAA.⁷³¹ Hence, one of SAA's aircraft was in fact a purpose-built bomber operating as a civilian aircraft so that should they be needed as bombers, the rest of the Ju86 fleet could be converted using the single K-model as the pattern! There may have been a further reason for having one example of the military version on the strength of SAA. In the early discussions as to how best to train the airline pilots in their military role, the Officer Commanding the Central Flying School of the SAAF suggested that a "Junkers fully converted for Air Force duties should be made available for the training of the Railway Unit".⁷³² Since the single K-1 model was delivered in April 1938⁷³³ part of the rationale may have been to use it as a trainer, although there is no evidence that this is how it was utilized.

Even the original engine type specified for the Ju86 fleet shows the extent to which Air Force considerations influenced the SAA aircraft. The Air Force was at the time licence building the Hawker Hartbees aircraft in the Aircraft Depot at Robert's Heights in Pretoria. These British-designed army cooperation aircraft used Rolls Royce Kestrel engines which meant that the Air Force would be utilizing a large number of them and

⁷²⁷ J. Stroud, *Wings of Peace*, Junkers Ju86 in *Aeroplane Monthly*, December 1988, p759; K. Munson, *Airliners from 1919 to the Present*, p 167.

⁷²⁸ J. Stroud, *Wings of Peace*, Junkers Ju86 in *Aeroplane Monthly*, December 1988, pp 758-759.

⁷²⁹ J. Stroud, *Wings of Peace*, Junkers Ju86 in *Aeroplane Monthly*, December 1988, p 759.

⁷³⁰ S. Morrison, J. Austin Williams and I. Spring, *The Flying Springbok*, p 190.

⁷³¹ S. Morrison, J. Austin Williams and I. Spring, *The Flying Springbok*, p 189.

⁷³² DFA, CGS Gp 1, Box 66, File G109, Officer Commanding Central Flying School to Chief of the General Staff, 18th February 1937.

⁷³³ S. Morrison, J. Austin Williams and I. Spring, *The Flying Springbok*, p 189.

would have the requisite servicing facilities.⁷³⁴ Consequently, the first Ju86 airliners for SAA were ordered with the same engine type, with Junkers doing the necessary adaptation of the engine nacelles. The first three aircraft delivered to SAA with the Kestrel engine proved to be unsatisfactory in service and the entire fleet ultimately operated with American Pratt and Whitney Hornet engines.⁷³⁵ Nevertheless, the original engine specified gives a further indication of the degree to which the potential military use of aircraft that were principally meant as airliners, influenced the original power plant specified for these aircraft.

Involving a smaller number of aircraft, another SAA order for aircraft in the years after its inception again showed the government's determination to extract maximum value from state spending on aviation through the selection of aircraft types with dual functionality. In this case the aircraft in question was the Airspeed Envoy twin-engine airliner, a small British all-wood aircraft. Originally developed as a feeder airliner which achieved modest success in Britain and Europe, the South African requirement for an aircraft that could be used as both a light bomber and as an airliner, led the Airspeed company to specially develop the so-called "Convertible Envoy".⁷³⁶ The airliner version could carry six passengers and it was claimed by the company, that it could be converted into a bomber in ten hours. To achieve the conversion, all the passenger seats except the one which would be used by a navigator-radio operator would be removed; a gun turret installed in the rear cabin and a second gun fitted alongside the pilot. The fitment and arming of bomb racks under the wings and in the fuselage completed the transformation into a military aircraft.⁷³⁷

The South African order was for seven aircraft, of which four would be delivered in airline configuration and the remainder in military configuration. The Airspeed company had high hopes for this new type and produced extensive publicity material hoping that other countries would see the merits of buying a type that could fulfil both military and civil roles. No further orders were forthcoming and so South Africa, the launch customer

⁷³⁴ S. Morrison, J. Austin Williams and I. Spring, *The Flying Springbok*, p190. There is also a strong possibility that the decision to specify Rolls-Royce engines may have been a consequence of the earlier political fracas caused by the perception that the German manufacturer Junkers was dominating the airline industry at the expense of British companies.

⁷³⁵ S. Morrison, J. Austin Williams and I. Spring, *The Flying Springbok*, p 190.

⁷³⁶ D. Middleton, Airspeed's Elegant Envoy in *Aeroplane Monthly*, October 1978, p 527.

⁷³⁷ D. Middleton, Airspeed's Elegant Envoy in *Aeroplane Monthly*, October 1978, pp 527-528.

of the Convertible Envoy, also became its only operator.⁷³⁸ Having been born out of the South African government's unique policy of having dual-purpose aircraft and an airline that could become part of the Air Force when required, the Convertible Envoy achieved a unique place in aviation history. Although other manufacturers in this period offered military versions of aircraft originally designed as airliners (for example De Havilland offered a militarized version of its DH89 Dragon Rapide)⁷³⁹ or offered military and civil versions of one core design (as described above with the Ju 86), the Airspeed design stands alone as a type that was capable of rapid conversion from an airliner to an offensive weapon of war.

In one respect the usefulness of the dual purpose aircraft concept was proved by the Convertible Envoy. As mentioned, the seven Envoys delivered in 1936 were initially divided between the SAAF and SAA. When internal routes taken over by SAA from Imperial Airways increased the number of aircraft needed to meet demand, the three SAAF Envoys were leased from the Department of Defence in 1937.⁷⁴⁰ For the next year all seven served as SAA airliners. In March 1938, the arrival of new Junkers aircraft and the fact that the Envoys, although fast, had proved to be expensive to operate (and very cold to fly in), led to all seven Envoys all being transferred to the SAAF with SAA disposing of its four and all spares to the Department of Defence for £15 000.⁷⁴¹ Although the Envoys, in SAAF service, were utilized as transport and photographic survey aircraft, rather than as light bombers, they were sufficiently useful to be taken on strength and so between them both SAA and the Air Force did gain some benefit.

A further aircraft type which was on order for SAA, but which was destined never to be delivered due to the outbreak of World War Two, was the Junkers Ju90 airliner of which two were ordered. This four engine airliner would have been the largest type in the fleet had it been taken into service, but those that were completed for SAA by mid-1939

⁷³⁸ D. Middleton, Airspeed's Elegant Envoy in *Aeroplane Monthly*, October 1978, p 529.

⁷³⁹ A. Jackson, *De Havilland Aircraft since 1909*, pp 363-364.

⁷⁴⁰ S. Morrison, J Austin Williams and I Spring, *The Flying Springbok*, p 181.

⁷⁴¹ S Morrison, J. Austin Williams and I. Spring, *The Flying Springbok*, pp 178-181; Anon. "Rand MP wants enquiry into Junkers Deal", *Rand Daily Mail*, 13th March 1940, p 8. In calling for an enquiry (in 1940) into the purchase of Junkers aircraft under Pirow, FT. Howath (MP for Rosettenville) suggested that the Envoys had been bought with the knowledge that they were destined to be unsuitable and that this would justify *further* purchases from Junkers.

were taken over by Luft Hansa after the outbreak of hostilities.⁷⁴² The SAA pilots and technical staff who were sent to fetch the two airliners escaped via Sweden and avoided internment.⁷⁴³ It is reasonable to assume that if these aircraft had entered SAA service they too would have formed part of the Airways Wing of the SAAF. Although the aircraft was not easily converted for use as a bomber, not having been designed with a dual purpose in mind, this was probably something that could have been achieved with local ingenuity. This possibility is hinted at in a cigarette card album published in the late 1930s around a set of cigarette cards based on the theme of "South African Defence". One card in the section on the Air Force depicts a Ju90 in camouflage markings. Under the heading "A Large Bomber", the album includes as part of the caption the statement: "The importance of Civil Aviation in national defence is emphasised by this picture of a four-engined Junkers Ju90 airliner converted into a bomber" and goes on to say that SAA had a number in commission, a somewhat misleading assertion, since they had not yet been delivered.⁷⁴⁴ Since the book was produced with the cooperation of the Union Defence Force, it was probably based on some official indication of Air Force plans for this aircraft type, at a time when the existence of the Airways Wing was not widely acknowledged. Even if this depiction of the Ju90 was a case of wishful thinking, the Ju90 type (which was capable of carrying up to forty passengers) would certainly have been a useful military transport aircraft. However, in the absence of any documentary evidence, conclusions about the type's possible use by the Air Force must necessarily remain speculative.

One curious aspect of the allocation of suitable SAA aircraft and crews to a Bomber Wing, is that initially no consideration seems to have been given to allocating the balance of the fleet to a transport wing, something which the SAAF also lacked. The Junkers Ju52 fleet within SAA, as already indicated, was not easily converted to an offensive military role, but with virtually no adaptation required, was capable of transporting troops and military supplies. Although no archival documentation appears to exist to indicate that this transport function was added to the bomber role originally envisaged for the SAA fleet, when Pirow made his statement to parliament in March 1939 regarding the progress in respect of defence he mentioned a "railway troop-

⁷⁴² K. Munson, *Airliners from 1919 to the Present*, p 180.

⁷⁴³ S. Morrison, J. Austin Williams and I. Spring, *The Flying Springbok*, p192; Anon. "War stopped delivery of new Junkers planes", *Rand Daily Mail*, 2nd October 1939, p 8.

⁷⁴⁴ Anon, *South African Defence*, p 20.

carrying squadron".⁷⁴⁵ This revelation when taken in conjunction with the fact that the SAA Junkers Ju52 fleet was used in this role after the outbreak of War, would seem to indicate that this logical utilization of the older portion of the fleet had been incorporated into SAAF planning.

Pirow, Germany and Junkers

It is obvious that Junkers was a preferred supplier of aircraft to SAA and while it has been shown how each type of airliner ordered could have played some or other military role in line with Pirow's philosophy of dual-purpose aircraft, there were other probable reasons behind the decisions which should be mentioned. One obvious influence in Pirow's thinking was that he was of German descent. His grandfather was a German missionary and Oswald undertook his university studies in Germany prior to World War One. Throughout his life he seem to have maintained a pro-German stance.⁷⁴⁶ In an aviation context this was first evident after the state took over Union Airways. At the time, a German national, F Hoepfner, of the Junkers company was a co-owner of the airline, a situation Miller had been forced into by the need for investment and improved equipment. Pirow initially retained Hoepfner as a joint managing director of SAA together with Miller but soon sidetracked the latter into the publicity department of SAA, a snub which led to him resigning.⁷⁴⁷ Pirow also chose to honour the Union Airways order for three Junkers Ju52 aircraft.⁷⁴⁸ The combination of having Hoepfner helping to manage SAA and three new German airliners as the backbone of the initial fleet caused a political storm. In parliament and in the English language press, the perceived "German control" of the state airline was attacked.⁷⁴⁹ Pirow later described how "Every jingo in the country was on his hind legs, nearly hysterical with indignation; and in parliament a select committee was asked for to describe my conduct which was described as little short of treason...".⁷⁵⁰ Pirow survived the storm and justified the Junkers airline decision which was of course the beginning of an extended association

⁷⁴⁵ HJ. Martin and N. Orpen, *South Africa at War*, p 19. It is possible that in the earlier stages of the planning for the SAA Wing, that there was an assumption that the Ju52 fleet *would* be converted to bombers. This could explain the number of aircraft quoted for a projected bomber fleet in some of Pirow's statements and reports.

⁷⁴⁶ C.J. Beyers (Ed), *Dictionary of South African Biography*, vol V, pp 595-596.

⁷⁴⁷ S. Morrison, J. Austin Williams and I. Spring, *The Flying Springbok*, pp 19-20.

⁷⁴⁸ S. Morrison, J. Austin Williams and I. Spring, *The Flying Springbok*, p 19.

⁷⁴⁹ S. Morrison, J. Austin Williams and I. Spring, *The Flying Springbok*, p20; R. McCormack, Man with a mission: Oswald Pirow and South African Airways, 1933-39 in *The Journal of African History*, Vol 4, No 20, p 548.

⁷⁵⁰ O. Pirow, *James Barry Munnik Hertzog*, p 217.

with the company involving several further orders, as outlined above. Hoepfner did not fare as well. Although he initially resigned from Junkers, the protest over German influence led to him leaving the country in 1936 and he joined the Air Ministry in Germany.⁷⁵¹ Pirow, with his pro-German bias intact, remained as the government minister responsible for state-controlled aviation in South Africa.

A second reason for the purchases from Junkers relates to the technical superiority of the designs compared to designs available from Britain at the time. This was a period when aircraft design trends were moving towards all-metal monoplanes. Many British civil aircraft were still constructed of wood and were of biplane configuration. The largest modern British airliners of the time were flying boats and although these were used in the late 1930s to provide a comfortable service to Durban down the Eastern side of Africa, they were not suited to many of the inland routes of the continent. Pirow in his biography of Hertzog later justified his choice thus:

Immediately after the transfer of Miller's Air Services [sic] I was beleaguered by agents especially from Great Britain pestering me to order all sorts of antiquated aircraft. British commercial 'planes at that time reached an all time low. Until their flying boat service came into operation some years later...their civil aviation was a joke. I was obliged to decide in favour of the German Junkers planes...⁷⁵²

Viewed objectively, Pirow's justification for buying from Germany may only have been true if choosing solely from European manufacturers, but it ignores the fine products of the USA at the time, which in turn could be viewed as superior to those of Germany.⁷⁵³ Holthouse in his 1935 overseas survey visit to review possible aircraft options only visited Europe and consequently no American aircraft types were considered. This Eurocentric approach would only change with the outbreak of World War Two when supplies of aircraft from continental Europe would be interrupted.

⁷⁵¹ S. Morrison, J. Austin Williams and I. Spring, *The Flying Springbok*, p 20; R McCormack, Man with a mission: Oswald Pirow and South African Airways, 1933-39 in *The Journal of African History*, Vol 4, No 20, p 548.

⁷⁵² O. Pirow, *James Barry Munnik Hertzog*, pp 216-217.

⁷⁵³ Two contemporary examples of good American airliners were the Boeing 247 and the Douglas DC2 (which evolved into the highly successful DC3). K Munson, *Airliners from 1919 to the Present Day*, pp 75-76. However, neither would have provided a basis for conversion to offensive military tasks and would have been useful only as military transport aircraft.

Finally, a third possible reason behind the bulk of aircraft orders being from Germany rather than Britain may well have been a political motivation that was similar to that which lay behind the pursuance of an SAA network across Africa as described by McCormack. After the passing of the Statute of Westminster in the British parliament in 1931, the British dominions, including the Union of South Africa, were effectively independent countries, although not republics and still members of the British Commonwealth of Nations. Asserting this status was certainly something which characterised the term of office of the Prime Minister, JBM Hertzog. Pirow as a devotee of Hertzog quite probably saw aircraft orders as one means of exercising freedom of choice in the equipping of the state airline.

Ultimately several ironic scenarios would emerge from SAA operating German aircraft types that came to be taken over by the SAAF on the outbreak of War in 1939. The concept of the airline serving as a military wing in time of war would be shown to have merit, although the targets of the airliners turned bombers were not ones that Pirow would have predicted or favoured.

Prior to the outbreak of the War, the allocation of military duties to SAA and the purchasing of suitable aircraft, particularly the Ju86 type, was mainly an exercise in planning rather than a case of dealing with the practicalities. Very little had been done to ensure that the airliners could be armed at short notice. In September 1938, in the wake of the Munich crisis, Van Ryneveld issued urgent instructions for the arming of Fury, Wapiti and Hartbees aircraft with machine guns and in some cases bomb racks. No mention at all was made of the SAA fleet.⁷⁵⁴ It was not until May 1939 that a trial fitting of a Vickers machine gun to a Ju86 was carried out at the SAA workshops at Rand Airport and only after the declaration of War was it confirmed that the British bombs used by the SAAF would not fit the German bomb racks, necessitating hurried local modifications!⁷⁵⁵ Nevertheless, the service provided by ex-SAA airliners and crews in two theatres of War would vindicate the thinking behind the creation of the Wing, albeit largely a paper plan prior to the War.

⁷⁵⁴ DFA, CGS Gp 2, Box 63, Van Ryneveld to Secretary for Defence and others, Air Force Development Policy, 28th September 1938.

⁷⁵⁵ JA. Brown, *A Gathering of Eagles*, pp 22-23.

Conclusion

Pirow was an enigmatic figure in South African politics who in many respects defies categorization in the 1930s. His German background meant that he was not one of the Afrikaner nationalists. He did not share the world view and pro-Commonwealth sentiments of Smuts. Many assessments of the man's place in the history of South Africa have tended to be coloured by the political stance he adopted after Smuts assumed power in September 1939 and he was no longer in office. His veering sharply to the political right through the establishment of his own fascist movement, the New Order, inspired largely by the dictator of Portugal, Salazar, meant that he was regarded as an irredeemable and dangerous eccentric, beyond the pale for those backing a war effort that was fighting against two other fascist dictators.⁷⁵⁶ Even in the pre-War years he had expressed admiration for some of these dictators, including Hitler, whom he had met on several occasions.⁷⁵⁷ That outlook certainly seems to have contributed to his muddled thinking as to which country or countries might pose the most obvious military threat to South Africa and it is difficult to comprehend how he believed that within Africa this might come from France or, only slightly less implausibly, from Japan.⁷⁵⁸

Notwithstanding his ideological leanings, Pirow can, I believe, be regarded as a Minister of Defence who understood the value of air defences and who set about to expand these as the top priority within a defence budget that may have steadily grown but under a cautious Minister of Finance was not able to accommodate a comprehensive modernization of the South African armed forces. In this respect his efforts from 1935 can be taken as a genuine effort to place the defence of the country on a better footing. Leaving aside the almost non-existent naval force, the army saw very little mechanization⁷⁵⁹ and suffered from a lack of defence policy, an issue which Van Ryneveld, after he became Chief of the General Staff, was to repeatedly point out with regard to his ministerial boss.⁷⁶⁰ When in 1937 Pirow steered the role for land forces in the direction of an ability to fight as a mobile force in bushveld terrain in the northern

⁷⁵⁶ C.J. Beyers (Ed), *Dictionary of South African Biography*, Vol V, p 596.

⁷⁵⁷ C.J. Beyers (Ed), *Dictionary of South African Biography*, Vol V, p 595; HJ Martin and N Orpen, *South Africa at War*, p 11.

⁷⁵⁸ HJ. Martin and N. Orpen, *South Africa at War*, pp 7-9; JA Brown, *A Gathering of Eagles*, p 21.

⁷⁵⁹ HJ. Martin and N. Orpen, *South Africa at War*, pp 10-19.

⁷⁶⁰ HJ. Martin and N. Orpen, *South Africa at War*, p 12; DFA, DC Gp 2, Box 3761, Annual report of the Department of Defence, 1937.

regions of the country,⁷⁶¹ his suggestion that ox-drawn bushcarts be designed for this purpose would earn him the nickname that would be applied by a generation of soldiers.⁷⁶² Certainly the failure to secure armoured vehicles and modern artillery left major gaps in the equipment of the army as a modern force. By contrast, Pirow was responsible for imaginative initiatives that benefited both military and civil aviation in the 1930s and which constitute the best examples of the aerial symbiosis that is the core theme of this study. Utilizing civil aviation to serve a parallel function in military aviation was both a pragmatic use of resources and financially sensible.

Almost every historian writing on South Africa's part in the War has sung from the same hymn sheet in speaking of the country's lack of preparedness for War in 1939.⁷⁶³ In part that comes from a rather narrow focus on the state of the army and the almost complete lack of armament industries. The state of the Air Force and its reservists was in fact somewhat better and would provide the basis for a massive expansion, especially after 1940, which in turn meant that the SAAF would become an important part of the Allied air forces in East Africa, the Western Desert and Italy as well as the Joint Air Training Scheme (with the RAF) in the Union.⁷⁶⁴ Pirow had sown the seeds for these developments in the 1930s, perhaps imperfectly and with a far more limited purpose in mind, but these were nevertheless his contributions and should be acknowledged as such. At least one aviation historian has recently acknowledged that "For all its shortcomings, the [pupil pilot] plan was probably Oswald Pirow's greatest contribution to the development of the SAAF".⁷⁶⁵

As events played out after Smuts formed a Wartime government and replaced Hertzog, there would also be an element of poetic justice in that Pirow's legacy would serve the Allied cause in the War at a time when he had aligned himself with the ideology of the Axis powers who constituted the enemy.

⁷⁶¹ JA. Brown, *A Gathering of Eagles*, p 21.

⁷⁶² HJ. Martin and N. Orpen, *South Africa at War*, p 16; I. van der Waag, The Union Defence Force between the two World Wars, 1919-40 in *Scientia Militaria*, Vol 30, 2, 2000, p 219. CJ. Beyers (Ed): Dictionary of South African Biography, Vol V, p 595.

⁷⁶³ Examples include J. Keenan (ed), *South Africa in World War II*; HJ. Martin and N. Orpen, *South Africa at War*; I. van der Waag, The Union Defence Force between the two World Wars, 1919-40 in *Scientia Militaria*, Vol 30, 2, 2000 and J. Simpson, *South Africa Fights*.

⁷⁶⁴ D.Becker, *On Wings of Eagles* pp 55-145; K. Maxwell and J. Smith, *Per Aspera Ad Astra*, pp 36-94.

⁷⁶⁵ M. Schoeman, *Springbok Fighter Victory*, p 8.

CHAPTER SEVEN

A FLOCK OF AVIATRIXES

Women gain a foothold in SA aviation.

Schemes to use the civil aviation sector to bolster the military reservists in South Africa in the 1930s were, as shown in the previous chapters, almost entirely state-sponsored. There was, however, one notable exception and this public initiative resulted in the formation of a remarkable organization that not only mobilized women interested in flying (who had been marginalized under the government's Pupil Pilot Scheme) but provided the Air Force with the substantially complete basis for a Women's Auxilliary Air Force within the SAAF after the outbreak of war in 1939. The story of the Women's Aviation Association (WAA) is the story of a group of like-minded women whose intention from the outset was to provide a civilian air guard which could serve the country in time of war.

From the earliest days of flying in South Africa, there had been women who had displayed an interest in flying. In the pre-World War One period at least five women went up on short flights with the likes of Weston, Kimmerling and Christiaens and a Miss AM Bociarelli was training to fly with Paterson at Kimberley in 1913.⁷⁶⁶ An untold number of women went for flights in the short-lived barnstorming era. But it was only with the advent of the flying clubs that women found the means to be associated with flying in a less fleeting fashion by training as pilots or becoming non-flying members. In 1928 Marjorie Douglas and Dulcie Evans, both of Johannesburg, became the first SA women to gain flying licences in the country.⁷⁶⁷ The social status that went along with this activity has been alluded to previously, but it was not the only factor at work in the late 1920s and into the 1930s. The granting of the franchise to white women (1930) and its implied gender equality probably played a role.⁷⁶⁸ An increasing proportion of white women occupied jobs in the labour market in the inter-War period. These mainly urban jobs in education, nursing, the civil service, business and industry meant that there

⁷⁶⁶ H. Oberholzer, *Pioneers of Early Aviation in SA*. p 164.

⁷⁶⁷ Anon, "What future for SA airwomen", *Rand Daily Mail*, 20th February 1940.

⁷⁶⁸ L. Vincent, Bread and Honour: White Working Class Women and Afrikaner Nationalism in the 1930s in *Journal of Southern African Studies*, Vol 26, 1, March 2000, p 62.

were an increasing number of women who exercised some degree of financial independence.⁷⁶⁹ That in turn made the pursuit of a flying licence more feasible.

There was also the significant inspiration provided by the women pilots who showed themselves the equal of their male counterparts by gaining flying licences and undertaking long distance and often record breaking flights across the globe. Among the most prominent of these were Amelia Earhart from the USA; Jean Batten from New Zealand; Elly Beinhorn from Germany; Beryl Markham from Britain and Amy Johnson, also British.⁷⁷⁰ This decade, probably more than any other, showed that the new science of aviation was not to be a male preserve. Among the routes favoured for setting new speed records within the British Empire and Commonwealth, was that from Britain to Cape Town. Along this route flew the likes of Lady Heath (Sophie Elliot-Lynn) in 1927-8;⁷⁷¹ Lady Bailey (Mary Westenra) in 1928-9;⁷⁷² and the Duchess of Bedford (Mary Du Caurroy Russell) in 1930.⁷⁷³ Most famously, Amy Johnson flew the route several times (in 1932 and 1936), setting new records, some of them to better those of the man destined to be her husband, Jim Mollison.⁷⁷⁴ Thanks to these trans-African flights, female role models were provided for aspirant women pilots in South Africa.

All of these influences combined with the most obvious motive, that of becoming a part of an exciting new pastime, led to a small number of women gaining their private flying licences in South Africa in the inter-War decades. A rather more limited number obtained a commercial "B" licence and these included Doreen Hooper (later Dunning), who was the first South African woman to achieve the qualification.⁷⁷⁵ Helen Harrison (later De Waal) and Rosamund King Everard both qualified in Britain and then instructed in South Africa.⁷⁷⁶ Many of these, together with young women who lacked the means to fly but who wished to become involved with aviation, would become the founding members of the WAA.

⁷⁶⁹ L. Vincent, Bread and Honour: White Working Class Women and Afrikaner Nationalism in the 1930s in *Journal of Southern African Studies*, Vol 26, 1, March 2000, p 62.

⁷⁷⁰ V. Moolman, *Women Aloft*, pp43-67; pp75-93, pp 109-133.

⁷⁷¹ M. Barraclough, *The Race for the Cape*, pp 61-70.

⁷⁷² M. Barraclough, *The Race for the Cape*, pp 71-81

⁷⁷³ M. Barraclough, *The Race for the Cape*, pp 93-102

⁷⁷⁴ M. Barraclough, *The Race for the Cape*, pp 143-150; 187-194.

⁷⁷⁵ D. Dunning, *Sky High*, pp 26-27; Anon, *Personalities in SA Motoring and Aviation*, pp 245-6.

⁷⁷⁶ Anon, *Personalities in SA Motoring and Aviation*, p 301 and 385.

First moves to create a women's aviation movement in South Africa.

The individual who took the first steps to establish an aviation organization specifically for women was Marjorie Egerton-Bird, who had grown up in Pretoria (the daughter of the prison governor) and who in 1938 was learning to fly at the Rand Flying Club where in March of that year she obtained her licence.⁷⁷⁷ According to her perhaps slightly romanticized memory of what first spurred her on to establish such a movement, was flying early one morning over Johannesburg in late 1938 and admiring the mist-covered city and savouring the privilege of this lofty view as a women pilot. Returning to Germiston's Rand Airport it occurred to her that the male pupil pilot who was sharing the circuit was doing this at no cost (thanks to the Thousand Pilot Scheme) while she was having to pay £3 per hour. On landing she immediately confronted both her instructor and the club secretary about the need for cheaper flying for women, only to be met with chauvinistic derision by both.⁷⁷⁸

Egerton-Bird persisted and gained Miss Joan Blake, an electrotherapist friend and aviation enthusiast, as an ally in her campaign.⁷⁷⁹ A petition of 150 women was then sent to the Minister of Defence, Oswald Pirow, asking for women to be trained as part of the reservists. The model being proposed was that of the Civil Air Guard in Britain. Pirow acknowledged the petition but indicated that the government was committed to the training of a thousand "male pilots" and that no serious consideration could be given to the request until the current scheme had run its course over the next few years.⁷⁸⁰

Before considering how Egerton-Bird attempted to advance the cause of aspirant women pilots, it is necessary to briefly consider the main reasons for embarking on this venture. One reason was as a reaction to what was perceived as the discriminatory nature of the government's Pupil Pilot Scheme which was intended to train male pilots as SAAF reservists. Although, as pointed out previously, the requirements for consideration for the scheme did not explicitly exclude women, but the exclusion was an *implied* one in terms of there being no women SAAF pilots.

⁷⁷⁷ Anon, *Personalities in SA Motoring and Aviation*, p 427.

⁷⁷⁸ M. Egerton Bird, "The Flying Instructor was amused but the WAAF was born", Unidentified SA newspaper clipping, December 1940, SAAF Museum, M Egerton-Bird cuttings album, p 47.

⁷⁷⁹ Anon, "Civil Air Guard in SA", Unidentified SA newspaper clipping, November 1938, SAAF Museum, M. Egerton-Bird cuttings album, p 3.

⁷⁸⁰ Anon, "Women want to be pilots in Air Guard", Unidentified SA newspaper clipping, November 1938, SAAF Museum, M. Egerton-Bird cuttings album, p 1.

The other factor which almost certainly played a role in shaping the thinking of Marjorie Egerton-Bird was the situation in Europe in 1938. According to Doreen Dunning's memoir, *Sky High*, Marjorie had been in Britain shortly before her first efforts to create a women's aviation movement.⁷⁸¹ It therefore seems highly likely that the preparations in Britain for war over the Sudetenland crisis (which culminated in the infamous highpoint of appeasement at Munich in September) led her to seriously consider how women might play a role in the next conflict. Lending weight to this assertion is that from the outset it was the Civil Air Guard in Britain, which she touted as the model for a South African equivalent.⁷⁸² This allowed for subsidized flying instruction for men and women who were willing to serve as reservists. By 1938, South Africa was no longer constitutionally obliged to follow Britain into a conflict, but as a Commonwealth country, it was natural for English-speaking white South Africans to assume that the country would fight as an ally. Egerton-Bird's view was that in time of war there would be many roles in aviation (as in other industries) that could be taken over by women so as to release men for combat.⁷⁸³

Having failed to gain government support for her cause, Egerton-Bird sought to pursue it outside those circles. By way of a newspaper article she and Joan Blake called for women who were interested in forming a women's section of the Air Guard to contact them.⁷⁸⁴ This led to a meeting in the Johannesburg flat of Doreen Hooper attended by Hooper, Egerton-Bird and Blake as well as Sybil Starfield, Elaine Percival-Hart and a Mrs "Toit" Cilliers. This meeting at Reading Court in Louis Botha Avenue led to the formation of the SA Women's Aviation Association with a founding committee consisting of Doreen Hooper as chairperson; Marjorie Egerton-Bird as secretary and Elaine Percival-Hart as vice chairperson.⁷⁸⁵ Doreen Hooper as the only person present who held a "B –licence" and earning a living in aviation (at the time as an instructor at Grand Central) was the highest profile aviation personality present, hence her election as

⁷⁸¹ D. Dunning, *Sky High*, p 48.

⁷⁸² Anon, "Women want to be pilots in Air Guard", Unidentified SA newspaper clipping, November 1938, SAAF Museum, M Egerton-Bird cuttings album, p 1; Anon, "Civil Air Guard in SA", Unidentified SA newspaper clipping, November 1938, p 3.

⁷⁸³ F. Hatfield, "South African Women of the Air Guard" , Unidentified SA newspaper clipping, March 31st 1939, SAAF Museum, M Egerton-Bird cuttings album, p 2.

⁷⁸⁴ Anon, "Women want to be pilots in Air Guard", Unidentified SA newspaper clipping, November 1938, SAAF Museum, M Egerton-Bird cuttings album, p 1.

⁷⁸⁵ D. Dunning, *Sky High*, p 49.

chairperson. It was decided to approach General and Mrs Smuts to be patrons⁷⁸⁶ and to call a public meeting which it was hoped would be chaired by Mrs Leila Reitz, wife of Denys Reitz MP.⁷⁸⁷

The planned meeting duly took place at the Wanderers Club on the 5th December 1938 with Mrs Leila Reitz in the chair. The meeting was attended by between two hundred and two hundred and fifty women, including female MP, Bertha Solomon, who heard an appeal for the formation of a civil air guard in which women could serve.⁷⁸⁸ Her speech was an interesting mix of geopolitical realism: "South Africa must protect itself for it is obvious that our safety from isolation is gone" and an appeal to women to earn their equality by displaying a willingness to serve: "We women cannot expect to have equal rights franchise if we let the men fight and are not prepared to defend ourselves". She emphasised that the establishment of such an air guard was not simply a case of learning to fly cheaply, but of service to the country.⁷⁸⁹ The meeting resulted in 110 women signing up for the WAA.⁷⁹⁰ Leila Reitz agreed to act as president of the WAA and she in turn subsequently persuaded Lady Betty van Ryneveld (wife of General Pierre van Ryneveld) to become vice-president.⁷⁹¹

The creation of WAA flights and branches

Faced with an overwhelming response, the WAA committee now had to deal with the problem of what to do next. One answer which emerged in the next few months, possibly at the suggestion of the secretary of the Rand Flying Club, a Mr FB Haswell, was to form the members into units which could be given hands-on experience at airfields.⁷⁹² This resulted in the formation of the first flight⁷⁹³ consisting of thirty-two women at Germiston Airport and under the command of Marjorie Egerton-Bird. They

⁷⁸⁶ D. Dunning, *Sky High*, p 49.

⁷⁸⁷ M. Egerton Bird, "The Flying Instructor was amused but the WAAF was born", Unidentified SA newspaper clipping, December 1940, SAAF Museum, M Egerton-Bird cuttings album, p 47

⁷⁸⁸ Anon, "200 women at Civil Air Guard meeting", Unidentified SA newspaper clipping, 6th December 1938, SAAF Museum, M. Egerton-Bird cuttings album, p4; Anon, "Women and Wings", National Welfare and Simpsons Oct/Nov 1939, SAAF Museum, M. Egerton-Bird cuttings album, p 21.

⁷⁸⁹ Anon, "200 women at Civil Air Guard meeting", Unidentified SA newspaper clipping, 6th December 1938, SAAF Museum, M. Egerton-Bird cuttings album, p 4.

⁷⁹⁰ M. Egerton Bird, "The Flying Instructor was amused but the WAAF was born", Unidentified SA newspaper clipping, December 1940, SAAF Museum, M. Egerton-Bird cuttings album, p 47

⁷⁹¹ D. Dunning, *Sky High*, p 49.

⁷⁹² M. Egerton Bird, "The Flying Instructor was amused but the WAAF was born", Unidentified SA newspaper clipping, December 1940, SAAF Museum, M. Egerton-Bird cuttings album, p 47

⁷⁹³ In most air forces, the traditional sub-division of a squadron (as a unit) is a flight.

held their first parade at the airport in March 1939 dressed in blue overalls and berets, with the "commander" and "section leaders" distinguished by white overalls. Although the hope was that this would become the basis of a Women's Civil Air Guard, the organization and activities were under the auspices of the Women's Aviation Association.⁷⁹⁴ The first WAA flight was initially given the opportunity by the Rand Flying Club to undertake basic tasks relating to aircraft in the hangar and on the tarmac, however other organizations based at this airport (then the busiest in the country) quickly warmed to the young women in blue and within a month of their appearance, other doors were opening. Hence members were given some training in instruments and propeller swinging by the Johannesburg Technical College; shown some aspects of the workings of an airport by the airport manager Roy Makepeace and allowed by South African Airways to assist with passengers on joy rides and in the control tower of the airport.⁷⁹⁵

By April of 1939, a further flight of the WAA had been formed and based at Grand Central airfield at Halfway House (today part of Midrand). It was headed by Joan Blake and was linked to African Flying Services for the purposes of gaining practical experience.⁷⁹⁶ This development was almost certainly due to the influence of Doreen Hooper, the Chairperson of the WAA, who was employed by that company at the time.⁷⁹⁷ Membership of the WAA on the Reef was in the order of 350 women at this stage.⁷⁹⁸

The expansion of the WAA through the formation of further branches beyond Johannesburg was rapid. After the creation of the organization and its first public meeting, the secretary, Margorie Egerton-Bird was inundated with letters from across the country asking how branches could be formed. Even before the first flight was formed, meetings in Benoni and Pretoria in February 1939 were discussing new branches. In the case of Benoni it was the local branch of the National Council of

⁷⁹⁴ Anon, "First Flight of Women's Air Guard", Unidentified SA newspaper clipping, March 1939, SAAF Museum, M. Egerton-Bird cuttings album, p 6.

⁷⁹⁵ Anon, "Rand Girls get down to real flying business", *The Rand Daily Mail*, 3rd April 1939; Anon, "SA Women's Aviation Association undertake further training", April 1939, SAAF Museum, M. Egerton-Bird cuttings album, p 9.

⁷⁹⁶ Anon, "SA Women's Aviation Association undertake further training", April 1939, SAAF Museum, M. Egerton-Bird cuttings album, p 9.

⁷⁹⁷ Anon, *Personalities in SA Motoring and Aviation*, p 246.

⁷⁹⁸ Anon, "350 'Plane girls 'join up' in Union", *Sunday Tribune*, 12th March 1939.

Women who pressed for a branch of the Civil Air Guard to be set up in the town.⁷⁹⁹ In Pretoria the meeting was presided over by Mrs JJ Pienaar, the wife of the Administrator of the Transvaal and was addressed by both Hooper and Percival-Hart. A separate Northern Transvaal Women's Aviation Association appears to have come into being by the time of the meeting, of which Mrs Pienaar had been asked to become the president.⁸⁰⁰ This may have been established independently of the WAA, although on very similar lines. By May this unit was active at Wonderboom aerodrome and was using the Pretoria Flying School to gain practical experience.⁸⁰¹

The mother city was the next to see the formation of a WAA branch. A meeting in the library of the Cape Town city hall on 29th March 1939 was attended by around 500 women who heard Mrs Leila Reitz speak of the role that women could play in aviation, if not as pilots, then in a variety of other jobs, in both peacetime and in war. About two hundred women joined the new branch on its formation.⁸⁰² Miss Ann Aphorp, a trainee pilot at this point, became the chairperson of this branch.⁸⁰³

By April 1939 a WAA branch had been created in Durban and had recruited a similar number of members as in Cape Town. They were granted an office in the main building of the municipal airport.⁸⁰⁴ Mrs D Weinronk was in charge of this branch.⁸⁰⁵ In May further branches had been created on the Witwatersrand with an East Rand branch (representing Brakpan, Benoni and Springs) coming into being and based at Benoni airfield⁸⁰⁶ as well as another branch at Baragwanath airfield.⁸⁰⁷ By July a branch existed in Port Elizabeth created on the initiative of Una Betts⁸⁰⁸ and the following month the Durban unit was working on setting up a branch for Pietermaritzburg.⁸⁰⁹ Also

⁷⁹⁹ Anon, "Women's Civil Air Guard for East Rand", Unidentified SA newspaper clipping, February 1939, SAAF Museum, M. Egerton-Bird cuttings album, p 5.

⁸⁰⁰ Anon, "Women's Air Guard: Scheme to form one in Pretoria", Unidentified SA newspaper clipping, February 1939, SAAF Museum, M. Egerton-Bird cuttings album, p 5.

⁸⁰¹ Anon, Women's auxiliary service proposed, *Rand Daily Mail*, 3rd May 1939.

⁸⁰² Anon, "Cape Town's air-minded girls", *The Cape Argus*, 30th March 1939.

⁸⁰³ Anon, Photo and caption in *The Fly Paper*, c. Aug 1939, SAAF Museum, M. Egerton-Bird cuttings album, p16.

⁸⁰⁴ Anon, "Girls offered £25 flying course", *The Rand Daily Mail*, April 1939.

⁸⁰⁵ Anon, "Women preparing to help: Air Guard meets", *Natal Mercury*, 16th May 1939.

⁸⁰⁶ Anon, "Women flyers to parade", *The Star*, 19th May 1939.

⁸⁰⁷ Anon, "Women's flying scholarship", *Rand Daily Mail*, 23rd May 1939.

⁸⁰⁸ Anon ("PAS"), "Services invaluable in an emergency", Unidentified SA newspaper clipping, 15th July 1939, SAAF Museum, M Egerton-Bird cuttings album, p15; Anon, *Personalities in SA Motoring and Aviation*, p 314.

⁸⁰⁹ Anon, "Maritzburg to have Women Air Guard", Unidentified SA newspaper clipping, 17th August 1939, SAAF Museum, M Egerton-Bird cuttings album, p 15.

established in August was a West Rand branch at Krugersdorp with Mrs I Nicholson as the chairperson.⁸¹⁰ Hence, by late 1939, the WAA had indeed created branches across the entire country.

One of the problems in studying the WAA is to try and place a figure on its membership in the absence of reliable surviving documentation. Figures provided in the press vary: Marjorie Egerton-Bird put it at three to four thousand while Doreen Hooper (after assuming command of the WAAF) put it at between four and five thousand.⁸¹¹ While it is possible that larger branches did have several hundred names each on their rolls, the number of active members who owned uniforms and who participated regularly in activities such as drilling and training, was far less if photographic evidence of parades and other activities is used as a guide.⁸¹² Active membership nationwide was therefore probably around a thousand by late 1939. With few exceptions, the women who joined were white, middle-class, urban women, in their twenties or thirties. Again, in the absence of other sources this conclusion is based on photographic evidence, newspaper articles and to a lesser extent the Knox publication on personalities in aviation, although the latter only details women who became pilots.⁸¹³ The absence of women of colour would probably have resulted from a limited aviation awareness and their socio-economic status.

The scope of WAA activities

The rapid expansion of the WAA and its early activities on various airfields, should not obscure the fact that the original motives behind its creation had been to allow women to train as pilots who could serve as part of the Air Force reserve in times of emergency. Notwithstanding its honourable intentions, in the last months of peace in

⁸¹⁰ Anon, "Aviation for Women: branch formed at Krugersdorp", *The Star*, 30th August 1939.

⁸¹¹ M. Egerton Bird, "The Flying Instructor was amused but the WAAF was born", Unidentified SA newspaper clipping, December 1940, SAAF Museum, M. Egerton-Bird cuttings album, p 45; Anon, "4000 WAAFs", Unidentified SA newspaper clipping, 16th November 1940, SAAF Museum, M. Egerton-Bird cuttings album, p 41.

⁸¹² Anon, "SA Women with wings", *The Forum*, 28th October 1939.; M. Moralee, "SA Women's Aviation Association", *Iscor News*, October 1939; Anon, "The New Air Guard", *The Pictorial*, April 1939; F Hatfield, "SA Women of the Air Guard", Unidentified SA newspaper clipping, 31st March 1939, SAAF Museum, M. Egerton-Bird cuttings album, p 2.

⁸¹³ Anon, *Personalities in SA Motoring and Aviation*, pp 245-6; p 314, pp 358-9; p 372, p 417, pp 427-8; p 430, p 438, p 440, p 441; Anon, "SA Women with wings", *The Forum*, 28th October 1939.; M. Moralee, "SA Women's Aviation Association", *Iscor News*, October 1939; Anon, "The New Air Guard", *The Pictorial*, April 1939; F Hatfield, "SA Women of the Air Guard", Unidentified SA newspaper clipping, 31st March 1939, SAAF Museum, M. Egerton-Bird cuttings album, p 2.

1939, it was not able to achieve either of these goals. The Defence Force was adamant that all resources, both military and civil, were committed to training male SAAF pilots and male civilians who would form part of the Air Force reserve.⁸¹⁴ Furthermore, even though the members of the WAA branches were gaining valuable practical experience, there was no indication that the movement would be granted official recognition as an auxiliary unit of the SAAF. The closest that the WAA came to official acknowledgement prior to the outbreak of War was by way of a meeting at the Administrator of the Transvaal's house on the 22nd May 1939 and presided over by the Administrator's wife, Mrs JJ Pienaar, who was the president of the Northern Transvaal Women's Aviation Association (and Civil Air Guard). Attending the meeting and representing the Defence Force was Brigadier JJ Collyer, Director of National Reservists. Confronted with a growing number of women's volunteer organizations, including the WAA, he proposed that before the government deal with these, they establish a central organizing body to coordinate their activities and speak as one voice. Acknowledging that much work had been done by these organizations, he indicated that he was in no position to be responsible for their activities. The meeting resulted in the creation of a SA Provisional Women's Auxiliary Services Committee as an umbrella body.⁸¹⁵

In the absence of state assistance, the WAA was simply not in a financial position to sponsor flying instruction for its members. The funding of the movement appears to have been mainly from membership fees, with those earning between £9 and £15 a month not being required to contribute.⁸¹⁶ The annual WAA membership subscription appears to have been five shillings a year.⁸¹⁷ To supplement this income, the Association organised a number of dances, bridge drives and sports tournaments. The intention was to raise £2000 and then start subsidizing the flying training of members.⁸¹⁸ In the interim, the WAA would limit itself to ground activities.

⁸¹⁴ Anon, "Women's Civil Air Guard: no state aid for some time", Unidentified SA newspaper clipping, May 1939, SAAF Museum, M. Egerton-Bird cuttings album, p 7.

⁸¹⁵ Anon, "Women volunteers move for national body", Unidentified SA newspaper clipping, May 1939, SAAF Museum, M. Egerton-Bird cuttings album, p 12.

⁸¹⁶ Anon, "350 'Plane girls 'join up' in Union", *Sunday Tribune*, 12th March 1939.

⁸¹⁷ Anon, "Women in aircraft training", Unidentified SA newspaper clipping, n.d. SAAF Museum, M. Egerton-Bird cuttings album, p 15.

⁸¹⁸ Anon, "350 'Plane girls 'join up' in Union", *Sunday Tribune*, 12th March 1939; Anon, "SA Women's Aviation Association undertake further training", April 1939, SAAF Museum, M. Egerton-Bird cuttings album, p 9.

The range of training opportunities available to WAA branches varied somewhat depending on the flying schools to which they were attached and the range of facilities on the airfields where these were based. Although lectures on aspects of aviation were offered, for the most part the WAA members were given practical training and experience in a wide range of tasks. In a press report in mid-1939 the diversity of activities included refuelling aircraft; folding and unfolding wings; prop swinging aircraft (without starter motors); rigging aircraft; doing fabric covering repairs; learning about the components and assembling of an aircraft engine; plotting map courses and filling in logbooks.⁸¹⁹ Visiting municipal fire stations or the fire sections of airports for training in fire fighting and the use of gas masks also featured in typical branch activities.⁸²⁰ WAA members were used in the 1939 Governor General's Air Race for various ground duties.⁸²¹

Because of its intended purpose of providing female reservists in time of war, the WAA was organized on semi-military lines. This was evident in the creation of flights; the adoption of a uniform and in the training of uniformed members in parade ground drilling. The latter thus also came to feature prominently in the regular activities of branches and was periodically shown off at various airfields by way of parades at which Doreen Hooper would take the salute. Examples of such parades include those at Baragwanath in August 1939 and at Grand Central the following month.⁸²²

The paucity of funds did not, of course, mean that *all* WAA members were prevented from flying. A handful of members did start training at their own expense. Since women were not precluded from the state subsidy to flying clubs (often referred to as the "£25 Scheme") there were those who dug into savings and started training.⁸²³ This would have represented a greater financial sacrifice than for men given the disparity in

⁸¹⁹ Anon ("PAS"), "Growth of SA Women's Aviation Association: services invaluable in an emergency", Unidentified SA newspaper clipping, 15th July 1939, SAAF Museum, M. Egerton-Bird cuttings album, p 15.

⁸²⁰ Anon, "Novice fire fighters", *Rand Daily Mail*, 16th August 1939; Anon, "Cape Town air girls' first outing", *The Fly Paper*, June 1939.

⁸²¹ Anon, "Women's Guard to see big air race", Unidentified SA newspaper clipping, 1939, SAAF Museum, M Egerton-Bird cuttings album, p14; Anon ("PAS"), "Growth of SA Women's Aviation Association: services invaluable in an emergency", Unidentified SA newspaper clipping, 15th July 1939, SAAF Museum, M. Egerton-Bird cuttings album, p 15.

⁸²² Anon, "Vanity Fair", *Rand Daily Mail*, 8th August 1939; Anon, "SA Women offer their services", Unidentified SA newspaper clipping, n.d. SAAF Museum, M. Egerton-Bird cuttings album, p 22.

⁸²³ Anon ("PAS"), "Growth of SA Women's Aviation Association: services invaluable in an emergency", Unidentified SA newspaper clipping, 15th July 1939, SAAF Museum, M. Egerton-Bird cuttings album, p 15.

incomes. One of those who fell into this category was Miss Muriel Horrell, a pupil of Doreen Hopper, who obtained her "A " licence with 100% in the theory.⁸²⁴

Aside from those who paid for their own flying, some local opportunities did present themselves. The Rand Flying Club, an early supporter of the WAA, decided in May 1939 to grant a full flying scholarship to the organization.⁸²⁵ In the same month the Union Aviation Company agreed to sponsor three flying bursaries. The young women selected for these were Miss A Page, Miss EB Brown and Miss S Starfield.⁸²⁶ In Cape Town, the local gliding club offered three bursaries for WAA members to attain their gliding licences. The logic was that this would give them a stepping stone to powered flight and that they were likely to reach solo status more rapidly with a gliding background. This was based in part on the example of a Port Elizabeth school girl, Ursula "Duffy" Smith who first learned to glide and then gained a flying licence with minimal instruction at the age of seventeen.⁸²⁷ In Durban, a local flying school offered to train women pilots for £25 if they limited their flying to twenty-five hours.⁸²⁸ It is not known if anyone took up this offer. In August 1939, an anonymous Johannesburg gentleman donated £100 which would allow for the funding of four flying bursaries. This same individual agreed to donate a further £175 early the following year towards an aircraft for the WAA.⁸²⁹ This became the starting point for the organization looking to operate a light aircraft that could be used to train its own members, something made partly feasible by the fact that Doreen Hooper was a qualified instructor.⁸³⁰

Given the public-spirited aims of the WAA, it was unfortunate that some men in the flying fraternity should have seen fit to express reservations about the success rate of training women as pilots and especially those over the age of thirty! Among those who became associated with these sentiments were Captain HJC Gray, the chief flying instructor at Rand Flying Club and Tommy Rose, the well known trans-Africa pilot. The

⁸²⁴ Anon ("PAS"), "Growth of SA Women's Aviation Association: services invaluable in an emergency", Unidentified SA newspaper clipping, 15th July 1939, SAAF Museum, M. Egerton-Bird cuttings album, p 15. Muriel Horrell served as the research officer of the SA Institute of Race Relations from 1949 to 1977.

⁸²⁵ Anon, "Women's flying scholarship", *Rand Daily Mail*, 23rd May 1939.

⁸²⁶ Anon ("PAS"), "Services invaluable in an emergency", Unidentified SA newspaper clipping, 15th July 1939, SAAF Museum, M. Egerton-Bird cuttings album, p 15.

⁸²⁷ Anon, "Girls to fly on bursaries", Unidentified SA newspaper clipping, March 1939, SAAF Museum, M. Egerton-Bird cuttings album, p 8.

⁸²⁸ Anon, "Girls offered £25 flying course", *The Rand Daily Mail*, April 1939.

⁸²⁹ Anon, "Offer to flying women", Unidentified SA newspaper clipping, August 1939, SAAF Museum, M. Egerton-Bird cuttings album, p 16.

⁸³⁰ Anon, "Vanity Fair", *Rand Daily Mail*, 8th August 1939.

responses from senior members of the WAA were remarkably restrained and pointed to the success of women being trained in SA flying schools; the number of record-breaking world flights by women and the fact that British women were being trained as military reservists.⁸³¹

The limited opportunities for flying in the WAA does not appear to have curtailed its expansion or dulled the enthusiasm of its members. To be associated, albeit largely through ground activities, with the hitherto male-dominated sphere of aviation seems to have been sufficiently inspiring for most members. In addition, the chance to be part of a movement that potentially could assist the country in times of need, may have added a patriotic appeal.

Before considering the change in status that the WAA would undergo as a result of the outbreak of War in September 1939, it is important to make an observation regarding this organization within the context of the central thesis of this study, namely the interrelationship of civil and military aviation. The WAA was created with the express purpose of helping women to fly and of providing a corps of female aviation reservists for the country. In terms of the former, its achievement was very limited, but in respect of the latter, it succeeded in mobilizing, within a matter of months, the largest body of civilian personnel dedicated to serving aviation in times of war. Furthermore, this was accomplished without state assistance and relied entirely on volunteers for its membership and the goodwill of civil aviation bodies to provide practical training. To fully appreciate the magnitude of that achievement, one has to follow the metamorphosis of the WAA after the declaration of War.

The impact of war

In September 1939, South Africa experienced a political crisis precipitated by the outbreak of War in Europe. Jan Smuts succeeded JBM Hertzog as Prime Minister and took the country to War on the side of Great Britain.⁸³² The major implications of this for aviation in the Union will be evaluated more fully in the following chapter, but needs to be assessed at this point in terms of how it changed the standing of the WAA.

⁸³¹ Anon, "Women too old to fly at 30", Unidentified SA newspaper clipping, n.d., SAAF Museum, M. Egerton-Bird cuttings album, p 14.

⁸³² JSM. Simpson, *South Africa Fights*, pp 31-35; O. Pirow, *James Barry Munnik Hertzog*, pp 242-249.

On the eve of South Africa entering the War, the secretary of the WAA, Marjorie Egerton-Bird had written a telegram to the Deputy Prime Minister, Jan Smuts stating: "The SA Women's Aviation Association offer their services to the government".⁸³³ At the same time she called on any WAA members who were not willing to place themselves under command of the commander of the WAA in a time of war to resign.⁸³⁴ When SA entered the conflict, the WAA was immediately viewed in a different light by the military. This was evident when two hundred WAA members (representing six units from the Witwatersrand and Pretoria) paraded at Rand Airport on the 2nd October 1939, they were reviewed by Colonel John Holthouse, the Director of Air Services. Marching in new white overalls with side caps, the women looked every inch a military unit.⁸³⁵ What they lacked was official recognition. Holthouse in his address stated that the SAAF would welcome the WAA as an voluntary auxiliary unit whose members could assist as "typists, transport drivers, despatch riders, parachute packers, telephone operators, ground wireless operators, as well as in the aero workshops...on the flying side, women could be used in communication flying and ferrying".⁸³⁶ South Africa's involvement in another war had almost overnight changed the official perception of the WAA.

Within a week Holthouse indicated to the WAA that it would in future be recognized as an auxiliary unit of the SAAF with the name of the "SA Women's Voluntary Auxiliary Air Unit".⁸³⁷ The founding members of the WAA were, needless to say, gratified that within less than a year their vision had been realised. Later in that same month the WAA was negotiating with Holthouse about the possibility of some members being trained as pilots by the SAAF.⁸³⁸ This did not however come to fruition as the priority remained the training of male service pilots.

In the interim, the WAA continued in its efforts to be a movement that could train women pilots, in addition to its other activities. To this end Mrs Bertha Solomon, MP, had suggested at the time of the October 1939 parade at Rand Airport, that the

⁸³³ Anon, "SA Women offer their services", Unidentified SA newspaper clipping, n.d. SAAF Museum, M. Egerton-Bird cuttings album, p 22.

⁸³⁴ Anon, "SA Women offer their services", Unidentified SA newspaper clipping, n.d. SAAF Museum, M. Egerton-Bird cuttings album, p 22.

⁸³⁵ Anon, "200 Airwomen in impressive parade", Unidentified SA newspaper clipping, 3rd October 1939, SAAF Museum, M. Egerton-Bird cuttings album, p23; Anon, "SA Women with wings", *The Forum*, 28th October 1939.

⁸³⁶ Anon, "Women and Wings", *National Welfare and Simpsons*, December 1939, pp 5-6.

⁸³⁷ Anon, "Women's Air Unit: new name and status", *The Star*, 11th October 1939.

⁸³⁸ Anon, "Airwomen may go into camp at Heights", *Rand Daily Mail*, 24th October 1939.

organization should attempt to raise £1000 so as to purchase a light aircraft and she launched an appeal to achieve this aim.⁸³⁹ A dance at the Wanderers Club became one of the means by which funds were raised.⁸⁴⁰ The Durban branch, which claimed to have nearly 400 members, tried to follow the example of the Reef branches by aiming to raise the same amount for their own aircraft.⁸⁴¹ Port Elizabeth's WAA branch had been gifted an aircraft but the first aircraft purchased by the movement was an American Taylorcraft ordered in April 1940 by the Witwatersrand branches after the success of their £1000 drive.⁸⁴²

In Cape Town, three flying bursaries had been secured by the WAA. Mrs Ethel Phillips, a wealthy pilot of some years standing and adjutant of the Cape Town branch of the WAA, donated one bursary. John Williamson, owner of an aviation company in the city, donated a second. The third bursary came out of the proceeds of a ball organised by 1 and 2 Flights of the Union Air Training Group.⁸⁴³ Other WAA members across the country continued to train at their own expense, which was now greater as the government subsidy scheme fell away.⁸⁴⁴

On the 4th April 1940, the WAA lost one of its founder members when Joan Blake died suddenly.⁸⁴⁵ She had been involved in a serious flying accident (involving a collision with a second aircraft) the previous December while training at Rand Airport, but it was not clear whether this had any connection to her passing.⁸⁴⁶ She became the first South African woman to be given a military funeral, that befitting a Captain, although WAA

⁸³⁹ Anon, "Flying girls need £1000 for plane", Unidentified SA newspaper clipping, n.d., SAAF Museum, M Egerton-Bird cuttings album, p23; Anon, "SA women with wings", *The Forum*, 28th October 1939; Anon, "Women and Wings", *National Welfare and Simpsons*, December 1939, pp5-6.

⁸⁴⁰ Anon, "Dance for girls' plane fund", Unidentified SA newspaper clipping, n.d., SAAF Museum, M Egerton-Bird cuttings album, p20.

⁸⁴¹ D Weinronk in letter to press "Women in training", Unidentified SA newspaper clipping, n.d., SAAF Museum, M Egerton-Bird cuttings album, p28.

⁸⁴² Anon, "Their own plane", Unidentified SA newspaper clipping, n.d., SAAF Museum, M Egerton-Bird cuttings album, p34.

⁸⁴³ Anon, "SA Women's Aviation Association, Cape Town Branch", Unidentified SA newspaper clipping, n.d., SAAF Museum, M Egerton-Bird cuttings album, p20.

⁸⁴⁴ Anon, "Wings" *Rand Daily Mail*, 8th March 1940.

⁸⁴⁵ Anon, "Death of Miss Joan Blake", Unidentified SA newspaper clipping, 5th April 1940.

⁸⁴⁶ Anon, "2 planes collide in mid air", *Rand Daily Mail*, 1st December 1939.

members did not yet hold military rank.⁸⁴⁷ This was in itself a milestone, giving unofficial recognition in deed if not in letter.

Units of the WAA continued to recruit, train and parade in the main centres in the first half of 1940 in anticipation of their official incorporation into the SAAF.⁸⁴⁸ The only practical indication that this integration was taking place was in the form of a small number of WAA members being trained in parachute packing at Roberts Heights in February 1940.⁸⁴⁹ Curiously the month before the WAAF officially came into being, the Durban branch of the WAA had received its own regimental colour at a parade in that city.⁸⁵⁰

The Women's Auxiliary Air Force comes into being

In terms of the WAA becoming an official extension of the SAAF, the wheels of officialdom turned slowly and it was not until June 1940 that Smuts, by now Prime Minister and Minister of Defence, issued a government notice proclaiming the establishment of a Women's Auxiliary Air Force and a Women's Auxiliary Army Service.⁸⁵¹ On the 1st June Doreen Hooper entered Defence headquarters to start setting up the Women's Auxiliary Air Force (WAAF) and became the first South African woman to attest for fulltime military service, initially with the rank of Major. She quickly recruited two WAA stalwarts, Marjorie Egerton-Bird and Elaine Percival-Hart as her assistants who were initially given the rank of Captain.⁸⁵² Although the WAA affiliation was supposedly between four and five thousand when the War began,⁸⁵³ on the establishment of the WAAF in June 1940, the recruitment of women into fulltime military service would have to begin, drawing on volunteers, most of whom had served in the WAA. Four categories of enlistment were available: full time within SA; full time but willing to serve overseas; full time within one's home town and part time service.⁸⁵⁴ In

⁸⁴⁷ Anon, "Military Funeral for dead airwoman", Unidentified SA newspaper clipping, n.d., SAAF Museum, M. Egerton-Bird cuttings album, p 34; Anon, "Military honours at funeral of Miss Joan Blake", *Rand Daily Mail*, 8th April 1940.

⁸⁴⁸ Anon, "SA women prepare", Unidentified SA newspaper clipping, n.d., SAAF Museum, M. Egerton-Bird cuttings album, p 33.

⁸⁴⁹ Anon, "Women for Roberts Heights: parachute packing training", *Rand Daily Mail*, 12th February 1940.

⁸⁵⁰ Anon, "WAAF receive colours", *The Natal Mercury*, 20th May 1940.

⁸⁵¹ Government Gazette, 10th June 1940, quoted in D. Dunning, *Sky High*, p 55.

⁸⁵² D Dunning, *Sky High*, p 56.

⁸⁵³ Anon, "4000 WAAFs", Unidentified SA newspaper clipping, 16th November 1940, SAAF Museum, M. Egerton-Bird cuttings album, p 41.

⁸⁵⁴ D Dunning, *Sky High*, p 58.

short, the change of name and the official recognition of a new unit within the SAAF did not piecemeal transform the WAA into the WAAF because of the large administrative task needed to define terms of service.

Within a month of it coming into existence, the first 110 WAAF recruits were accommodated in barracks in Pretoria.⁸⁵⁵ By November, the WAAF had around 800 recruits.⁸⁵⁶ Hooper and her staff faced all of the challenges that were to be expected when setting up a branch of the military from scratch. These included uniforms; women's camps (within air bases); military regulations and military law pertaining to female recruits; and finding the government funding for a unit that had not been budgeted for within the SA military establishment schedule.⁸⁵⁷ Doreen Hooper would also find herself in the middle of a furore when, as a women, she was raised to the rank of Lieutenant-Colonel at the tender age of twenty-three! Men and women jumped into both sides of the debate which raged on in the press.⁸⁵⁸

In the wartime years which followed the establishment of the WAAF, the SAAF expanded rapidly which in turn led to the need for a greater number of female recruits. Overseas service by SAAF squadrons and the involvement of the SAAF in the Joint Air Training Scheme (together with the RAF training aircrew within South Africa) created the need for an ever-expanding WAAF. By September 1941 the number of women serving in the WAAF had reached 4 321.⁸⁵⁹ It would eventually have around 10 000 recruits, fulfilling a wide range of roles in service of the Air Forces of South Africa and Britain.⁸⁶⁰ The wartime WAAF saw women in at least seventy five different functions that included clerical work; aircraft maintenance; transport roles, photographers, radio operators and parachute packing.⁸⁶¹

⁸⁵⁵ Anon, "Airwomen in camp: the conversion of the Kappie Kommando", Unidentified SA newspaper clipping, n.d., SAAF Museum, M. Egerton-Bird cuttings album, p 47.

⁸⁵⁶ Anon, "4000 WAAFs", Unidentified SA newspaper clipping, 16th November 1940, SAAF Museum, M. Egerton-Bird cuttings album, p 41.

⁸⁵⁷ D. Dunning, *Sky High*, p 59.

⁸⁵⁸ D. Dunning, *Sky High*, pp 63-70. For a sample of the sentiments expressed see: "Making a farce of military rank", *Rand Daily Mail*, 21st January, 1941; "All women pleased at promotion", *Rand Daily Mail*, 22nd January 1941 and "Miss Hooper's new rank", *Rand Daily Mail*, 24th January 1941.

⁸⁵⁹ A. Wessels, The first two years of war: the development of the Union Defence Forces September 1939 to September 1941 in *Military History Journal*, Vol 11, 5, June 2000, p 5.

⁸⁶⁰ D. Dunning, *Sky High*, p 58; M. Edgerton Bird and M. Botes, Flying High: The story of the Women's Auxiliary Air Force 1939-45 in *SA Military History Journal*, Vol 5,5, June 1982, p 6.

⁸⁶¹ M Edgerton Bird and M Botes, Flying High: The story of the Women's Auxiliary Air Force 1939-45 in *SA Military History Journal*, Vol 5,5, June 1982, p 6.

Conclusion

The history of the WAAF is beyond the scope of this study, but suffice it to say that it would make a major contribution to South Africa's war effort, both on the home front and in theatres of operation. As such, the establishment of the Women's Aviation Association in the last months of peace would come to fully vindicate the thinking of the six women who had met in 1938 to establish an aviation reservist force comprising women. Had a few more years elapsed, it is possible that the other half of their vision, to train women pilots, may have been achieved, possibly even with government support. Had this been the case, a unit resembling the Air Transport Auxiliary (ATA) in Britain, may well have emerged.⁸⁶²

It is tempting to take the simplistic view that the establishment of the WAA gave South Africa, on the outbreak of War, a readymade Women's Auxiliary Air Force. Due to the need to attest to serve in a unit that had to be set up afresh (and without precedent) within the Air Force, the transformation was not that straightforward. But a strong case can, I believe, be presented for viewing the WAA as a successful example of private aviation enthusiasts, who with the help of civil aviation entities and in the absence of state support, provided a solid basis for a military unit when War broke out. The fact that it represented the work of women, at a time when their role in society was still secondary, adds greatly to the significance of its formation.

⁸⁶² While the WAAF in Britain served a similar purpose for the RAF as did the equivalent in South Africa. The ATA was a pool of pilots (male and female) who were mostly civilian trained and whose task was to ferry military aircraft between squadrons, maintenance units and aircraft factories. See V. Moolman, *Women Aloft*, pp 136-140.

CHAPTER EIGHT

THE RECKONING

If one views South Africa's contribution to the air war in World War Two as being the culmination of the period under study (1912 to 1940), then the significance of the combined development of civil and military aviation up to the outbreak of war can be evaluated against the contribution these made to the country's ability to enter a major war. The "test" of a total war being waged can thus be used as a measure of its state of readiness and its ability to respond to the crisis.

South Africa enters World War Two

As is evident, the declaration of war by Britain on Germany on 3rd September 1939 caused a political crisis in South Africa. Its Prime Minister, JBM Hertzog was in favour of the Union remaining neutral, while the Deputy Prime Minister, Jan Smuts, argued for the country to enter the conflict on the side of Britain and as part of the Commonwealth. When Smuts' motion won in a parliamentary vote, he became Prime Minister, forming a new government on Hertzog's resignation.⁸⁶³ Under proclamation 197 of the 6th September 1939, South Africa declared war on the German Reich.⁸⁶⁴

On paper, the country was hardly in a position to make any meaningful contribution to the Allied war effort. This did not stop the Chief of the General Staff, van Ryneveld, from planning for an immediate air force expansion to sixteen squadrons and 720 aircraft for service on the continent and beyond, in what he predicted would be a prolonged war.⁸⁶⁵ Such planning, albeit in the absence of the required aircraft, was appearing in SAAF orders within two weeks of the country declaring war.⁸⁶⁶ As a professional soldier with most of his career spent in the Air Force, he was now in a position where a large fighting air force was a real possibility.

The scale of SAAF expansion, inconceivable in the previous two decades, was made possible by the circumstances which prevailed after September 1939. For one, the country was now being led by a man whose vision extended beyond the confines of its

⁸⁶³ JSM. Simpson, *South Africa Fights*, pp 31-35; O. Pirow, *James Barry Munnik Hertzog*, pp 242-249.

⁸⁶⁴ JSM. Simpson, *South Africa Fights*, p xi.

⁸⁶⁵ JA. Brown, *A Gathering of Eagles*, p 24.

⁸⁶⁶ HJ. Martin and N. Orpen, *South Africa at War*, p 29.

borders. That country would need to be defended by assisting in the defence of Britain's East Africa colonies against Italian aggression.⁸⁶⁷ The invasion of the Netherlands under Hitler's blitzkrieg of 1940 added a moral imperative for many white South Africans. It was against this backdrop that the country's first wartime defence budget quadrupled military spending to over eight million pounds, compared to the previous year.⁸⁶⁸ Furthermore, many of the aircraft which the SAAF would utilize during the conflict would not have to be purchased by the government, but would be obtained under the "Lend-Lease agreement". According to this the USA provided equipment on loan to the Allied forces or were supplied by Britain, mainly within the major joint training programme operated by the RAF and SAAF.⁸⁶⁹

The first years of the War would represent the final instances of civil aviation making a contribution to the SAAF's capability. Although significant in allowing the Air Force to deploy some of the first bomber and transport squadrons and the manpower for the full cross section of units deployed within the country and in East Africa, the massive expansion of the force after 1940 constituted a build-up that went well beyond the foundations laid in earlier years. In assessing how the pre-war initiatives came to play a role in the ability of South Africa to wage war, several facets of the pre-existing aviation capacity in the country need to be placed in the context of how each assisted in placing the SAAF on a war footing with much expanded resources, both human and material.

An airline goes to war

As outlined earlier, Oswald Pirow, while Minister of Defence in the years preceding 1939, had viewed SAA as a state asset which could be useful in time of emergency and to this end had proposed the formation of the Airways Wing of the SAAF. Immediately after the entry of South Africa into the War, the Airways Wing was activated under the command of Lieutenant Colonel JH Louw.⁸⁷⁰ If one account is to be believed, all SAAF pilots were summoned to a meeting by Jack Holthouse and told that they had volunteered for active service and were forthwith transferred to the SAAF, adding that there was no place in airways for anyone who failed to comply.⁸⁷¹ It was agreed that

⁸⁶⁷ JSM. Simpson, *South Africa Fights*, pp 70-72.

⁸⁶⁸ JSM. Simpson, *South Africa Fight*, p 150.

⁸⁶⁹ D. Becker, *75 Years on Wings of Eagles*, p 84.

⁸⁷⁰ JA. Brown, *A Gathering of Eagles*, p 24.

⁸⁷¹ P. Bagshawe, *Passion for Flight*, p 154. This account was provided by Glynn Davies.

SAR&H employees on War service would be paid at civilian rates.⁸⁷² Around 400 SAA personnel ultimately served in the war effort.⁸⁷³ South Africa was unique among the Commonwealth countries in stopping all domestic air transport and utilizing the resources of its national carrier for the War effort.⁸⁷⁴ Clearly the pre-War planning in this regard made this move inevitable.

Although very little has been done prior to the outbreak of War to ensure the readiness of the Junkers Ju86 for use as bombers, the entire fleet was taken over by the Air Force after the country entered the War.⁸⁷⁵ It was only then that the embarrassing lack of preparation became apparent as it was discovered that the metric size bomb racks of the German-built aircraft did not match the British bombs that would be used by the SAAF! Hasty modifications were required to create local external wing bomb racks to remedy the situation.⁸⁷⁶ This work appears to have been done at the Aircraft and Artillery Depot at Roberts Heights.⁸⁷⁷ Each aircraft was also fitted with machine guns in various positions.⁸⁷⁸

The fleet of Ju86 airliners became the means of swiftly creating four new SAAF squadrons tasked with coastal defence as reconnaissance and bomber aircraft. The squadrons were deployed to the four major ports, with 13 Squadron at Durban; 14 Squadron at Port Elizabeth; 15 Squadron at Cape Town and 16 Squadron at Walvis Bay.⁸⁷⁹ The pilots were SAA men seconded to the SAAF and with an air crew and ground crew allocated to each aircraft. Such was the urgency of providing some form of coastal and offshore patrols that most of the aircraft still carried their SAA insignia, names and civil registrations, with the SAAF roundels being applied over the airways colour scheme to give them a military appearance.⁸⁸⁰ The lack of preparation for the use of the SAA aircraft in a military role along the coast, extended to a lack of

⁸⁷² Anon. "Civil pay for men on military service", *Rand Daily Mail*, 19th September 1939, p 10.

⁸⁷³ S. Morrison, J. Austin Williams and I. Spring, *The Flying Springbok*, p 35.

⁸⁷⁴ S. Morrison, J. Austin Williams and I. Spring, *The Flying Springbok*, p 35.

⁸⁷⁵ Anon. "Coastal air patrol for SA likely", *Rand Daily Mail*, 14th September 1939, p 10; Anon, *Fifty Years of Flight*, pp 66-7.

⁸⁷⁶ D. Becker, *75 Years on Wings of Eagles*, p 36; S.McLean, *Squadrons of the SA Air Force*, p 150; JA. Brown, *A Gathering of Eagles*, p 23.

⁸⁷⁷ Anon. "Defence Force reorganization continues", *Rand Daily Mail*, 18th September 1939, p 8.

⁸⁷⁸ S.McLean, *Squadrons of the SA Air Force*, p 150.

⁸⁷⁹ D. Becker, *75 Years on Wings on Eagles*, p 36; JA Brown, *A Gathering of Eagles*, p 26; S McLean, *Squadrons of the SA Air Force*, pp 147-8, p 150, p 163; Anon, "South African dawn patrol", *Rand Daily Mail*, 4th November 1939, p 9.

⁸⁸⁰ JA. Brown, *A Gathering of Eagles*, p 26.

parachutes, navigation equipment and life jackets.⁸⁸¹ In the absence of life rafts, tractor tyre inner tubes had to suffice. This failure in the pre-War period to properly prepare the Airways Wing meant that it existed mainly as a "paper squadron". The concept was sound, but the practical elements of SAA as a reserve force were sorely lacking on the outbreak of War.

The lack of suitable equipment did not prevent the new units from carrying out their task, albeit with added pressure on the crews. Reserve naval officers accompanied each flight over the ocean to assist with the identification of ships. In October 1939, the actions of the German pocket battle ship *Admiral Graf Spee* sinking merchant ships around the Cape sea route, led to 16 Squadron flying patrols to find the warship off the coast of South West Africa and 13 Squadron subsequently did the same in the Mozambique Channel.⁸⁸² None of these sorties achieved any success and the limitations of the new coastal squadrons constituting the Airways Wing were becoming apparent.⁸⁸³

On 1st December 1939 the units of the Airways Wing were re-designated as flights within the newly created 31 and 32 (Coastal) Squadrons.⁸⁸⁴ It was to the latter that fell the distinction of the first SAAF action against the enemy and its first success. On the 2nd December 1939, the German liner *Watussi*, was spotted off Cape Town by the crew of a 32 (Coastal) Squadron "A" Flight Ju86. The ship was trying to return to Germany from Mozambique. The SAAF aircraft signalled to the ship to put into Cape Town. When this was ignored, machine gun fire and the dropping of bombs into the sea were used to drive home the message. A second Ju86 took over the watch on the return of the first to base. The German ship was then scuttled and her passengers were taken into captivity in Cape Town.⁸⁸⁵ South Africa had inflicted its first blow against Germany, although failing to secure the vessel as a prize of war.

The episode was loaded with irony. Most obvious was that fact that German-built aircraft were used against a German ship. Adding to this was that they had been

⁸⁸¹ JA. Brown, *A Gathering of Eagles*, p 26.

⁸⁸² JA. Brown, *A Gathering of Eagles*, p 27; S. McLean, *Squadrons of the SA Air Force*, p 147, pp 163.

⁸⁸³ HJ. Martin and N. Orpen, *South Africa at War*, p 53.

⁸⁸⁴ S. McLean, *Squadrons of the SA Air Force*, p297, p305.

⁸⁸⁵ L. Kraft, "Warning bombs dropped near Watussi", *Rand Daily Mail*, 4th December 1939, p8; D. Becker, *75 Years of Wings on Eagles*, pp 36-7; JA Brown, *A Gathering of Eagles*, pp 28-29; S McLean, *Squadrons of the SA Air Force*, p 305.

purchased on the orders of a pro-German government minister, Oswald Pirow, who had himself sailed on this vessel before the War.⁸⁸⁶ Without any apparent hint of this ironic turn of events, Pirow in his post-War biography on Hertzog, took full credit for the purchase of this particular aircraft type when making reference to "...a two-engined fast machine which subsequently gave excellent service as a coastal reconnaissance aircraft all through the war".⁸⁸⁷

Pirow was wrong in his assertion that the Ju86 aircraft remained in the role of coastal aircraft for the remainder of the War, but their subsequent deployment, to a war zone elsewhere in Africa, served to add further useful service and yet more irony. The Ju86 aircraft of 31 Squadron's "A" and "B" flights continued to fly from Durban and Port Elizabeth respectively, monitoring convoys and looking for German raiders in the Indian Ocean for some months.⁸⁸⁸ Similarly, the Ju86 fleet of the two flights of 32 Squadron continued in their role of coastal reconnaissance from Cape Town and Walvis (and then Karibib) until March 1940 and then as a consolidated unit from Cape Town until mid-May.⁸⁸⁹

The entire ex-SAA Ju86 fleet was allocated, in May 1940, to a new bomber unit, 12 Squadron, which was formed at Waterkloof.⁸⁹⁰ This was intended for service in East Africa as part of 1 Bomber Brigade which Smuts had offered Britain for service in Kenya. The airliners, by now having seen months of war service, finally shed their SAA colours and were camouflaged and fitted with additional armament for the next war zone.⁸⁹¹ On 22nd May, the Squadron departed from South Africa, after being personally wished "Godspeed" by Smuts, and headed for Kenya.⁸⁹² South African forces were to serve in support of Britain against Italian forces in Abyssinia. The South African declaration of war against Italy was due to become effective at midnight on 11th June 1940, but 12 Squadron dropped its first bombs on Italian positions north of Moyale almost two hours earlier. This was the first offensive action flown by the SAAF beyond

⁸⁸⁶ HJ. Martin and N. Orpen, *South Africa at War*, p 3.

⁸⁸⁷ O. Pirow, *James Barry Munnik Hertzog*, pp 217-8.

⁸⁸⁸ S. McLean, *Squadrons of the SA Air Force*, p 297.

⁸⁸⁹ S. McLean, *Squadrons of the SA Air Force*, p 306.

⁸⁹⁰ JA. Brown, *A Gathering of Eagles*, p33; S McLean, *Squadrons of the SA Air Force*, p 129.

⁸⁹¹ S. McLean, *Squadrons of the SA Air Force*, pp 129-130.

⁸⁹² JA. Brown, *A Gathering of Eagles*, p 34.

South Africa's borders in this War.⁸⁹³ The history of the squadron's actions in this theatre of war are well documented.⁸⁹⁴ Suffice it to say that between June 1940 and April 1941, the unit flew bombing missions against dozens of Italian army positions and air force bases in support of British and South African forces and made a significant contribution to the Allied victory.⁸⁹⁵ The surviving eight aircraft were transferred to 16 Squadron which flew bombing sorties against Italian forces in the closing stages of the East Africa campaign until the disbanding of the unit in August 1941.⁸⁹⁶ The last of the Ju86 aircraft were operated by 61 Squadron, a transport unit, back in South Africa.⁸⁹⁷

As the section of the Airways Wing capable of mounting offensive actions, the wartime actions of 12 and 16 Squadrons more than vindicated the decision to create such a bombing capacity for the SAAF by using part of the SAA fleet and its crews. Modern, purpose-built military aircraft, supplied by Britain and the USA, combined with fresh personnel, would soon come to overshadow the contribution made by the Airways Wing in the first years of the War. These had however undeniably provided some of the country's military aviation capacity at the outset. Furthermore, these military actions had, perhaps aptly, played out in precisely that part of Africa which had created the original motivation for the expansion of the SAAF capability in the wake of Mussolini's invasion of Abyssinia. Pirow could almost certainly not have foreseen his brainchild being sent into action that far from South Africa. Again the irony was that German-built aircraft were used against the ally of Nazi Germany. Moreover, this stemmed from decisions made years earlier by a Minister of Defence who, in the War years at least, was backing an ideology (through his New Order movement)⁸⁹⁸ which displayed fascist sympathies at a time when South Africa was engaged in a military struggle against an alliance representing precisely that ideology.

⁸⁹³ D. Becker, *75 Years on Wings of Eagles*, p 41; S. McLean, *Squadrons of the SA Air Force*, p 130; JA. Brown, *A Gathering of Eagles*, pp 37-8.

⁸⁹⁴ The most comprehensive account is provided in JA. Brown, *A Gathering of Eagles*. See also: S. McLean, *Squadrons of the SA Air Force*, pp 130-2; D. Becker, *75 Years on Wings of Eagles*, pp 41-45; JSM. Simpson, *South Africa Fights*, pp 191-232; JA. Brown, *The War of a Hundred Days*, pp 51-55, p 132, p 171.

⁸⁹⁵ J. Keene (Ed), *South Africa in World War Two*, pp 47-71.

⁸⁹⁶ S. McLean, *Squadrons of the SA Air Force*, p 163-4.

⁸⁹⁷ S. McLean, *Squadrons of the SA Air Force*, p 380.

⁸⁹⁸ CJ. Beyers (ed), *Dictionary of South African Biography*, Vol 5, p596. Pirow established his New Order movement in September 1940, aiming for a national socialist system modelled on the Portuguese fascist dictator, Salazar.

The contribution made by SAA personnel and aircraft was not confined to the formation of bomber squadrons. The Ju52 fleet within SAA, also came to be used by the SAAF, although in a transport role rather than as armed aircraft. These tri-motor airliners were slower than the Ju86 aircraft and no effort was made to adapt them to bomber configuration. They were ideal for use as troop carriers and freighters and so it was that they came to serve these purposes in the SAAF. The SAA Ju52 fleet in September 1939 was initially used to form three Transport and Supply squadrons, numbered 17, 18 and 19. The three units operated from Rand Airport in Germiston, which gave them access to the SAA hangars and workshops. In December, all three squadrons were amalgamated into 50 (Transport and Supply) Squadron which was almost immediately absorbed into 1 Bomber Transport Brigade operating from Zwartkop.⁸⁹⁹ As with the bomber squadrons, the flying personnel were all ex-SAA and initially even continued to fly in that uniform. The venerable airliners gained SAAF roundels but were otherwise still obviously a thinly disguised part of SAA's recent civilian fleet. The role of all these units was the transport of men and materiel to all parts of the Union and they continued to fulfil these duties until mid-1940 when 50 Squadron was again brought into being.⁹⁰⁰

By this point, the new Lockheed Lodestar airliners ordered by SAA from the USA had arrived in South Africa and were immediately re-allocated to the SAAF in what was destined to be its last contribution of equipment to the War effort.⁹⁰¹ From June until December 1940, the Junkers and Lodestar fleets within 50 Squadron flew troops, equipment and mail from South Africa to Nairobi from where it was distributed into Kenya using Vickers Valentias.⁹⁰² The shuttle service was also used to bring wounded South African troops back home.⁹⁰³ This air link constituted a major element in support of the South African forces in East Africa. The Lodestar fleet later formed part of 5 Transport Wing within the SAAF, flying transport services within the Union and to North Africa.⁹⁰⁴

The transport role of the units formed from SAA resources was obviously far easier to undertake than those allocated to coastal patrol and later bombing duties, for the simple

⁸⁹⁹ S. McLean, *Squadrons of the SA Air Force*, p 366.

⁹⁰⁰ HJ. Martin and N. Orpen, *South Africa at War*, p 53.

⁹⁰¹ R. Belling, *A Portrait of Military Aviation in South Africa*, p 56.

⁹⁰² S. McLean, *Squadrons of the SA Air Force*, p 366.

⁹⁰³ D. Becker, *75 Years on Wings of Eagles*, p 45.

⁹⁰⁴ S. Morrison, J. Austin Williams and I. Spring, *The Flying Springbok*, pp 192-195.

reason that it was essentially the continuation of the transport function that the airline had provided before the War. Hence the personnel and the equipment was better suited to their wartime role, especially while operating within South Africa.

The contribution made by SAA personnel cannot be quantified purely in terms of the aircraft and personnel seconded to the SAAF. Some of the SAA pilots were among the most experienced in country and they would prove their value within the wartime SAAF by becoming the commanding officers of squadrons. Among these were Denis Raubenheimer, Bert Rademan and Glynn Davies.⁹⁰⁵

Civil aviation's other contributions

When the Union entered the War, the most pressing task, apart from defending the coastline, was in rapidly expanding the number of personnel in anticipation of receiving the aircraft needed to equip the twelve squadrons that Van Ryneveld envisaged in the short term. Initially, the training of pilots within the Union Air Training Group continued as it had done prior to the War, with the fourteen flights operated by civilian flying schools, as described earlier. This arrangement lasted until February 1940 when the establishment of Training Command within the SAAF led to the rationalization of the training units and their placement under direct Air Force control. By May 1940, there were Flying Training Schools (FTS) at Bloemfontein, Germiston, Baragwanath, Pretoria and Randfontein, in place of the previous civilian schools. An order for fifty DH Tiger Moths provided for much of the equipment of these elementary FTS units. This was the end of the scheme initiated by Pirow in the 1930s which had provided the bulk of the air force reservist pilots.⁹⁰⁶

Mention should also be made of an Air Force unit which had its roots in a pre-War reservist squadron. In July 1937, the Transvaal Air Survey and Photographic Squadron (TAS&P Squadron) had been formed at Zwartkop.⁹⁰⁷ This was essentially an arrangement whereby the personnel and equipment of the Aircraft Operating Company (AOC) based in Johannesburg could be used when needed to supplement the aerial

⁹⁰⁵ P. Bagshawe, *Passion for Flight*, pp 53-61; pp 87-98 and pp 150-168.

⁹⁰⁶ D. Becker, *Yellow Wings*, pp 9-10; Anon, "Pupil pilot squadrons for Baragwanath", *Rand Daily Mail*, 9th May 1939, p 13.

⁹⁰⁷ S. McLean, *Squadrons of the SA Air Force*, p 196.

photography capacity of the SAAF.⁹⁰⁸ At the time, this was the only private company dedicated to undertaking aerial survey work in the country.⁹⁰⁹ After the outbreak of War, the unit was designated as 20 (Photo) Squadron and AOC men spent some months training new recruits in the specialised tasks associated with aerial photography including the type of flying required and the cameras that were utilized.⁹¹⁰ The unit was then absorbed into 1 Survey Flight which later became 62 Squadron (in November 1940) and then 60 Squadron (in December 1940). Under all three designations, the photographic unit flew in East Africa in support of the military campaign.⁹¹¹ AOC personnel and even one of their aircraft, a BA Double Eagle, made up part of the unit's strength. This was a unique case of a private aviation company (as opposed to SAA which was state owned) taking on a frontline role based on a reservist function that was defined some years earlier.⁹¹²

On 24th May 1940 all private flying ceased in South Africa⁹¹³ and in the months that followed almost every privately-owned aircraft was impressed into Air Force use. Owners were paid market-related prices for their aircraft. With the exception of a few that were hidden by their owners or that were deemed to be unsuitable, about 250 aircraft were added to the inventory of the SAAF within a short space of time.⁹¹⁴ The larger and more capable of these, including DH Dragon Rapide and Dragonfly aircraft, were used in a new communications squadron, 61 Squadron, formed at Grand Central airfield in July 1940.⁹¹⁵ The balance were allocated to serve in a variety of roles within the Air Force, mainly on the air schools set up across the country under the Joint Air Training Scheme. The fifty-two Tiger Moths, nineteen Hornet Moths and thirteen Bucker Jungmanns purchased from civilian owners were useful for elementary training, but many other types were utilized as communication aircraft or simply as instructional

⁹⁰⁸ S. McLean, *Squadrons of the SA Air Force*, p 196.

⁹⁰⁹ J. Illsley, *In Southern Skies*, p 219.

⁹¹⁰ S. McLean, *Squadrons of the SA Air Force*, p 196, p 381

⁹¹¹ H. Potgieter and W. Steenkamp, *Aircraft of the South African Air Force*, p25; S. McLean, *Squadrons of the SA Air Force*, p 381.

⁹¹² Anon. "Aerial survey planes ready for war work", *Rand Daily Mail*, 13th September 1939, p 13.

⁹¹³ S. Morrison, J. Austin Williams and I. Spring, *The Flying Springbok*, p 35.

⁹¹⁴ Anon, "Army takes over civil aircraft", *Rand Daily Mail*, 9th August 1940, p 12; D. Becker, *Yellow Wings*, p 97.

⁹¹⁵ S. McLean, *Squadrons of the SA Air Force*, pp 379-380.

airframes, the latter role becoming the fate of most aircraft as they were damaged or reached obsolete status.⁹¹⁶

The aircraft taken over from the civilian register in 1940 played an important role in the first years of the War effort but that significance waned rapidly with the influx of military trainers under the Joint Air Training Scheme. The scrapping of the vast majority of the civilian aircraft by the end of the War would be one of the reasons why, in a material sense, the era of civilian flying that had contributed to South Africa's War effort was also ended by it.⁹¹⁷ The post-War period would see American aircraft dominate the civilian market.

The contribution of SA pre-1939 military and civil aviation to World War Two.

When General Smuts stood up in parliament in March 1940 to defend the wartime budget being put forward, he denounced Pirow on several counts. He stated that "his grand ideals have remained a plan in the air and that after all these years when he was Minister of Defence we still have the plan and only the plan".⁹¹⁸ Relying on South Africa being neutral in time of war, it was argued, the army, coastal defence, artillery and the Air Force had all been neglected. One newspaper editorial, supporting the Prime Minister's view, claimed that the "elaborate plans for the Air Force development announced by Mr Pirow in 1934 had yielded virtually nothing in the shape of tangible results".⁹¹⁹ To what extent was this true and how much of a contribution had the pre-War evolution of aviation in the country provided a basis for making a contribution in a major war?

Most of the SAAF units which went into action in 1940 as fighter and bomber squadrons around the SA coastline and in East Africa, or which served to provide a transport shuttle, were manned by personnel who had been trained as SAAF reservists or as SAA pilots.⁹²⁰ As already noted, the equipment used by most of the initial bomber and transport squadrons was ex-SAA. With respect to these deployments, the pre-War initiatives that created the "Thousand Pilot Scheme" and the Airways Wing can be

⁹¹⁶ D. Becker, *Yellow Wings*, p 97.

⁹¹⁷ D. Becker, *Yellow Wings*, p 98.

⁹¹⁸ Anon, "Mr Pirow's Neutrality Dream", *Rand Daily Mail*, 16th March 1940, p 8.

⁹¹⁹ Anon, "Mr Pirow's Neutrality Dream", *Rand Daily Mail*, 16th March 1940, p 8.

⁹²⁰ Based on an analysis of personnel in Anon. *Personalities in South African Motoring and Aviation*, pp 229-392, 409-444, 469-510, 545-572.

regarded as having given the country a small but reasonably effective force with which to enter the opening stages of the War. This was particularly true of the actions in East Africa.⁹²¹ Pirow's initiatives *had* provided much of the manpower for the first SAAF actions and a more valid criticism, as noted earlier, would be the failure to secure the most modern aircraft, especially in terms of fighters and light bombers.

The state could not take any credit for the formation of the WAA, but this private initiative would bolster the SAAF after the outbreak of War. The WAAF provided many of the clerical staff in East Africa and later in Cairo. In December 1940, the first WAAF contingent had been sent to Kenya under Muriel Horell.⁹²²

With respect to the training of aircrew up until mid-1940 a similar conclusion to that relating to the first deployed squadrons can be reached. The civilian flying schools within the UATG initially continued in their role, but that contribution would end with the reorganization of Flying Training Schools and would be completely overshadowed by the scheme which South Africa entered into with Britain. Smuts had declined the British offer for the country to become part of the Empire Air Training Scheme in which it was proposed to have the advanced flying training for the Commonwealth based in Canada and the elementary training that would feed this in the other Commonwealth countries.⁹²³ He reasoned that South Africa faced a potential threat from within the continent and should have a fully fledged Air Force, including training, based in the country. This resulted in him making a separate offer to Britain in December 1939 of training facilities for both the RAF and SAAF in the Union.⁹²⁴ After the RAF sent Air Marshal Sir Robert Brooke-Popham to South Africa in April 1940, an agreement known as the "Memorandum on the Expansion of Training Facilities" was signed by him and van Ryneveld on 1st June 1940.⁹²⁵ After Air Commodore Matthew Frew arrived in South Africa as Director of Air Training, the agreement was revised to create the JATS in June 1941. The SAAF set about establishing the air schools in towns and cities across the country for this major training operation. By December 1941, there were twenty-nine air

⁹²¹ A. Wessels, The first two years of the war: the development of the UDF September 1939 to September 1941 in *Military History Society Journal*, Vol 11, 5, June 2000, pp 7-9.

⁹²² M. Edgerton Bird and M Botes, Flying High: The story of the Women's Auxiliary Air Force 1939-45 in *SA Military History Society Journal*, Vol 5, 5, June 1982, p 6.

⁹²³ JA. Brown, *A Gathering of Eagles*, p 25.

⁹²⁴ D. Becker, *Yellow Wings*, p 11.

⁹²⁵ Anon, "Britain has more trained pilots than planes", *Rand Daily Mail*, 14th May 1940, p 8.

schools operating, with 9 522 men under training.⁹²⁶ The air schools were divided into those doing elementary and advanced training of pilots as well as those that would train observer-navigators, wireless operators and air gunners. The JATS not only came to constitute the most important factor in the expansion of the wartime SAAF, but also one of the most important contributions the country would make to the Allied War effort. By the end of the War, the JATS had trained 33 347 aircrew of which 20 800 were RAF; 12 221 were SAAF and 326 from other Allied forces.⁹²⁷

The JATS was undoubtedly the most significant development in allowing for the massive wartime expansion of the SAAF in terms of air crew. Other SAAF training allowed for the equally important growth in the number of ground crew members while the WAAF contributed around 10 000 women to the total force.⁹²⁸ In all, during the War years, a total of 44 569 men volunteered for SAAF service.⁹²⁹ This must be compared to the 164 officers and 1664 other ranks who made up the SAAF in September 1939.⁹³⁰ No definitive figure appears to exist as to the number of reservist pilots who had been trained under the Thousand Pilot Scheme. The best estimate, based on the figures for trainees allocated to the various civilian flying schools and Pirow's address to parliament in March 1939, is that these added around 400 more pilots by early 1940.⁹³¹

The SAAF at the outbreak of War had, in addition to the Central Flying School, three operational squadrons and flights at Durban, Bloemfontein and Cape Town.⁹³² By the time that the SAAF came to play its part in the decisive battle of El Alamein in October 1942, the SAAF was contributing eleven squadrons to the Desert Air Force.⁹³³ By the end of the War, the SAAF was operating mainly in Italy and was contributing a total of twenty-one squadrons to the Desert Air Force and the Balkan Air Force, made up of

⁹²⁶ JA. Brown, *A Gathering of Eagles*, p 25.

⁹²⁷ D. Becker, *75 Years on Wings of Eagles*, p 65; JA. Brown, *A Gathering of Eagles*, p 25.

⁹²⁸ M Edgerton Bird and M Botes, Flying High: The story of the Women's Auxiliary Air Force 1939-45 in *SA Military History Journal*, Vol 5, 5, June 1982, p 6.

⁹²⁹ HJ. Martin and N. Orpen, *Eagles Victorious*, p 445.

⁹³⁰ A. Wessels, The First Two Years of the War: the development of the Union Defence Forces, September 1939 to September 1941 in *SA Military History Journal*, Vol 11, 5, June 2000, p 4.

⁹³¹ Anon, "Union to be made strongest country in world for her size", *Rand Daily Mail*, 24th March 1939; DFA, DC Gp2, Box 2824, Allotment of Pupil Pilots for Courses, 1st July 1937 to 1st April 1938 and 1st July 1938 and 1st April 1939.

⁹³² D. Becker, *75 Years on Wings of Eagles*, pp 32-33.

⁹³³ D. Becker, *75 Years on Wings of Eagles*, p 55.

British Commonwealth and American units.⁹³⁴ During the War, a total of thirty five SAAF squadrons were formed, although not all of these existed concurrently.⁹³⁵

In purely numerical terms the contribution made by any pre-War developments in South African aviation may thus seem to be negligible when judged against the size of the Air Force by the end of the War. However, a more subtle argument could be made for the importance of maintaining a military aviation tradition in the country between the two World Wars. The concept of air power, within the military capabilities of a modern state, was born out of World War One and its earliest peacetime exponents were products of that War. South Africa was no exception as its first generation of military and also civilian pilots emerged from Britain's air arms, the RFC and later RAF. Some historians have been inclined to view the creation of an Air Force in South Africa as simply another means of maintaining white domination in a colonial tradition.⁹³⁶ Even though this motive may have played a role, it is a somewhat simplistic representation of the diverse roles that the air force played in these decades, many of which were not military in nature. In many respects, the maintaining of a relatively expensive air wing had to be justified in ways that went beyond its potential military usefulness. In the inter-War period, there was scant need or opportunity to demonstrate that function, in either an offensive or defensive role. But the thread which runs between the two World Wars, runs through the military aviation element in South Africa, which, irrespective of fluctuations in size, kept aviation alive in the country, in some periods (such as the early 1920s) in the absence of a civil aviation component.

Furthermore, a central theme in this study has been the interrelationship between the Air Force and civil aviation. At almost every juncture, the two facets of aviation in the country assisted each other. Hence the survival of a military aviation tradition was facilitated by civil aviation, but the existence of civil aviation relied in many respects on there being an Air Force. Into the former category fell the role of flying clubs and schools in training reservists, while the latter included the administration of civil aviation and the maintenance support provided. The duality of SAA has been described in some detail, showing its usefulness in both peace and in wartime.

⁹³⁴ HJ. Martin and N. Orpen, *Eagles Victorious*, p 444.

⁹³⁵ HJ. Martin and N Orpen, *South Africa at War*, p 29.

⁹³⁶ T. Dederling, Air Power in South Africa, 1914-1939 in *Journal of Southern African Studies*, Vol 41, 3, 2015; I. van der Waag, The Union Defence Force Between the Two World Wars, 1919-1940 in *Scientia Militaria*, Vol 30, 2, 2000.

Also important to note is the fact that the two original proponents of a South African military air wing after World War One, were both in key positions when the country entered the next major war. Smuts was both Prime Minister and Minister of Defence while van Ryneveld was the Chief of the General Staff. Smuts was the visionary who had been responsible for having the first South African military aviators trained as well as playing a leading role in the establishment of the RAF as the world's first independent air arm. Van Ryneveld was an experienced combat pilot who had commanded the SAAF in its formative years. Both men knew the key role that an Air Force would play in a major war and pushed hard to make this a key aspect of the Union's war effort. The building of a massively expanded SAAF in the War years would almost certainly not have been possible without the small corps of men and women who constituted the SAAF and WAA (later WAAF) when the War began. The rapid recruitment of men and women into the Wartime air force was, arguably, an indication of the degree to which an "airmindedness" existed in the white population. This in turn was a by-product of the two elements of aviation that co-existed in the period.

Conclusion

The understandable practice of aviation and academic historians to interpret the history of early South African aviation as if the two strands operated and developed independently of each other, has I believe weakened the historiography of this subject. This study has attempted to show a clear interdependence of civil and military aviation from the first years of flying in the Union up to at least the opening stages of World War Two. It has shown that in a country where flying was limited in scope in a demographic sense; in terms of the number of flying enterprises; the amount of finance available; the technical limitations and at least initially an unimaginative government approach, there emerged a pattern in which a symbiotic relationship ensured the survival of both forms of flying in its first three decades. That connection would also ensure that the country was able to play a modest role in the air war at the outset and have the foundation for a major expansion of the Air Force during World War Two, so that this became one of the most significant contributions to the Allied War effort and ultimate victory.

BIBLIOGRAPHY

Archival Collections

Museum Africa, Johannesburg: Aviation file 387.7 (1919)

McGregor Museum, Kimberley including Pioneers of Aviation Museum [PAMK]: Cecil Compton Patterson papers (1912-1914)

SAAF Museum, Swartkop: Marjorie Egerton Bird photo and cuttings album (1938-1941)

SANDF [DFA] archive groups:

DAS	Director of Air Services (1928-31)
CGS	Chief of the General Staff (1921-1940)
DC (group 1 and 2)	Secretary of Defence (1912-1940)
Diverse	Miscellaneous (1912-1940)

Newspapers

Cape Argus (1920-1922)

Cape Times (1919-1940)

The Daily Representative and Free Press (1920)

De Aar Echo (1920)

Eastern Province Herald (1920)

The Friend (1911-1938)

Midlands News and Karoo Farmer (1920)

Middleburg Echo (1920)

Natal Advertiser (1920)

North Western Press (1920)

Rand Daily Mail (1919-1941)

Somerset Budget (1920)

The Star (1937-1941)

Periodicals

Flight International (1912)

Flight (1920-1921)

Motoring in South Africa (1920)

The Pictorial (1920)

Journal Articles

Becker, D. It started with a crash in *SA Flyer*, May 2003

Becker, D. The Avro 504K in South Africa in *SA Flyer*, October 2009

Blake, A. Suid Afrika se eerste vliegskool in *Commando*, November 1962

Blake, A. *Lugvaart in die Duitse Kolonies* in *Commando*, June 1963

Dedering, T. Air Power in South Africa, 1914-1939 in *Journal of Southern African Studies*, 2015, vol 41, no 3

Dedering, T. South Africa and the Italo-Ethiopian War, 1935-6 in *The International History Review*, vol 35, no 5

Egerton Bird, M and Botes, M. Flying High: the story of the Women's Auxiliary Air Force 1939-45 in *The SA Military History Journal*, vol 5, no 5, 1982

Embleton, A. A South African Aviation Pioneer's Story in *SA Military History Journal*, 2003, Vol 12, No 6

Hopton, J. The Royal Aircraft Factory BE2 Series in *Flightpath*, vol 11, no 3, 2000

Mahncke, J. Aircraft Operations in the German Colonies, the Fliegertruppe of the Imperial German Army in *Military History Journal*, vol 12, no 2, 2001

Mahncke, J. Aircraft operations in the German Colonies, The SA Aviation Corps in *SA Military History Journal*, vol 12, no 3, 2002

Massman, U. Über die anfanges des flugwesens in Südwestafrika in *Namib und Meer*, no 10, 1984

McAdam, J. Early Birds in Central Africa, An account of flying activities in the Rhodesias during the years 1920 to 1922 in *Rhodesiana*, no 13, 1965

McCormack, RL. Man with a mission: Oswald Pirow and SA Airways, 1933-39 in *Journal of African History*, vol 20, no 4, 1979

Ploeger, J. Die opleiding van ons eerste vlieëniers in *Militaria*, vol 2 no 1, 1970

Robertson, B. Canadian Military Aviation in *Air Pictorial*, July 1972.

Tidy, DP. They Mounted up as Eagles (a brief tribute to the SA Air Force) in *The SA Military History Journal*, vol 5, no 6, 1982

Van der Waag, I, The Union Defence Force between the two World Wars in *Scientia Militaria*, vol 30, no 2, 2000

Van Wyk, J. Die Unieverdedigingsmag op die vooraand van die Tweede Wereldoorlog, 1939-45 in *Militaria*, vol 6, no 4, 1976.

Wessels, A. The first two years of war: the development of the Union Defence Forces (UDF) September 1939 to September 1941 in *Military History Journal*, vol 11, no 5, 2000

Woodhall, D. The Royal New Zealand Air Force in *Air Pictorial*, January 1968.

Books

Anonym, *Personalities in South African Motoring and Aviation*, Durban, Knox Printing and Publishing, 1941

Anonym [Public Relations Division, SAA], *50 Years of Flight*, Johannesburg, Da Gama, 1971

Anonym, *South African Defence*, Cape Town, Hortors, c.1939

Bagshawe, P. *Passion for Flight*, Nelspruit, Freeworld Publications, 2000

Barraclough, M. *The Race for the Cape*, London, Words by Design, 2016

Bennett, B. *Down Africa's Skyways*, London, Hutchinson, 1932

Becker, D. *75 Years on Wings of Eagles*, Pretoria, SA Air Force, 1995

Becker, D. *Yellow Wings*, Pretoria, SAAF Museum, 1989

Becker, D. *The Eagles of Zwartkop*, Nelspruit, Freeworld Publications, 1996

Beyers, C.J. (ed), *Dictionary of South African Biography, Vol 5*, Pretoria, HSRC, 1987

Brown, J.A. *A Gathering of Eagles – the campaigns of the South African Air Force in Italian East Africa, 1940-41*, Cape Town, Purnell, 1970

Byrom, J. *Fields of Air*, Johannesburg, Ashanti, 1993

Chatterton, EK. *The Konigsberg Adventure*, London, Hurst and Blackett, c.1930

Cruise, A. *Louis Botha's War*, Cape Town, Zebra Press, 2015

Dunning, PD. *Sky High*, privately published, c.2008

Ellis, P. *British Commercial Aircraft*, London, Janes, 1980

De Vries, G. *Wingfield, A Pictorial History*, Cape Town, privately published, 1991

Godwin, J. *Wings to the Cape*, Cape Town, Tafelberg, 1971

Hallion, RP. *Taking Flight*, New York, Oxford University Press, 2003

Hodges, I. *Australian Flying Corps*, Canberra, Department of Veterans' Affairs, 2012

House, JA and Stirling, WGM. *They Served Africa with Wings – 60 Years of Aviation in Central Africa*, Harare, Bookmark Publishing, 2004

Hyslop, S. *Fists of Steel*, Alexandria (USA), Time Life Books, 1988

Illsley, JW. *In Southern Skies*, Johannesburg, Jonathan Ball Publishers, 2003

Jackson, A. *De Havilland Aircraft since 1909*, London, Putnam, 1994

Jones, D. *The Time Shrinkers*, London, David Rendel, 1971

Klein, D. *Winged Courier*, Cape Town, Howard Timmins, 1955

L'Ange, G. *Urgent Imperial Service*, Johannesburg, Ashanti, 1991

Mahoney, R. (ed) *First World War in the Air*, London, RAF Museum, 2015

Maxwell, KA and Smith, JM. *Per Aspera Ad Astra 1920-70*, Pretoria, SA Air Force, , 1970

Martin HJ and Orpen, N. *Eagles Victorious (SA Forces in WW2 Volume 6)*, Cape Town, Purnell, 1977

Martin, HJ and Orpen, N. *South Africa at War (SA Forces in WW2 Volume 7)*, Cape Town, Purnell, 1979

McLean, S. *Squadrons of the South African Air Force*, Cape Town, privately published, 2005

Moolman, V, *Women Aloft*, Chicago, Time-Life Books, 1981

Morrison, S, Austin Williams, J and Spring, I. *The Flying Springbok*, unpublished manuscript, 2011

Munson, K. *Airliners from 1919 to the Present Day*, London, Peerage, 1983

North, P. *Eagles High*, London, Leo Cooper, 1990

Oberholzer, H. *Pioneers of Early Aviation in South Africa*, Bloemfontein, National Museum, 1981

Ord-Hume, A. *The Great War-Plane Sell Off*, Peterborough, GMS, 2005.

Pendergast, C. *The First Aviators*, Alexandria, Time-Life Books, 1981

Phillips, NV. *Bush Horizons, The Story of Aviation in Southern Rhodesia 1896 -1940*, Harare, Air Forces Association, 1998

Pirow, O. *James Barry Munnik Hertzog*, Cape Town, Howard Timmins, 1958

Potgieter, H and Steenkamp, W. *Aircraft of the South African Air Force*, Cape Town, Struik, 1981

Roberts, M. *A New Barbarism?*, Oxford, Oxford University Press, 1975

Ross, R. *A Concise History of South Africa*, Cambridge, Cambridge University Press, Second edition, 2008

Schoeman, M. *Springbok Fighter Victory, SAAF Fighter Operations 1939-45, Vol 1 East Africa 1940-41*, Nelspruit, Freeworld, 2002

Simpson, JSM. *South Africa Fights*, London, Hodder and Stoughton, 1941

Solomon, F. *And the Years Roll By*, Cape Town, Howard Timmins, c.1953

Strydom, PJ. *Op die pad van die Voëls*, Pretoria, Van Schaik, 1936

Taylor, JWR. *A History of Aerial Warfare*, London, Hamlyn, 1974

Van der Spuy, K. *Chasing the Wind*, Cape Town, Books of Africa, 1966

Wood, A and Gunston, W. *Hitler's Luftwaffe*, London, Leisure Books, 1984

Wyndham, LA. *The Airposts of South Africa*, Cape Town, Cape Times, 1936